

**APPENDIX A**

**NOTICE OF INTENT TO PREPARE AN  
ENVIRONMENTAL IMPACT STATEMENT**

Dated: April 7, 2006.

Judith L. Osborn,

*Attorney-Adviser, Office of United Nations Affairs, Office of the Legal Adviser, Executive Director, Advisory Committee on International Law, Department of State.*

[FR Doc. E6-5581 Filed 4-13-06; 8:45 am]

BILLING CODE 4710-08-P

## DEPARTMENT OF TRANSPORTATION

### Office of the Secretary

#### Proposed Cancellation of the Air Taxi Authority of Aero Leasings, Inc. D/B/A Air Florida Airlines

**AGENCY:** Department of Transportation.

**ACTION:** Notice of Order to Show Cause (Order 2006-4-7), Docket OST-2001-9214.

**SUMMARY:** The Department of Transportation is directing all interested persons to show cause why it should not issue an order (1) finding that Aero Leasings, Inc. d/b/a Air Florida Airlines lacks the compliance disposition to hold part 298 exemption authority (2) proposing to cancel its part 298 exemption authority.

**DATES:** Persons wishing to file objections should do so no later than April 24, 2006.

**ADDRESSES:** Objections and answers to objections should be filed in Docket OST-2001-9214 and addressed to U.S. Department of Transportation, Docket Operations, (M-30, Room PL-401), 400 Seventh Street, SW., Washington, DC 20590, and should be served upon the parties listed in Attachment A to the order.

**FOR FURTHER INFORMATION CONTACT:** Mr. Damon D. Walker, Air Carrier Fitness Division (X-56, Room 6401), U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590, (202) 366-7785.

Dated: April 10, 2006.

Michael W. Reynolds,

*Acting Assistant Secretary for Aviation and International Affairs.*

[FR Doc. E6-5552 Filed 4-13-06; 8:45 am]

BILLING CODE 4910-62-P

## DEPARTMENT OF TRANSPORTATION

### Federal Highway Administration

#### Environmental Impact Statement: Grant, Hardy, Hampshire, and Mineral Counties in WV; and, Allegany County, MD

**AGENCY:** Federal Highway Administration (FHWA), DOT.

**ACTION:** Notice of Intent.

**SUMMARY:** The FHWA is issuing this notice to advise the public that a Tier I Environmental Impact Statement (EIS) will be prepared to review improvements in the existing transportation system between Interstate 68 in Western Maryland and Appalachian Corridor H in the West Virginia Potomac Highlands. The study area generally parallels the existing U.S. 220 highway corridor.

#### FOR FURTHER INFORMATION CONTACT:

Henry E. Compton, Division Environmental Coordinator, Federal Highway Administration, West Virginia Division, Geary Plaza, Suite 200, 700 Washington Street East, Charleston, West Virginia 25301, Telephone: (304) 347-5268.

**SUPPLEMENTARY INFORMATION:** In July 2001, the *North South Appalachia Corridor Study* was completed by the states of Maryland, Pennsylvania, and West Virginia. The study concluded that the U.S. Route 220 corridor south from Interstate 68 connecting to Appalachian Corridor H in eastern West Virginia provided great potential for benefiting Appalachian economic development. The purpose of this EIS is to review options for a new or improved highway between these termini as part of the National Highway System. The proposed corridor improvements will serve to improve the existing transportation system by providing an upgraded north-south road in order to resolve existing transportation deficiencies and to enhance regional commerce for areas residents, businesses, and visitors. It will also service interstate north-south travel movements and support other economic development efforts throughout the Appalachian regions of Maryland, West Virginia, Pennsylvania, and Virginia. The EIS will be prepared by the West Virginia Department of Transportation, Division of Highways in cooperation with the Maryland State Highway Administration for the Federal Highway Administration (FHWA) to fulfill the requirements established in the National Environmental Policy Act in conformance with current FHWA regulations and guidance materials. The EIS will be prepared as a Tiered document. The tiered process will provide a systematic approach for advancing the best transportation improvements in the most cost-effective manner. The analyses undertaken during Tier I will lead to the identification of the most practical corridor for carrying out transportation improvements. A Record of Decision

will be prepared at the conclusion of the Tier I EIS process to identify the option that best meets the identified transportation need. Subsequently, if more detailed study of a particular option or corridor is required, further environmental analyses will be undertaken. The scope of future environmental studies will be commensurate with the proposed action and potential environmental consequences.

Alternates under consideration in the EIS will be: (1) The no action alternative, (2) build corridors identified in the *North South Appalachia Corridor Study*, and (3) alternatives identified based on discussions with the resource agencies and the public during the environmental scoping process.

Letters describing the proposed action and soliciting comments will be sent to appropriate federal, state, and local agencies, and to private organizations and citizens who have expressed or are known to have an interest in this proposal. Public and resource agency meetings are currently being scheduled for the spring of 2006. Meeting notifications will be made to the public, resource agencies and the public in accordance with the approved public involvement procedures for each state. At this time, it is anticipated meetings will be held in Cumberland, Maryland and Keyser and Moorefield, West Virginia.

To ensure the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program)

Issued on: March 31, 2006.

Henry E. Compton,

*Environmental Coordinator, Charleston, West Virginia.*

[FR Doc. 06-3576 Filed 4-13-06; 8:45 am]

BILLING CODE 4910-22-M

## DEPARTMENT OF TRANSPORTATION

### Federal Highway Administration

#### TIFIA Program Public Meeting

**AGENCY:** Federal Highway Administration (FHWA), DOT.

## **APPENDIX B**

### **COOPERATING AND PARTICIPATING AGENCIES**



DEPARTMENT OF THE ARMY

HUNTINGTON DISTRICT, CORPS OF ENGINEERS  
502 EIGHTH STREET  
HUNTINGTON, WEST VIRGINIA

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|                  |   | Operations Mgt Eng    |   |   | AE-1 Design          |
|                  |   | Financial Manager     |   |   | AE-2 Conn Mgt Eng    |
|                  |   | Trans Planning Eng    |   |   | AE-3 Materials       |
|                  |   | Structures Eng        |   |   | Asst Structures Eng  |
|                  |   | Planning Engr         |   |   | IT Specialist        |
|                  |   | Safety Eng            |   |   | Library              |
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JAN 02 2008

REPLY TO

ATTENTION OF:  
Operations and Readiness Division  
Regulatory Branch  
2007-1171  
US Route 220

Mr. Henry E. Compton, P.E.  
U.S. Department of Transportation  
Federal Highways Administration  
Geary Plaza, Suite 200  
700 Washington Street, East  
Charleston, West Virginia 25301

Dear Mr. Compton:

I refer to your electronic mail dated November 21, 2007 and the attached letter dated March 21, 2007 regarding the U.S. Route 220 Tier I Environmental Impact Statement (EIS). You have requested the U.S. Army Corps of Engineers (USACE) become a cooperating agency in accordance with 40 CFR 1501.6 of the Council on Environmental Quality's (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*. The project is located in Grant, Hardy, Hampshire, and Mineral counties in West Virginia and Allegany County in Maryland. The project area encompasses I-68 near Cumberland, Maryland, to the proposed alignment of Corridor H in West Virginia.

The U.S. Route 220 project was initially housed with the USACE Pittsburgh District. In 2007 the USACE Huntington District received funding for dedicated personnel by the West Virginia Division of Highways (WVDOH) and the Federal Highway Administration (FHWA) to review highway projects for the entire State of West Virginia. At the request of the WVDOH the Huntington District will now take over the review of the proposed U.S. Route 220 project. Therefore, the USACE Huntington District agrees to become a cooperating agency as outlined in the above stated 40 CFR 1501.6 *Regulations* and accepts all responsibilities under *Section 6002 of SAFTEA-LU*.

We look forward to working with the WVDOH and FHWA through this cooperative agreement. If you have any questions concerning the above, please contact Sarah Workman of the South Regulatory Section at 304-399-5710.

Sincerely,

Mark A. Taylor  
Chief, North Regulatory Section

Copies furnished:

Mr. Ben Hark  
West Virginia Division of Highways  
1900 Kanawha Boulevard East  
Building Five, Room 317  
Charleston, West Virginia 25305-0430



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

June 14, 2006

Mr. Gregory L. Bailey, P.E.  
WV Department of Transportation  
Division of Highways  
1900 Kanawha Boulevard East  
Building five, Room 110  
Charleston, West Virginia 25305-0430

Subject: Cooperating Agency Role for the U.S. Route 220 Project NHS Corridor between I-68 and Corridor H.

Dear Mr. Bailey:

The U.S. Environmental Protection Agency (EPA) is committed to participating in an active role as a Cooperating Agency in the development of the Tier One Environmental Impact Statement for U.S. Route 220.

The Council of Environmental Quality (CEQ) has determined that a cooperating agency has the responsibility to assist the lead agency by participating in the National Environmental Policy Act (NEPA) process at the earliest possible time. This participation includes engaging in the scoping process; in developing information and preparing environmental analyses including portions of the environmental impact statement where the cooperating agency has special technical expertise; and in making available staff support at the lead agency's request to enhance the lead agency's interdisciplinary capabilities. Our role as a cooperating agency in support of the subject EIS will consist of providing comments on general NEPA compliance and Section 404 issues as well as providing technical support in the development of the EIS. More specifically, the EPA would like the opportunity to contribute in the EIS process in the following manner:

- Identification of significant issues
- Identification of objectives
- Definition of the purpose and need
- Provide technical assistance in the development of the analysis of alternatives
- Provide data and rationale underlying the alternatives analysis
- Provide technical assistance on Environmental Justice, cumulative impacts, etc.
- Explore applying Green Highway concepts for this EIS as well as any additional tiered EISs from the programmatic



The many benefits of enhanced cooperating agency participation in the preparation of NEPA analyses include: disclosing relevant information early in the analytical process; applying available technical expertise and staff support; and establishing a mechanism for addressing intergovernmental issues. Other benefits of enhanced cooperating agency participation include fostering intra- and intergovernmental trust (e.g., partnerships at the community level) and a common understanding and appreciation for various governmental roles in the NEPA process, as well as enhancing an agencies' ability to adopt environmental documents. We expect the level of data and the cooperation provided will result in a high quality NEPA document and an environmentally sound project.

In addition we would like to explore the idea of incorporating Green Highway concepts into the development of the Route 220 corridor study. Green Highway opportunities could address a watershed approach to stormwater management, an ecosystem approach to assess mitigation opportunities or provide new approaches to reuse and recycling opportunities. We would encourage a discussion of these concepts for integration into this project and would welcome visiting with your office to in order to provide detailed information on the Green Highway approach. The Green Highway approach is voluntarily and addressees issues that are beyond compliance in order to better incorporate environmental stewardship and sustainable practices that are more cost-effective over the long-term.

Thank you for the opportunity to be a cooperating agency on this project. We look forward to working with you to ensure that a scientifically sound and sufficient EIS is developed for this project. If you need additional assistance, please contact me at (215)-814-3367.

Sincerely,



William Arguto  
NEPA Team Leader







# United States Department of the Interior

NATIONAL PARK SERVICE  
 C&O Canal National Historical Park  
 1850 Dual Highway, Suite 100  
 Hagerstown, Maryland 21740

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|                  |   |      |   |   | Div Administrator   |
|                  |   |      |   |   | Admin Coord/Sec     |
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IN REPLY REFER TO:  
 D2215(CHOH)

May 7, 2007

Mr. Henry E. Compton, P.E.  
 Director – Program Development  
 Federal Highway Administration  
 West Virginia Division  
 Geary Plaza, Suite 200  
 700 Washington Street, East  
 Charleston, West Virginia 25301

Dear Mr. Compton:

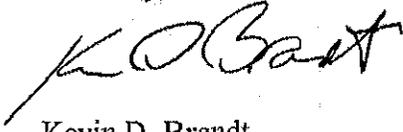
Thank you for the presentation on April 16, 2007, regarding the proposed upgrades to Route 220 in Allegany County, Maryland, and Mineral, Hampshire, Hardy, Grant Counties, West Virginia. Our staff was very appreciative that the project's team was able to join us on short notice. The meeting was very productive and helped answer some of our questions.

Your correspondence of March 21, 2006, invited the National Park Service to join the project as a cooperating agency for the Tier One Draft Environmental Impact Statement (EIS). As a cooperating agency with the Federal Highway Administration, we request that a memorandum of understanding/agreement be developed to define the rights and responsibilities of our agencies during this compliance undertaking. As a cooperating agency involved with the preparation of the EIS, we are required to review all parts of the EIS that pertain to the properties of the Chesapeake and Ohio Canal National Historical Park, including the Western Maryland Rail Road. We are also required to concur with all recommendations contained in the EIS pertaining to any sections of the document that involve park resources. Section 4(f) of the *U.S. Department of Transportation Act of 1966* will need to be outlined for how it pertains to the park property and the proposed project. Additionally, we are required to be invited to attend all public and project and agency meetings. We expect be kept fully informed on all aspects of the project, to include copies of meeting minutes, news release information, and project review developments.

Our staff is currently reviewing the *Purpose and Need* and the *Corridors Retained for Further Analysis, April 16, 2007*. We will provide our comments to your attention by May 31, 2007.

Please address all correspondence to my attention with copies to Lynne Wigfield, Compliance Officer, at [lynne\\_wigfield@nps.gov](mailto:lynne_wigfield@nps.gov), (301) 745-5802. Ms Wigfield should be recipient of all project documents. Please contact Ms. Wigfield if you have any questions.

Sincerely,



Kevin D. Brandt  
Superintendent

cc:

Ms. Elizabeth J. Cole, Maryland Historic Trust, Division of Historical & Cultural OPS Review and Compliance, 100 Community Place, Crownsville, MD 21032

Mr. Joe DeVia, U.S. Army Corps of Engineers, Baltimore District, P.O. Box 1715, Baltimore, MD 21203-1714

Mr. Robert F. Gore, Chief, Planning and Environmental Services Branch, Department of the Army, Baltimore District, Corps of Engineers, CENAB-OP-RMN, PO Box 1715, Baltimore, Maryland 21203-1715

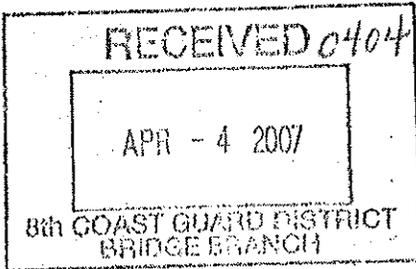
Mr. Sean McKewen, Western Region Division Chief of Non-Tidal Wetlands and Waterways Water Management Division, Maryland Department of the Environment, 160 South Water Street, Frostburg, Maryland 21532



U.S. Department  
of Transportation

Federal Highway  
Administration

West Virginia Division



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|   |   | Asst Div Admin    |   |   | Admin Coord/Sec |
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|   |   | Trans Planning    |   |   | Admin Coord/Sec |
|   |   | Structures Eng    |   |   | Admin Coord/Sec |
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|   |   | Trans Sec         |   |   | Admin Coord/Sec |

Greary Plaza, Suite 200  
700 Washington Street, East  
Charleston, West Virginia 25301

File # Federal Project NCPD-0220(149)C  
File Name State Project U212-220-12.6  
US 220 - Tier 1 EIS  
Cooperating Agency Request

Mr. Roger Wiebusch  
Commander, Eighth Coast Guard District  
1222 Spruce Street  
St. Louis, MO 63103-2398

Pursuant to the Coast Guard Authorization Act of 1982, it has been determined this is not a waterway over which the Coast Guard exercises jurisdiction for bridge administration purposes. A Coast Guard bridge permit is not required.

*[Signature]*  
ROGER K WIEBUSCH  
Bridge Administrator  
Eighth Coast Guard District (obr)

4/20/07  
(Date)

Dear Mr. Wiebusch:

The Federal Highway Administration (FHWA), in cooperation with the West Virginia Division of Highways (WVDOH) and the Maryland State Highway Administration (MDSHA), is initiating an environmental impact statement for the proposed NHS Corridor between I-68 in Maryland to Corridor H in West Virginia.

The project is located in Grant, Hardy, Hampshire, and Mineral counties in West Virginia, and Allegany County in Maryland. The project region stretches from I-68 near Cumberland, Maryland, in the north to the proposed alignment of Corridor H in West Virginia in the south. The first attached figure (*Figure 1, Project Location*) shows the project location in its regional context.

The purpose of this project is to develop an improved transportation corridor connecting I-68 in Maryland and Appalachian Development Highway System Corridor H in West Virginia. Upgraded roadways resulting from this project will become part of the NHS. The new NHS Corridor, paralleling to some extent existing U.S. Route 220 in western Maryland and West Virginia's Potomac Highlands area, would improve the existing transportation system by providing an upgraded north-south road through a program of transportation projects. The new corridor will support efforts to increase mobility and regional commerce for residents, businesses, and visitors. It will also serve north-south interstate travel movements and support economic development throughout the Appalachian regions of Maryland, West Virginia, Pennsylvania, and Virginia.

Your organization has been identified as an agency with jurisdiction by law that may have an interest in the project due to your General Bridge Act authority. With this letter, we extend an invitation to become a participating agency and cooperating agency with the FHWA in the development of a Tier One Draft EIS for the project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the project.

A notice of intent to prepare an EIS was published in the Federal Register on April 14, 2006. Public and agency scoping meetings were held the following month. Many federal and state agency representatives participated in those meetings. Since that time, preliminary environmental and engineering studies have been initiated. A second figure, (*Figure 5, Transportation Scenario*), is also attached to show you the corridors being studied

Our request for your participation as a cooperating agency is in accordance with *40 CFR 1501.6* of the Council on Environmental Quality's (CEQ) *Regulations for Implementing the Procedural Provision of the National Environmental Policy Act*. Pursuant to *Section 6002 of SAFETEA-LU*, however, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the project should include the following as they relate to your area of expertise:

- Provide meaningful and early input on defining the purpose and need, determining the range of alternatives to be considered, and the methodologies and level of detail required in the alternatives analysis.
- Participate in coordination meetings and joint field reviews as appropriate.
- Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

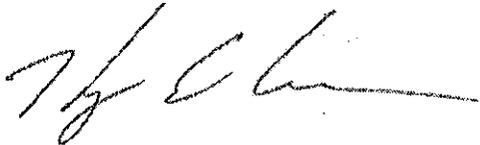
Please respond to FHWA in writing with an acceptance or denial of the invitation prior to April 30, 2007. If your agency declines, we ask that you state your reason for declining the invitation. Pursuant to *SAFETEA-LU Sec. 6002*, any agency that chooses to decline the invitation to be a participating agency should state in its response that it:

- Has no jurisdiction or authority with respect to the project;
- Has no expertise or information relevant to the project; and
- Does not intend to submit comments on the project.

If you have any questions or would like to discuss in more detail the project or our agencies' respective roles and responsibilities during the preparation of this Tier One DEIS, please contact me at (304) 347-5268 or via e-mail at [henry.compton@fhwa.dot.gov](mailto:henry.compton@fhwa.dot.gov).

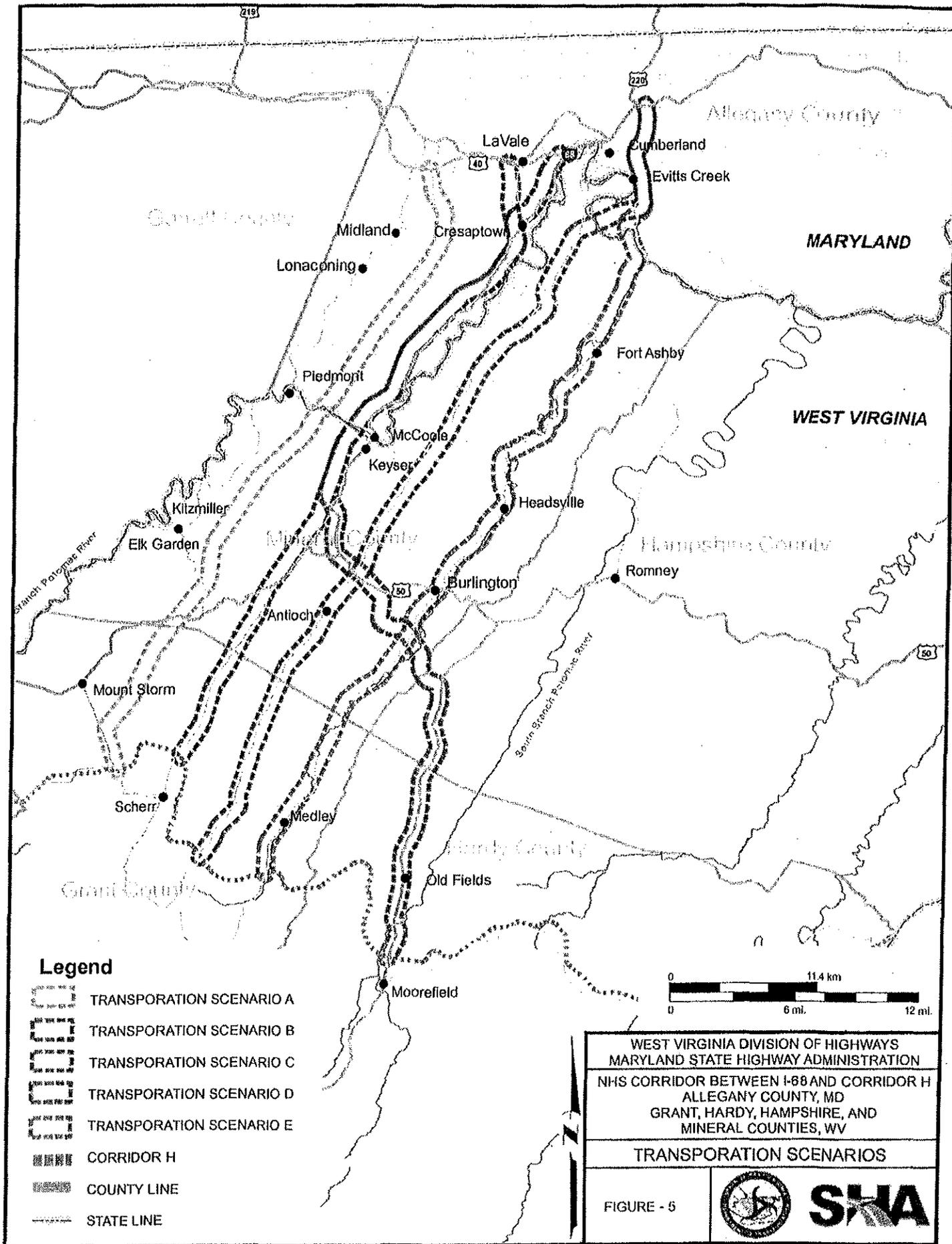
Thank you for your cooperation and interest in this project.

Sincerely yours,

A handwritten signature in black ink, appearing to read "H. E. Compton". The signature is fluid and cursive, with a long horizontal stroke at the end.

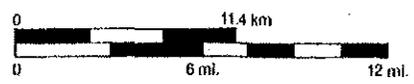
Henry E. Compton, P.E.  
Director – Program Development

Enclosures



**Legend**

-  TRANSPORTATION SCENARIO A
-  TRANSPORTATION SCENARIO B
-  TRANSPORTATION SCENARIO C
-  TRANSPORTATION SCENARIO D
-  TRANSPORTATION SCENARIO E
-  CORRIDOR H
-  COUNTY LINE
-  STATE LINE



WEST VIRGINIA DIVISION OF HIGHWAYS  
 MARYLAND STATE HIGHWAY ADMINISTRATION  
 NHS CORRIDOR BETWEEN I-88 AND CORRIDOR H  
 ALLEGANY COUNTY, MD  
 GRANT, HARDY, HAMPSHIRE, AND  
 MINERAL COUNTIES, WV

**TRANSPORTATION SCENARIOS**

FIGURE - 5





Maryland Department of Planning  
Maryland Historical Trust

Martin O'Malley  
Governor

Anthony G. Brown  
Lt. Governor

Richard Eberhart Hall  
Secretary

Matthew J. Power  
Deputy Secretary

August 16, 2007

Mr. Raja Veeramachaneni, Director  
Maryland State Highway Administration  
Office of Planning and Preliminary Engineering  
707 North Calvert Street  
Baltimore, Maryland 21202

Re: Invitation to become a Participating Agency on the US 220 South Corridor Study

Dear Mr. Veeramachaneni:

Thank you for inviting the Maryland Historical Trust (Trust) to become a participating agency in the development of the EIS for the US 220 South Corridor Study. We accept your invitation and look forward to working closely with your agency to identify issues of concern regarding the project's potential impact to historic resources.

If you have questions or require further assistance, please contact Beth Cole at [bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us) or 410-514-7631 or me at [ttamburrino@mdp.state.md.us](mailto:ttamburrino@mdp.state.md.us) or 410-514-7637. Thank you for providing us this opportunity to participate.

Sincerely,

Tim Tamburrino  
Preservation Officer  
Maryland Historical Trust

200602606  
TJT

To: Kameel



RECEIVED

MAY 15 2007

ENGINEERING DIVISION  
WV-DOH

west virginia department of environmental protection

Division of Water and Waste Management  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Telephone Number: (304) 926-0495  
Fax Number: (304) 926-0496

Joe Manchin III, Governor  
Stephanie R. Timmermeyer, Cabinet Secretary  
[www.wvdep.org](http://www.wvdep.org)

May 11, 2007

Mr. Greg Bailey, P.E.,  
West Virginia Department of Transportation  
Division of Highways  
1900 Kanawha Boulevard, East  
Building Five- Room A-317  
Charleston, West Virginia 25305-0430

Dear Mr. Bailey:

The West Virginia Department of Environmental Protection (WVDEP) has reviewed your letter of April 4, 2007 and welcomes your invitation to be a Participating Agency in the development of the Proposed National Highway System Corridor between Interstate 68 in Maryland to Corridor H in West Virginia.

WVDEP understands the importance and value of early identification of issues concerning the project's potential environmental or socioeconomic impacts. By participating with the Federal Highway Administration during the development of the Tier One Draft EIS many issues can be identified and resolved prior to the environmental permitting phase of the project.

Thank you again for inviting WVDEP to be a Participating Agency and we look forward to providing assistance during development of this important project. Please contact Lyle Bennett of the Division of Water and Waste Management for Section 404/401 Water Quality Certification issues at 304-926-0499 extension 1613 or email at [lbennett@wvdep.org](mailto:lbennett@wvdep.org).

Sincerely,



Lisa A. McClung, Director

LAM/lbb

Cc: Lyle Bennett, 401 Certification Program

Promoting a healthy environment.

**RECEIVED**

JUN 22 2007

Environmental Section  
Engineering Division  
WVDOH

Joe Manchin III  
Governor



**DIVISION OF NATURAL RESOURCES**  
Capitol Complex, Building 3, Room 669  
1900 Kanawha Boulevard, East  
Charleston WV 25305-0660  
TDD (304) 558-1439  
TDD (304) 1-800-354-6087  
Fax (304) 558-2768  
Telephone (304) 558-2754

June 4, 2007

**RECEIVED**

JUN 22 2007

ENGINEERING DIVISION  
WV DOH

Frank Jezioro  
Director

Mr. Gregory L. Bailey, P.E.  
Director, Engineering Division  
WV Department of Transportation  
Division of Highways  
Building Five, Room A-317  
1900 Kanawha Blvd., East  
Charleston, WV 25305

Re: Invitation to Become a Participating Agency for the Proposed  
National Highway System (NHS) Corridor between I-68 in  
Maryland to Corridor H in West Virginia

Dear Mr. Bailey:

The West Virginia Division of Natural Resources (DNR) accepts your invitation to become a participating agency for the NHS Corridor between I-68 and Corridor H. Mr. Danny Bennett of my staff has been assigned this project and will coordinate the DNR's comments concerning potential environmental impacts associated with the proposed project. The DNR staff has expertise in a variety of natural resource issues including, but not limited to, potential impacts to sensitive habitats harboring valuable sport fish resources, protected freshwater mussel species, threatened and endangered species, and game and nongame terrestrial species.

Please forward all correspondence for the I-68 Corridor H Corridor to Mr. Danny Bennett, WV Division of Natural Resources, Wildlife Resources Section, P.O. Box 67, Ward Road, Elkins, WV 26241.

Sincerely,

A handwritten signature in cursive script that reads "Frank Jezioro".

Frank Jezioro  
Director

FJ/cit/adk



Delaware Nation  
NAGPRA/Cultural Preservation Office  
P.O. Box 825, Anadarko, OK 73005  
Phone: (405) 247-2448 ~ Fax: (405) 247-9393

NAGPRA ext. 121  
Museum ext. 120  
Section 106 ext. 147  
Library ext. 134

16 April 2007

Gregory L. Bailey, P.E.  
West Virginia Department of Transportation  
Division of Highways  
1900 Kanawha Blvd. East, Bldg. Five, Room 110  
Charleston, West Virginia 25305-0430

**RECEIVED**

APR 23 2007

**ENGINEERING DIVISION  
WV DOH**

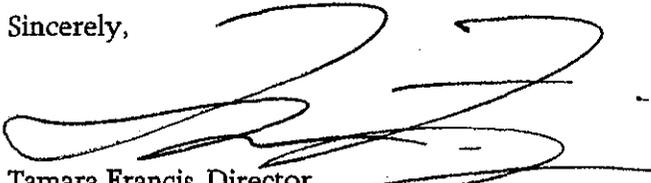
RE: Invitation to become a Participating Agency for the Proposed National Highway System (NHS) Corridor between Interstate 68 in Maryland to Corridor H in W. Virginia.

Dear Mr. Bailey:

The Delaware Nation received the invitation to be a participating agency on the above mentioned project on April 16, 2007. The plan has been reviewed by the Delaware Nation NAGPRA/Cultural Preservation Office. At this time we do not have any comments or suggestions. Thank you for including us as a participating agency. We look forward to receiving more information about this project as it becomes available.

We appreciate your cooperation in contacting the Delaware Nation. Please direct future correspondence of this nature to the NAGPRA/Cultural Preservation Office so that it may be reviewed in a timely manner. Should you have any questions, feel free to contact me. I may be reached by phone at (405) 247-2448, fax at (405)247-9393, or by email [tfrancis@delawarenation.com](mailto:tfrancis@delawarenation.com).

Sincerely,



Tamara Francis, Director  
NAGPRA/Cultural Preservation



# US 50 Association

Representing Maryland, Virginia, & West Virginia

*Striving for a better road from  
Winchester, VA to Clarksburg, WV*

May 30<sup>th</sup>, 2007

**RECEIVED**

JUN 07 2007

ENGINEERING DIVISION  
WV DOH

Greg Bailey  
Director Engineering Division  
WV DOT, Div. of Highways  
1900 Kanawha Blvd East  
Building 5, Room A-317  
Charleston, WV 25305-0430

Dear Mr. Bailey,

This letter is to confirm that the US 50 Association wishes to be a participating agency with the Federal Highway Administrations Tier One study of the NHS, US 220, North-South Corridor.

Thank You,

Gary Howell

Secretary, US 50 Assoc.

**Serving:**

**Frederick County in Virginia, Garrett County in Maryland, Hampshire,  
Mineral, Grant, Preston and Taylor Counties in West Virginia.**

## **APPENDIX C**

# **CONCURRENCE ON PURPOSE AND NEED REPORT AND CORRIDORS RETAINED FOR FURTHER ANALYSIS REPORT**



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
P.O. BOX 1715  
BALTIMORE, MD 21203-1715

**MAR 28 2011**

Operations Division

U.S. Army Corps of Engineers, Huntington District  
Ms. LuAnne S. Conley, Chief, South/Transportation Section OR-F  
502 8th Street  
Huntington, WV 25701

Dear Ms. Conley:

This office has reviewed the preliminary US 220 Tier One Draft Environmental Impact Statement, dated July 2010, and offers the following comments:

First, this office concurs on the Purpose & Need. In the Alternatives Development section in the DEIS, we would suggest that all of the transportation scenarios (TS) except TS-A and TS-E be carried forward. It would be helpful to discuss how much opportunity for avoidance and minimization of impacts to resources exist within each scenario.

Concerning transportation scenarios to be carried forward, while we appreciate that TS-A was dropped from further consideration for potential impacts to Dan's Mountain, we suggest that impacts to Dan's Mountain by TS-B be avoided and minimized to the maximum extent practicable. Dan's Mountain Management Area is an important natural area that is proposed to be affected by TS-B. We received information from the Maryland Department of Natural Resources (MD DNR) that Mill Run is a brook trout stream and this is located along the TS-B corridor near Rawlings. Not all of the streams on the eastern slope of Dan's Mountain have been assessed for brook trout habitat so aquatic sampling should be done to more precisely map the location of brook trout populations. According to MD DNR there is one other stream that locals claim has brook trout that is located a little further north of the Mill Run near Rawlings location going towards LaVale.

The Potomac River crossing has not been addressed. This is a navigable waterway subject to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Spanning the entire floodplain, minimizing the number of piers and spanning all wetlands are options that will need to be addressed.

A joint federal/state permit would be required for activities that impact Waters of the U.S. The applicant must demonstrate that proposed impacts to streams and wetlands are necessary and unavoidable and that all avoidance and minimization measures have been fully exhausted. Avoidance and minimization of impacts to Waters of the U.S. include the use of compressed medians, reduced safety grading widths, and interchange designs in areas where the alignment would impact aquatic resources. Other options for avoiding impacts include bridging the entire floodplain, bridging of wetlands, and building bottomless arches. Installation of free-span

bridge structures and bottomless arch culverts reduce the risk of not passing flows during a high water event, decreases the possibility of down-cutting of the streambed or riverbed (upstream or downstream of the crossing), minimizes the possibility of bank erosion upstream and/or downstream of the crossing, and promotes fish passage.

Section 404 (b) (1) of the Clean Water Act requires us to authorize projects that are the least environmentally damaging practicable alternative to the aquatic environment. These Guidelines require an applicant to consider and demonstrate that all practicable and feasible alternatives were examined that would avoid or minimize impacts to waters.

Please be advised that the 220 Improvement Project will be subject to the 2008 Final Mitigation Rule. A discussion of potential environmental mitigation for unavoidable adverse impacts to Waters of the US should be included.

We have been coordinating with the Environmental Protection Agency and concur with their comments.

Thank you for the opportunity to review the preliminary US 220 Tier One Draft Environmental Impact Statement. A copy of this letter is being forwarded to the Maryland State Highway Administration and Maryland Department of the Environment Nontidal Wetlands Division for informational purposes. If you have any questions concerning the information provided in this letter, please call Mrs. Mary Frazier of this office at (410) 962-5679.

Sincerely,



Mary A. Frazier  
Biologist, Maryland Section Northern



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

June 30, 2008

Mr. Gregory L. Bailey, P.E.  
Director, Engineering Division  
West Virginia Division of Highways  
Building Five, Room A-317  
1900 Kanawha Boulevard East  
Charleston, WV 25305

**RECEIVED**  
JUL 07 2008  
ENGINEERING DIVISION  
WV DOH

RE: US Route 220 Tier One Draft Environmental Impact Statement, Purpose and Need, and Preliminary Draft Corridors Retained for Further Analysis (April 16, 2007); State Project U212-220-12.65 00

Dear Mr. Bailey,

The Environmental Protection Agency (EPA) has received copies of the above referenced documents. It is understood that these documents were originally sent to our office in April 2007. Our office was reminded in early spring of 2008 at the Maryland State Highway Administration's monthly Interagency Meeting that comments and concurrence was outstanding for these documents; it was determined at that time that the reports could not be found. EPA is very grateful that copies were re-sent and that comments will be accepted on the documents. EPA has been invited by the Federal Highway Administration, and has agreed, to participate in the development of the Draft Environmental Impact Statement (EIS) as a cooperating agency.

EPA will concur with the Purpose and Need for the project, and on the Corridors Retained for Further Analysis with minor comment. Comments are included as an attachment to this letter.

EPA appreciates the opportunity to participate and review information prepared for the US Route 220 Tier One DEIS project. Please feel free to contact Ms. Barbara Rudnick of the Environmental Programs Branch at (215) 814-3322 or [rudnick.barbara@epa.gov](mailto:rudnick.barbara@epa.gov) if there are any questions on the comments provided.

Sincerely,

A handwritten signature in black ink, appearing to read "William Arguto".

William Arguto  
NEPA Team Leader

Attachment

## Attachment

### Purpose and Need

1. Page 1: As "support of regional commerce" has been identified as a need in the project area, it would benefit the document to clearly identify areas where future development is desired (in Maryland, Priority Funding Areas), and sectors that are identified as outside development areas.
2. It is unclear if "upgraded roadways" must be on new alignment or if upgrade of existing roads will be considered. In general, use of existing Right of Way (for instance, where volume is not an issue, but highway design limits LOS) can reduce environmental impacts.
3. Page 8 (6.1 Major Maryland Roadways in the Project Area): It would be helpful to define substandard horizontal and vertical alignment.
4. Page 20: It is stated that "LOS D is assumed to be unacceptable in more rural areas", though LOS E is "predicted on two-way, two-lane highways" typical to the area. It may benefit the discussion to reference where LOS D is identified as unacceptable in rural areas (guidelines?). It would be helpful if Figure 4 and/or Table 2 distinguished between segments that are LOS E because of design, versus exceeding capacity (specifying time of day) of the roadway. It would seem that improvements in mobility would be addressed differently depending on the problem.
5. Other road or other transportation projects that are planned or being constructed in the study area should be mentioned in the document.
6. Page 24: It would be helpful to specify the type of crash, especially where crashes exceed State average. This could help identify the problem. Again, it may be useful to specify if these segments exceed capacity or have substandard design.

### Corridors Retained for Further Analysis

1. Page 11: Did the best fit analysis consider natural resources?
2. Pages 15-19: In the description of Transportation Scenarios, towns and landmarks not shown on figures are referenced. It would be helpful to have maps which showed the referenced places. Air photos are encouraged.
3. Areas where growth is targeted should be highlighted. Secondary or indirect impacts of new infrastructure will need to be evaluated carefully for each corridor that is studied. A way to determine predictable changes in land use, population changes, and impact to resources will need to be identified. Maryland State Highway Administration has had some experience in doing these evaluations with expert land use panels. The methods to be used for this study should be stated. The secondary or indirect impacts will be an important part of corridor comparison in the DEIS.
4. Page 22: It is unusual for traffic analysis to repeat complete tables and discussion presented in Purpose and Need.
5. Pages 23-26: Were other road projects under construction or planned for construction considered in the traffic analysis? When corridor improvements are compared, do any of these involve upgrade of existing roads, or only new corridor?
6. Table 6: Is there a comparison of corridor length? Additional impervious surface? (this would be useful in the completed DEIS).
7. EPA supports dropping Transportation Scenario A and E.



**Romano, Joe**

---

**From:** Anne Elrays <AEIrays@sha.state.md.us>  
**Sent:** Wednesday, December 08, 2010 11:30 AM  
**To:** Kameel Hall; Olayinka Bruce; Romano, Joe  
**Cc:** Anne Elrays  
**Subject:** FW: US 220 Tier One Draft Environmental Impact Statement coordination

Yes! this is good...

---

**From:** Laura\_Hill@fws.gov [mailto:Laura\_Hill@fws.gov]  
**Sent:** Wednesday, December 08, 2010 11:18 AM  
**To:** Anne Elrays  
**Subject:** Fw: US 220 Tier One Draft Environmental Impact Statement coordination

oops, mistyped your e-mail the first time

---

Laura Hill  
Assistant Field Supervisor  
West Virginia Field Office  
U.S. Fish and Wildlife Service  
694 Beverly Pike  
Elkins, WV 26241  
e-mail: Laura\_Hill@fws.gov  
Phone: (304) 636-6586, ext. 18  
FAX: (304) 636-7824

----- Forwarded by Laura Hill/R5/FWS/DOI on 12/08/2010 11:17 AM -----

**Laura  
Hill/R5/FWS/DOI**

To: AEIrays@sha.state.md.us, khall1@sha.state.md.us

12/08/2010 09:34  
AM

cc: Deb Carter/R5/FWS/DOI@FWS

Subject: Re: Fw: US 220 Tier One Draft Environmental Impact Statement  
coordination

Thanks Kameel and Anne for following up. We have had some staff turn-over, so sorry if we did not respond to the April 2007 request. Yes, we will be a participating agency in the NEPA process. Deborah Carter should be the point of contact in your Coordination Plan (no change in address). We will bypass a response to the earlier Purpose/Need and Alternatives packages and instead review the approved Tier 1 document concurrent with public comment.

---

Laura Hill  
Assistant Field Supervisor  
West Virginia Field Office  
U.S. Fish and Wildlife Service  
694 Beverly Pike

Elkins, WV 26241  
e-mail: Laura\_Hill@fws.gov  
Phone: (304) 636-6586, ext. 18  
FAX: (304) 636-7824  
▼ Deb Carter/R5/FWS/DOI

**Deb  
Carter/R5/FWS/DOI** To: Laura Hill/R5/FWS/DOI@FWS  
12/08/2010 09:06 AM cc

Subject: Fw: US 220 Tier One Draft Environmental Impact Statement  
coordination

Deb  
Project Leader  
West Virginia Field Office  
U.S. Fish and Wildlife Service  
694 Beverly Pike  
Elkins, WV 26241  
Phone: 304 636 6586  
Fax: 304 636 7824

----- Forwarded by Deb Carter/R5/FWS/DOI on 12/08/2010 09:06 AM -----

**Anne Elrays**  
<AEIrays@sha.state.md.us> To: "deb\_carter@fws.gov" <deb\_carter@fws.gov>  
12/08/2010 07:01 AM cc: "Romano, Joe" <jromano@skellyloy.com>, Olayinka  
Bruce <OBruce@sha.state.md.us>, Kameel Hall  
<KHall1@sha.state.md.us>, Anne Elrays  
<AEIrays@sha.state.md.us>  
Subject: RE: US 220 Tier One Draft Environmental Impact  
Statement coordination

---

**From:** Kameel Hall  
**Sent:** Friday, December 03, 2010 12:08 PM  
**To:** 'deb\_carter@fws.gov'  
**Cc:** Anne Elrays; 'Romano, Joe'; Olayinka Bruce  
**Subject:** FW: US 220 Tier One Draft Environmental Impact Statement coordination

Good afternoon Ms Carter,  
I am the Project Manager for the US 220 Tier One Planning Study. I'm sending this email for Anne Elrays, Environmental Manager, on the project. Please see the email chain below. If there are any questions, feel free to contact Anne or myself.

Regards,  
Kameel

**Mrs. Kameel R. Hall**

Project Manager  
Project Planning Division - Mail Stop C301  
State Highway Administration  
707 N. Calvert Street  
Baltimore, MD 21202  
410-545-8542 Office  
410-209-5004 Fax  
1-800-548-5026 Toll Free  
[khall1@sha.state.md.us](mailto:khall1@sha.state.md.us)

---

**From:** Romano, Joe [<mailto:jromano@skellyloy.com>]  
**Sent:** Thursday, December 02, 2010 4:31 PM  
**To:** Anne Elrays; Kameel Hall  
**Cc:** Olayinka Bruce  
**Subject:** RE: US 220 Tier One Draft Environmental Impact Statement coordination

Anne,

Tom works in the New England District of USFWS now. The new contact person is probably Deborah Carter.

Joe

---

**From:** Anne Elrays  
**Sent:** Monday, November 08, 2010 3:42 PM  
**To:** 'tom\_chapman@fws.gov'  
**Cc:** 'Romano, Joe'; Olayinka Bruce; Kameel Hall  
**Subject:** FW: US 220 Tier One Draft Environmental Impact Statement coordination  
Hello M s Carter :

I am a MD SHA environmental staff assigned the subject WVA/MD project. While both a draft and final document including a selected corridor with additional detailed studies is yet required, we are at this time, following up on outstanding coordination for this subject (preliminary) document.

We requested that you be a participating agency in April 2007 and had not received a response. Because we did not receive a response are assuming you are a participating agency.

We are also updating the Coordination Plan as mandated under SAFETEA-LU and are confirming your contact information as shown in the plan is still current: you are listed as the point of contact, and can be reached at 304-636-6586. Your address is: 694 Beverly Pike; Elkins WV 26241.

Lastly, we had provided Purpose and Need and Alternative Corridors Packages in August 2007. We need responses to these packages , [or agreement that you will bypass this 2007 review and instead review the approved Tier 1 document concurrent w/the public \(anticipated approval Feb/March 2011\)](#)

Thank for your responses as regards R, T, E species dated May 17, 2006 (responding also to Notice of Intent), and July 11, 2007 (R,T, E).

If you need any additional information please feel free to contact me:

Anne Elrays

410-545-8562 or 1-866-527-0502 toll-free. A response by the end of November at the latest would be much appreciated.



Please consider the environment before printing this email

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# United States Department of the Interior

NATIONAL PARK SERVICE  
 C&O Canal National Historical Park  
 1850 Dual Highway, Suite 100  
 Hagerstown, Maryland 21740

| A | I | Init | A | I | Init                  |
|---|---|------|---|---|-----------------------|
|   |   |      |   |   | Div Administrator     |
|   |   |      |   |   | Admin Coordinator/Sec |
|   |   |      |   |   | Asst Div Admin        |
|   |   |      |   |   | Admin Coordinator     |
|   |   |      |   |   | Operations Mgt Eng    |
|   |   |      |   |   | Financial Specialist  |
|   |   |      |   |   | Financial Manager     |
|   |   |      |   |   | AE-1 Design           |
|   |   |      |   |   | Trans Planning Eng    |
|   |   |      |   |   | AE-2 Corr Mgt Eng     |
|   |   |      |   |   | Structures Eng        |
|   |   |      |   |   | AE-3 Materials        |
|   |   |      |   |   | Planning/Envir        |
|   |   |      |   |   | Asst Structures Eng   |
|   |   |      |   |   | Safety Eng            |
|   |   |      |   |   | IT Specialist         |
|   |   |      |   |   | Res/IT Eng            |
|   |   |      |   |   | Library               |
|   |   |      |   |   | Trans Specialist      |

IN REPLY REFER TO:  
 D2215(CHOH)

June 18, 2007

Mr. Henry E. Compton, P.E.  
 Director – Program Development  
 Federal Highway Administration  
 West Virginia Division  
 Geary Plaza, Suite 200  
 700 Washington Street, East  
 Charleston, West Virginia 25301

Dear Mr. Compton:

Thank you for the opportunity to review the *Purpose and Need* and the *Corridors Retained for Further Analysis, April 16, 2007*. This project is locally referred to as the Route 220 project. We offer the following information for your consideration.

The Chesapeake and Ohio Canal National Historical Park is recognized for its national significance in the National Register of Historic Places. Every means and method, to ensure that the park's values, resources, and quality of visitor services need to be undertaken by this project. The area of the park identified to be potentially impacted by the proposed *NHS Corridor Between I-68 and Corridor H* encompasses park miles 173 through 180, which is Spring Gap to Evitts Creek. Your survey for cultural resources did include several of the park's cultural features within this area. Additional project information provided locations for known or potential archeological resources. The cultural and historical values of the park extend well beyond the physical remains of the park. The development and operation of the Chesapeake and Ohio Canal provided a way of life for many persons throughout its existence and many communities developed as a result of this engineering feat. Today the Chesapeake and Ohio Canal NHP is preserved as the most intact example of a nineteenth century canal system in America. The National Park Service is responsible for its preservation, which includes its historic integrity and the wide range of natural resources contained within its boundaries.

The park is a linear feature and it is often difficult for people to understand the level of impact to the entire park because the park property is narrow in most locations. Being linear has its challenges yet the Chesapeake and Ohio Canal National Historical Park is as important as other national treasures such as Yellowstone or the Washington Monument.

The Chesapeake and Ohio Canal was the result of the westward migration vision of George Washington and others. President Washington had envisioned a transportation corridor that would connect Washington DC with the Ohio River Valley. Due to financial restrictions and the

concurrent development of America's railroad system, the Chesapeake and Ohio Canal never reached its ultimate goal of connection with the Ohio River Valley. The National Park Service today provides the public with the opportunity to travel 184.5 miles on the historic canal towpath and reflect back in time to a bygone mode of transportation. Many park visitors also visit the park to enjoy the natural beauty that the park offers. Encroachments on the park lessen the aesthetic qualities that the park visitor has come to anticipate. With the recent development of the Great Allegheny Passage bicycle trail, the park has become a vital component in that system and ironically fulfills President Washington's dream of a transportation connection between Washington, D.C. and the Ohio River at Pittsburgh. The Chesapeake and Ohio Canal National Historical Park's preservation of resources will be vital for the success of the 316 mile corridor that is attracting people worldwide. The economic benefits of the entire 316 mile trail are speculative at this point. Impacts to the corridor at any location will have cumulative impacts to the visitor experience that could be detrimental. Many communities, including Cumberland, have the potential to explore economic opportunities presented by this bike/hike corridor.

Construction of the Chesapeake and Ohio Canal began in 1828 and operated until 1924. The federal government purchased all of the original property of the canal company in 1938. In 1971 the Chesapeake and Ohio Canal National Historical Park was established by an Act of Congress. The 1971 legislation was based on earlier Congressional legislation of 1950 and 1953 and 1961 Executive Order. While it was recognized that rights of ways (easements) may need to be established across the park, it is stated in the legislation that the park lands could not be severed. It further states that crossings must be approved by the Secretary of Interior and the crossings must not conflict with the purposes of the park and are in accord with any requirements found necessary to preserve park values.

The Western Maryland Rail Road was the system that eventually helped the Chesapeake and Ohio Canal to falter financially. The Western Maryland Rail Road trace is also being developed as part of the rail trail bicycle system of the Great Allegheny Passage. The National Park Service owns 36 miles of this railroad trace and is currently working with the states of Maryland and West Virginia to acquire funding for further development of the rail trail system. NPS ownership ends near Spring Gap. The proposed Route 220 preliminary corridors may impact the railroad trace under NPS ownership and the rail trail system further west through the Cumberland area.

The proposed project identifies two potential roadway corridors (C and E) that would impact the park in the area cited above. The main part of this area is locally known as Mexico Farms. In 2006, the Federal Aviation Administration (FAA) issued an environmental assessment (EA) for the Cumberland Airport's safety upgrades. The Cumberland Airport is located at Wiley Ford, West Virginia, which is across the Potomac River from Cumberland and is in the project area of the proposed Route 220. Within that document is information pertaining to both natural and cultural resources of the area. The FAA project did include impacts to the Chesapeake and Ohio Canal National Historical Park, as part of the park was included in the runway protection zone. With the EA, the FAA outlined that their project was located within known habitat of the Federally Endangered Indiana Bat. While no sightings of the Indiana Bat were identified, the habitat of the area is conducive for its existence. In the fall of 2006, an Indiana Bat was located within the Chesapeake and Ohio Canal NHP. That sighting, while not in the immediate Route 220 project area, does provide evidence that the species is within the geographic area and must

be evaluated in accordance to the proposed impacts and destruction of habitat associated with the Route 220 project.

Additionally, the FAA EA provides information on the protection of farmland. Destruction of farmland adjacent to the park would have impacts to the park and its resources. Development along the highway corridor could have cumulative impacts to the park and its resources that have yet to be identified with new commercial and residential construction, relocation of existing utilities, etc.

Archeological concerns are paramount to the NPS. We are aware of several state listed sites within the project zones for Alternatives C and E. The NPS is also in the midst of conducting a park wide archeological survey that is yielding more information about resources than we anticipated. Work in the Cumberland area is not slated to be undertaken until 2009 under the multi-year survey. We also need to protect the cultural landscapes associated with the locks in this area. The Lock 75 cultural landscape is frequently used for photographic images of the park.

Other general concerns that we have include impacts resulting from the proposed highway on the park and its resources from noise, light and air pollution. The addition of these types of impacts could alter the park.

In regards to the two documents that were forwarded for our review, we offer the following specific information for your consideration.

#### PURPOSE AND NEED STATEMENT DOCUMENT

On page 5 of the document, please provide the acronym for the National Park Service (NPS), located in second sentence from the bottom of the page.

Also on page 5 we noticed that the federal prison at Cumberland is not on the list of agencies who have been contacted regarding this project. They are located in the Mexico Farm area and may have security concerns with a nearby roadway.

On page 7, the second bullet indicates that the project will "...encourage economic development and improve the quality of life while protecting the environment..." The Chesapeake and Ohio Canal National Historical Park, in conjunction with the Great Allegheny Passage, is already providing economic developments for the region and nearby communities. The Route 220 project needs to ensure that project impacts will not be a detriment to the existing recreational system, including the Canal Place Heritage Area.

Page 7 cites the *North South Appalachia Corridor Study*. We would like to receive a copy of this to review for the environmental impacts identified within the study.

Page 29 states that the new Route 220 is a four-lane limited access highway that will connect Cumberland to Corridor H. We would be concerned that the new Route 220 corridor would one day be upgraded to an interstate that would connect with the existing

Interstate 99 at Bedford. If this is a potential scenario, we would like to address it during this evaluation.

On page 31 there is a list of issues of concern regarding threatened and endangered species and habitat. Has the Maryland Heritage Program been consulted regarding this project?

#### CORRIDORS RETAINED FOR FUTURE ANALYSIS DOCUMENT

Within the first several pages, we would like to see a time table for the entire process from initial project scoping through construction. Is construction envisioned within the next 5 years or longer?

On page 9 it describes that a 4,000 foot buffer, 2,000 feet on each side of the roadway would be implemented. This would be in addition to the actual width of the roadway and shoulders of approximately 141 feet. We would like information on the use of these buffers. Would they be clear cut/grassland? These buffers would add to the visual impacts to the park and this element is not addressed in the document.

Page 12 lists the public and agency involvement. This listing needs to be revised to include the April 16 meeting with the NPS.

On page 14, the first bullet lists economic development and smart growth. Any corridor selected will have impacts that affect the entire area. The selected corridor will be developed while other areas might see a decline in economic opportunities. Downtown Cumberland may suffer from a "bypass."

On page 21, there is discussion regarding "interchanges" associated with the new road. What is the anticipated road design for the new Route 220 and its interface with Route 51 at the Mexico Farm area? Will there be an interchange there or at grade intersection?

Page 27 states that natural resources have been entered into a GIS data base. We have not seen this data. Is this available?

Table 6 on page 30-31 lists preliminary Environmental Impacts. Is the NPS included in the listings for the Parks and Recreation, Government Buildings, Other Public Facilities, and Historic Resource data? We are also concerned with the potentially hazardous waste sites that are listed on the table and the corresponding Figure 8. It appears that some of the potential sites are very close to the park.

We request further information pertaining to wetlands on or near NPS property, pages 36-37.

Transportation Scenario C for streams has the second highest number of perennial streams. This should be noted in the document.

The NPS will need to review the *Floodplain Management* information when it becomes available. Dependent on location of the selected highway corridor, new construction within the floodplain could cause different hydraulic patterns that may affect park resources within the floodplain.

On page 39, there is discussion of Scenario C and the transverse crossing of streams and the Potomac River. Debris buildup is a concern with any constriction of a stream. How would this debris be cleared? What about access issues if these bridges are near the park?

Please make sure that the park is listed at Chesapeake and Ohio Canal National Historical Park throughout both documents.

On page 50, the text outlines the potential impacts to 4(f) resources within the project area. The text for both Scenario C and E states "It would be difficult to cross the C&O Canal National Historical Park without impacting it." We contend that any crossing of the park would have impacts, therefore, it would be impossible to cross the park without impacts.

On page 59, Dan's Mountain and its resources are held to a high standard as state owned property. The Chesapeake and Ohio Canal National Historical Park needs to also be held to a high standard as well.

As a closing thought and comment, until we can see more detailed information about the potential crossings for Scenarios C and E in reference to the park, we cannot evaluate the potential impacts to the park and its resources. We would like the project team to identify an alternative connection for the corridors that would avoid the park completely.

Please address all correspondence to my attention with copies to Lynne Wigfield, Compliance Officer, at [lynne\\_wigfield@nps.gov](mailto:lynne_wigfield@nps.gov), (301) 745-5802 and Mr. Brian Carlstrom, Chief of Resources, at [brian\\_carlstrom@nps.gov](mailto:brian_carlstrom@nps.gov), (301) 714-2210. Ms Wigfield should be the recipient of all project documents. Please contact Ms. Wigfield if you have any questions.

Sincerely,



Kevin D. Brandt  
Superintendent

cc:

Ms. Elizabeth Cole, Maryland Historic Trust, 100 Community Place, Crownsville, MD 21032  
Mr. Joe DaVia, ACOE, Baltimore District, P.O. Box 1715, Baltimore, MD 21203-1715  
Mr. Sean McKewen, MDE, 160 South Water Street, Frostburg, MD 21532  
Mr. Robert F. Gore, ACOE, Baltimore District, P.O. Box 1715, Baltimore, MD 21203-1715

## PURPOSE AND NEED

**Project Name & Limits: US 220 South Corridor Study from I-68 to Corridor H (Tier 1)**

**Having reviewed the attached Purpose and Need concurrence/comment package and the summary presented above, the following agency (by signing this document):**

Federal Highway Administration

MD Dept. of Natural Resources

MD Dept. of the Environment

MD Historical Trust

MD Department of Planning

Allegany County (Department of Community Services)

**Concurs (without comments)**

**Concurs (w/ minor comments)**

**Does Not Concur**

Comments / Reasons for Non-Concurrence:

**Note: Please do not provide "conditional" concurrence. You should either concur with the information as provided (without comments or with minor comments) or not concur until revisions are made or additional information is provided.**

Additional Information Needed:

Signature: Elden A. Stuzick

Date: 2/21/08

## Romano, Joe

---

**From:** Anne Elrays <AEIrays@sha.state.md.us>  
**Sent:** Monday, December 06, 2010 10:58 AM  
**To:** 'Hurt, Steve'  
**Cc:** Kameel Hall; Romano, Joe; eghigiarelli@mde.state.md.us; Olayinka Bruce  
**Subject:** RE: US 220 Tier One Draft Environmental Impact Statement coordination

Thank you Steve.

Anne

---

**From:** Hurt, Steve [mailto:smhurt@mccormicktaylor.com]  
**Sent:** Monday, December 06, 2010 10:55 AM  
**To:** Anne Elrays  
**Cc:** Kameel Hall; Romano, Joe; eghigiarelli@mde.state.md.us; Olayinka Bruce  
**Subject:** RE: US 220 Tier One Draft Environmental Impact Statement coordination

Anne,

MDE will review the Tier 1 document when it becomes available and provide comments if needed.

Steve

---

**From:** Anne Elrays [mailto:AEIrays@sha.state.md.us]  
**Sent:** Thursday, December 02, 2010 4:06 PM  
**To:** Hurt, Steve  
**Cc:** Kameel Hall; 'Romano, Joe'; 'eghigiarelli@mde.state.md.us'; Olayinka Bruce  
**Subject:** FW: US 220 Tier One Draft Environmental Impact Statement coordination

Hi Steve:

thanks for responding to this email. At this point this WVA lead Tier 1 should be approved and distributed within the next several months.

You can opt to review the Corridors considered package from August 2007 as previously requested below, or review the approved Tier 1 document concurrent with other agency/public comments. Your comments must be taken into consideration regardless of when they are received.

Thank you for replying with a decision, as well as any needed update to your address/contact information as shown below.

Anne

I hope to return to the office next week, but if you have any questions prior to my return, Ms. Kameel Hall can be contacted at 410-545-8542.

---

**From:** Anne Elrays  
**Sent:** Tuesday, November 09, 2010 12:17 PM  
**To:** 'smhurt@mccormicktaylor.com'; 'smhurt@mtmail.biz'

**Cc:** Kameel Hall; Olayinka Bruce; 'Romano, Joe'; 'eghigiarelli@mde.state.md.us'  
**Subject:** FW: US 220 Tier One Draft Environmental Impact Statement coordination

---

Hello [there Steve](#) :

I am a MD SHA environmental staff assigned the subject WVA/MD project. While both a draft and final document including a selected corridor with additional detailed studies is yet required, we are at this time, following up on outstanding coordination for this subject (preliminary) document.

We requested that you be a participating agency in April 2007 and had not received a response. Because we did not receive a response are assuming you are a participating agency.

We are also updating the Coordination Plan as mandated under SAFETEA-LU and are confirming your contact information as shown in the plan is still current: you are listed as the point of contact, and can be reached at [410-662-7400](#) . Your address is: [c/o McCormick Taylor Inc.; 509 S. Exeter Street; Baltimore MD 21202](#) .

Lastly, we had provided an Alternative Corridors Packages in August 2007. We need response to th [is](#) package. Do [es](#) it need to be resent, if so, can be electronic?

If you need any additional information please feel free to contact me:

Anne Elrays

410-545-8562 or 1-866-527-0502 toll-free. A response by the end of November at the latest would be much appreciated.

[Thanks so much.](#)



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*Martin O'Malley, Governor*  
*Anthony G. Brown, Lt. Governor*  
*John R. Griffin, Secretary*  
*Eric Schwaab, Deputy Secretary*

**FAX TRANSMITTAL MEMO**

Date: Sept. 24, 2007

We are sending 6 pages  
(Including this cover sheet)

To: Joe Kressler

Co./Dept: SHA

Fax #: 410-209-5004

Comments: DNR Concurrence -  
P&N + CRE5  
US 220 Study.

THX  
From: Ray Dintanian

Fax: 410-260-8339

Phone: 410-260-8331

Email: rdintanian@dnr.state.md.us



*Martin O'Malley, Governor*  
*Anthony G. Brown, Lt. Governor*  
*John R. Griffin, Secretary*  
*Eric Schwaab, Deputy Secretary*

September 21, 2006

Mr. Joseph Kresslein  
State Highway Administration  
Project Planning Division  
P.O. Box 717  
Baltimore MD 21203-0717

Dear Mr. Kresslein:

This letter is in response to the State Highway Administration request for Department concurrence on both the Purpose and Need (P&N) and Corridors Retained for Further Study (CRFS) documents for the US 220 South Corridor Study between Interstate 68 (I-68) in Allegany County, Maryland to Corridor H in West Virginia, Project No. AL613B11. The P&N document is dated April 16, 2007. The CRFS document (actually titled "Corridors Retained for Further Analysis", or CRFA) is also dated April 16, 2007, and is marked "Preliminary Draft". However, we understand that this is the latest version of the document and that it is ready for final review and formal comments. The Department has had staff review the subject documents and attend the presentation and discussion of the related information at the Interagency Review meeting. The Department also plans to have staff participate in the continued interagency review process for this project, including subsequent planning efforts. The Department concurs on both the P&N and CRFA documents, with the minor comments stated below:

Comments on the Purpose and Need Statement:

1. In the text of section "5.0 Need for the Project", the initial need of the US 220 project is referenced as coming out of the "North South Appalachia Corridor Study" and is related to "providing the greatest potential for benefiting Appalachian economic development." However, in this document the purpose of the Appalachia Corridor Study is presented, but no clear presentation is made of the conclusions from that study on economic development needs for the study area. With close analysis of the US 220 P&N document, the reader sees several references to economic development needs, but is never introduced directly to what those needs are. Section 5.0 does go on to introduce the several additional needs that were identified as the US 220 study progressed (bottom of page 7). This list represents a more comprehensive summary of the need for the project.
2. In section "7.0 Traffic Analysis" including Figure -- 4 and Table 2, numerous references are made to substandard Level of Service (LOS). However, no reference

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410.260.8DNR or toll free in Maryland 877.620.8DNR • www.dnr.maryland.gov • TTY users call via Maryland Relay

is made to time-of-day for these LOS. It seems surprising that time-of-day (rush hours, etc.) would not be key factors in this analysis of LOS.

3. We commend the inclusion of detailed information on Dans Mountain Wildlife Management Area in the P&N document (page 32). As you know, this land unit and the natural resource values it supports are highly significant to the Department and its mission.

#### Comments on the Corridors Retained for Further Analysis Document:

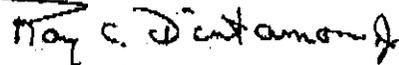
1. Great care should be taken in discussing and analyzing preliminary environmental impact figures such as those found in Table 6. We support the effort to gather this resource information and develop preliminary figures, however they can be misleading in some cases since they represent figures for entire wide-study corridors, rather than a single potential transportation project. Even with consideration of Best Fit Alignments (BFAs) such figures should be considered cautiously when compared to each other since BFAs may not represent minimized impact alignments in any given corridor. We find the preliminary information useful and it serves the purpose of introducing potential impact categories to readers of the document. However, as this information continues to be used, it should always be emphasized that there are limitations to comparing the corridors to each other based solely on these figures.
2. As with the P&N document, we commend the attention given to the importance of Dans Mountain Wildlife Management Area. This resource is a critical factor in the consideration of impacts in the Maryland portions of the project area and it is appropriately represented in the document.
3. We strongly concur with the proposal to drop Corridor A from further analysis. We note that very careful consideration was given by the study to the full range of resource values. This consideration is accurately summarized in section "5.2 Recommendations for Further Study", where it is clarified that Corridor A initially looked promising in the resource impact matrix, until additional analysis was conducted on the characteristics of both the resources and the potential impacts.
4. While most of the resource impacts from Corridor E would be outside of the State of Maryland, we offer our cooperation and support of the study team and the West Virginia agencies which have identified potential resource impacts along Corridor E to be highly significant, leading to the proposal to drop Corridor E from further analysis.

5. It is important to emphasize that Corridor B also has the potential to impact Dans Mountain and Fort Hill. Transportation alignments to the west of existing US 220 may affect habitat buffers and/or parcels of Dans Mountain and may also have influence on access to public use areas. With further consideration of Corridor B, we strongly advocate consideration of all feasible methods to avoid and minimize impacts to Dans Mountain Wildlife Management Area.
6. We have noted that all potential corridors will require a crossing of the North Branch Potomac River. Because of the multiple fisheries and wildlife values of the river, we strongly support careful planning to identify methods to avoid or strictly minimize impacts to the river associated with any additional crossing of the river for this project. We will advocate thorough analysis of both feasible design features and construction techniques that will aid in this impact avoidance and minimization.

In summary, we advocate and support the consideration and optimized protection of natural resources within the project study area during planning and any implementation of this project. The project's study area is known to support numerous natural resources of high significance and interest, so we advocate continued coordination on these issues throughout study process. The Department will make staff available as necessary to provide guidance and input on these natural resource topics.

If you have any questions concerning these comments, you may contact Greg Golden of my staff at 410-260-8334.

Sincerely,



Ray C. Dintaman, Jr., Director  
Environmental Review Unit

### PURPOSE AND NEED

|  |  |
|--|--|
| <b>Project Name &amp; Limits: US 220 South Corridor Study from I-68 to Corridor H (Tier 1)</b>   |  |
| <b>Having reviewed the attached Purpose and Need concurrence/comment package and the summary presented above, the following agency (by signing this document):</b>   |  |
| <input type="checkbox"/> Federal Highway Administration  | <input checked="" type="checkbox"/> MD Dept. of Natural Resources<br><input type="checkbox"/> MD Dept. of the Environment<br><input type="checkbox"/> MD Historical Trust<br><input type="checkbox"/> MD Department of Planning<br><input type="checkbox"/> Allegany County (Department of Community Services) |
| <input type="checkbox"/> Concurs (without comments)  | <input checked="" type="checkbox"/> Concurs (w/ <u>minor</u> comments) <input type="checkbox"/> Does Not Concur  |
| Comments / Reasons for Non-Concurrence:  |  |
| <p><i>Note: Please do <u>not</u> provide "conditional" concurrence. You should either concur with the information as provided (without comments or with <u>minor</u> comments) or not concur until revisions are made or additional information is provided.</i></p> |  |
| Additional Information Needed:   |  |
| Signature: <u>Ray C. Dentamaro, Jr.</u>  | Date: <u>Sept. 21, 2007</u>  |

NF222

Concurrence with the MD State Highway Administration's  
Determination(s) of Eligibility and/or Effects

Project Number: AL613B11

MHT Log No. 200703451

Project Name: U.S. 220 South Tier 1 Corridor Study from I-68 to West Virginia Corridor II

County: Allegany

Letter Date: September 27, 2007

The Maryland Historical Trust has reviewed the documentation attached to the referenced letter and concurs with the MD State Highway Administration's determinations as follows:

**Eligibility** (as noted in the Eligibility Table [Attachment N/A]):

- Concur
- Do Not Concur

**Effect** (as noted in the Effects Table [Attachment N/A]):

- No Properties Affected
- No Adverse Effect
- Conditioned upon the following action(s) (see comments below)
- Adverse Effect

**Agreement with FHWA's Section 4(f) criteria of temporary use** (as detailed in the referenced letter, if applicable):

- Agree

**Comments:** Review of *Archeological Predictive Surfaces* report.

- 1) MHT concurs with SMA's comments on the draft report.
- 2) The report should contain an appendix that documents the professional qualifications of the P.E./author(s).
- 3) Pls. print the final report single spaced and double sided.

By:   
 MD State Historic Preservation Office/  
 Maryland Historical Trust

12/17/2007  
 Date

Return by U.S. Mail or Facsimile to:  
 Dr. Julie M. Schablitsky, Cultural Resources Team Leader, Project Planning Division,  
 MD State Highway Administration, P.O. Box 717, Baltimore, MD 21203-0717  
 Telephone: 410-543-8870 and Facsimile: 410-209-5004

**Concurrence with the MD State Highway Administration's  
Determination(s) of Eligibility and/or Effects**

**Project Number:** AL613B11                      **MHT Log No.** 200704118  
**Project Name:** US 220 between I-68 and West Virginia Corridor H  
**County:** Allegany  
**Letter Date:** November 21, 2007 / **Concurrence received on** 9/3/08

The Maryland Historical Trust has reviewed the documentation attached to the referenced letter and concurs with the MD State Highway Administration's determinations as follows:

**Eligibility** (as noted in the Eligibility Table [Attachment 5]):

- Concur
- Do Not Concur

**Effect** (as noted in the Effects Table [N/A]):

- No Properties Affected
- No Adverse Effect
- Conditioned upon the following action(s) (see comments below)
- Adverse Effect

**Agreement with FHWA's Section 4(f) criteria of temporary use** (as detailed in the referenced letter, if applicable):

- Agree

**Agreement with FHWA's de minimus impact finding** (as detailed in the referenced letter, if applicable):

- Agree

**Comments:**

**SEE ATTACHED CONTINUATION SHEET**

By:

MD State Historic Preservation Office/  
Maryland Historical Trust

\_\_\_\_\_ Date

Return by U.S. Mail or Facsimile to:

Dr. Julie Schablitsky, Cultural Resources Team Leader, Project Planning Division,  
MD State Highway Administration, P.O. Box 717, Baltimore, MD 21203-0717  
Telephone: 410-545-8870 and Facsimile: 410-209-5004

Cc: Norse Angus (West Virginia Department of Highways)  
Denise King (FHWA)  
Kevin D. Brandt (National Park Service)

**Concurrence with the MD State Highway Administration's  
Determination(s) of Eligibility and/or Effects**

**CONTINUATION SHEET #1  
Maryland Historical Trust Comments**

**Project Number:** AL613B11

**MHT Log No.** 200704118

**Project Name:** US 220 between I-68 and West Virginia Corridor H

The Maryland Historical Trust (Trust) provides the following comments:

Thank you for providing the Maryland Historical Trust (Trust) with an opportunity to review and comment on US 220 Corridor Tier One project and the *Historic Resources Abbreviated Report* (Skelly and Loy, Inc. 2007). The report is well-written and we concur with the review comments provided by both SHA and the National Park Service. The analysis of prior cultural resource investigations is exhaustive and well-presented in the document. The Trust believes that the historic context developed for the project and the historic resources identified within the project area will assist in determining which alternative(s) will advance for detailed study.

As the study advances into Tier Two cultural resource investigations, survey efforts in Maryland must follow the Trust's standard procedures. The Trust's *General Guidelines for Compliance-Generated Determinations of Eligibility (DOE)* provides detailed instructions for the appropriate use and completion of Maryland's DOE Forms and Short Forms. The use of these forms is appropriate for this project. In general, the Short Form is used for clearly ineligible properties warranting documentation to a minimum standard. The DOE Form should be used for properties recommended as eligible for the National Register and all resources that have been previously recorded. For especially large or complex resources, such as rural historic districts, industrial facilities and significant agricultural complexes, the Maryland Inventory of Historic Properties Form (MIHP) should be utilized in addition to the DOE form. Guidelines for the use of these forms are located on the Trust's website at [www.marylandhistoricaltrust.net](http://www.marylandhistoricaltrust.net).

We look forward to working with the US 220 project team to fulfill your historic preservation requirements for this undertaking. If you have questions or require additional information, please contact Beth Cole (for archeology) at 410-514-7637 / [bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us) or Tim Tamburrino (for historic built environment) at 410-514-7637 / [ttamburrino@mdp.state.md.us](mailto:ttamburrino@mdp.state.md.us).



## CORRIDORS RETAINED FOR FURTHER STUDY

**Project Name & Limits: US 220 South Corridor Study from I-68 to Corridor H (Tier 1)**

**Having reviewed the attached Corridors Retained for Further Study concurrence/comment package and the summary presented above, the following agency (by signing this document):**

Federal Highway Administration       MD Dept. of Natural Resources  
 MD Dept. of the Environment  
 MD Historical Trust  
 MD Department of Planning  
 Allegany County (Department of Community Services)

**Concurs (without comments)**       **Concurs (w/ minor comments)**       **Does Not Concur**

Comments / Reasons for Non-Concurrence:

*We agree with the assessment of adverse impacts of Corridor A on economic development and smart growth, and support the recommendations of not carrying forward Corridor A for further analysis.*

**Note: Do not provide "conditional" concurrence. You should either concur with the information as provided (without comments or with minor comments) or not concur until revisions are made or additional information is provided.**

Additional Information Needed:

Signature: \_\_\_\_\_

*[Handwritten Signature]*

Date: \_\_\_\_\_

*9/18/07*



WEST VIRGINIA  
DIVISION OF  
CULTURE & HISTORY

The Cultural Center  
1900 Kanawha Blvd., E.  
Charleston, WV  
25305-0300

Phone 304.558.0220  
Fax 304.558.2779  
TDD 304.558.3562  
www.wvculture.org

EEO/AA Employer

April 5, 2007

Mr. Gregory L. Bailey, PE  
Director  
WV DOH  
Building Five, Room 110  
Capitol Complex  
Charleston, WV 25305

RE: US Route 220 Project  
State Project U212-220-12.65 00  
Federal Project NCPD-0220(149)C  
FR#: 06-643-MULTI-3

Dear Mr. Bailey:

We have reviewed the document titled *Archaeological Predictive Surfaces* that was submitted for the above referenced project. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

The document presents the results of archaeological predictive modeling for pre-contact period and historic period archaeological resources within the five US Route 220 alternative study corridors. Based on the consideration of multiple variables, predictive surfaces were generated within a geographic information system (GIS), and scores of very low, low, moderate, high and very high were assigned to land parcels within each proposed corridor. The resulting characterizations indicate that Corridor A has the least potential to contain pre-contact period and historic period archaeological sites. Corridors C, D, and B have an increasing potential to contain pre-contact period archaeological sites, while Corridors C, B, and D increase in their potential to contain sites from the historic period. Corridor E has the most overall potential to contain archaeological sites from either period.

In general, we find the document to be thorough and well organized. The cultural and environmental variables included in the model appear to be comprehensive, and discussions regarding the environmental and cultural nature of the project area are appropriate for the level of study conducted. If used during the project planning process, we expect the document will successfully aid in the selection of a preferred corridor and in the avoidance of significant archaeological resources. The document recommends that the selected preferred corridor undergo a complete Phase I archaeological survey and that the predictive surfaces be used to guide development of Phase I field methodologies. It also recommends that the results of the survey be used to critically assess the effectiveness of the predictive model. We concur with these recommendations and look forward to continuing the consultation process with respect to this project.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Lora A. Lamarre, Senior Archaeologist, at (304) 558-0240.*

Sincerely,

Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/LAL

RECEIVED

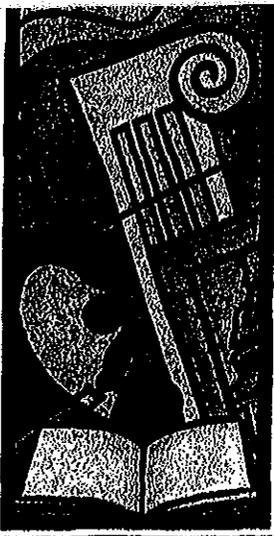
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ENGINEERING DIVISION  
WV DOH

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APR 09 2007

Environmental Section  
Engineering Division  
WVDOH/DOH



WEST VIRGINIA  
DIVISION OF  
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Phone 304.558.0220  
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TDD 304.558.3562  
www.wvculture.org

EEO/AA Employer

May 14, 2007

Mr. Gregory L. Bailey, PE  
Director  
WV DOH  
Building Five, Room 110  
Capitol Complex  
Charleston, WV 25305

RE: US Route 220 Project  
State Project U212-220-12.65 00  
Federal Project NCPD-0220(149)C  
FR#: 06-643-MULTI-5

Dear Mr. Bailey:

We have reviewed the US Route 220 Tier One Draft Environmental Impact Statement documents titled *Purpose and Need Statement* and *Corridors Retained for Further Analysis* that were recently submitted. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

Based on information provided in the submitted documents, it is our understanding that a Draft Environmental Impact Statement (DEIS) is being prepared for the proposed National Highway System between I-68 and Corridor H. In our opinion, the documents accurately reflect the level of analysis that was conducted with respect to cultural resources during the Tier 1 study. The documents note that a variety of concerns were raised over potential impacts to historic resources and farmlands in the Patterson Creek valley and other portions of the study area. To date, a windshield survey of architectural resources has been conducted and a predictive model of prehistoric and historic archaeological site locations has been developed and mapped for each of the five proposed Transportation Scenarios (TS). As a result of the preliminary analysis, it is our understanding that TS B, C, and D are being recommended for further study and that TS A (Western) and TS E (Patterson Creek) are no longer being considered as viable locations for the proposed NHS Corridor. While we are satisfied with the results of the Tier 1 level study, we remain concerned regarding the project's potential to impact resources within the corridors that will advance to Tier 2. However, it is our understanding that issues of concern will be further evaluated as the project progresses and that complete architectural and archaeological surveys will be conducted once a final corridor has been selected. We look forward to continuing the consultation process and to reviewing additional documents as they become available.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Lora A. Lamarre, Senior Archaeologist, or Ginger Williford, Structural Historian, at (304) 558-0240.*

Sincerely,

Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/LAL

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MAY 15 2007

ENGINEERING DIVISION  
WV DOH



**WEST VIRGINIA  
DIVISION OF  
CULTURE & HISTORY**

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www.wvculture.org

EEC/AA Employer

March 24, 2008

**RECEIVED**  
APR 09 2008  
ENGINEERING DIVISION  
WV DOH

Mr. Gregory L. Bailey, PE  
Director  
WV DOH  
Building Five, Room 110  
Capitol Complex  
Charleston, WV 25305

RE: US Route 220 Project  
State Project U212-220-12.65 00  
Federal Project NCPD-0220(149)C  
FR#: 06-643-MULTI-6

Dear Mr. Bailey:

We have reviewed the draft final *US Route 220 Tier One Draft Environmental Impact Statement, Historic Resources Abbreviated Report*. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

We are satisfied with the results of the Tier 1 level study and concur with the identification and National Register Historic Property (NRHP) designations for the properties presented, including the new maps delineating the four Historic Districts. We also concur with the comments provided by the WV DOH in their email to Laura Ricketts, Principal Investigator for Skelly and Loy, Inc., dated November 15, 2007.

We remain concerned regarding the project's potential to impact resources within the corridors that will advance to Tier 2. However, it is our understanding that issues of concern will be further evaluated as the project progresses and that complete architectural surveys will be conducted once a final corridor has been selected. We look forward to continuing the consultation process and to reviewing additional documents as they become available.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Ginger Williford, Structural Historian, at (304) 558-0240.*

Sincerely,

Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/GW



MAY 25 2007  
ENGINEERING DIVISION  
WV DOH

**DIVISION OF NATURAL RESOURCES**  
Wildlife Resources Section  
Capitol Complex, Building 3, Room 812  
1900 Kanawha Boulevard, East  
Charleston WV 25305-0664  
Telephone (304) 558-2771  
Fax (304) 558-3147  
TDD (304) 1-800-354-6087

Joe Manchin III  
Governor

Frank Jezloro  
Director

May 21, 2007

Mr. Gregory L. Bailey, P.E., Director  
WV Department of Transportation  
Division of Highways, Engineering Division  
Building Five, Room A-317  
1900 Kanawha Blvd., East  
Charleston, WV 25305

RECEIVED  
MAY 25 2007  
Environmental Section  
Engineering Division  
WVDOH/DOH

Re: State Project U212-220-12.65 00  
Federal Project NCPD-220(149)C  
U.S. 220 National Highway System Corridor  
U.S. Route 220 Tier One Draft Environmental Impact Statement  
Preliminary Draft *Corridors Retained for Further Analysis & Purpose and Need Statement*, Mineral County, WV

Dear Mr. Bailey:

The West Virginia Division of Natural Resources, Wildlife Resources Section (WVDNR) has completed its review of the Preliminary Draft *Corridors Retained for Further Analysis and Purpose and Need Statement* for the U.S. 220 National Highway System Corridor. The referenced project will establish a four-lane, Rural Divided Arterial North/South connection from I-68 in Maryland to Corridor H in West Virginia.

The *Purpose and Need Statement* document adequately justifies the need for a four-lane, Rural Divided Arterial highway to establish a North/South transportation corridor between I-68 in Maryland and Corridor H in West Virginia.

Five preliminary alignment corridors were identified in the Memorandum of Understanding between Maryland State Highway Administration (MSHA) and West Virginia Division of Highways (WVDOH). These preliminary corridors were developed utilizing "sketch-planning" techniques as a means of identifying the general location of future Study Corridors (SC A-E). These corridors were presented to the public and resource agencies for comment. Concurrently with the presentations, preliminary engineering studies and

May 21, 2007

environmental analysis were begun and corridors were more clearly defined into Transportation Scenarios (TS A-E).

Given the general nature of the SC, detailed analysis of potential environmental impacts is not practical. However, two alignments raised significant concerns. SC-A may significantly impact Dan's Mountain Wildlife Management Area (DMWMA) in Maryland and SC-E may significantly impact Patterson Creek in West Virginia. DMWMA represents the largest tract of contiguous state-owned forestland in Maryland and is one of the most important ecological and regional resources in western Maryland. Its proximity to WV provides WV significant benefits relative to regional forest fragmentation issues. Patterson Creek is a high quality stream containing a wide diversity of fishes and protected freshwater mussels.

Preliminary impact analysis of the refined Transportation Scenarios indicate that TS-A would result in the least amount of impact to environmental, historical, agricultural and cultural resources. However, Maryland resource agencies oppose this scenario because of its impacts to DMWMA. The WVDNR concurs with the opinions of Maryland's resource agencies and supports the Federal Highways Administration, MSHA and WVDOH recommendation not to carry forward TS-A for further study. Given the natural resources of the Patterson Creek watershed and the opposition of the public to TS-E, WVDNR fully supports the recommendation that TS-E not be carried forward for further study.

As stated in the Corridor Analysis document, all TS may have issues with historical properties. WVDNR must emphasize that all TS will have impacts to natural resources and that historic property avoidance/minimization measures should be considered equal to minimization/avoidance measures for natural resources. TS-B runs parallel to U.S. Route 220, WV Route 972 and WV Route 93. These roads parallel New Creek which is a popular stocked trout fishery. Avoidance of impacts to New Creek and this valued fishery must be a key consideration in the development and analysis of this alternative. TS-D would transverse the Patterson Creek watershed. As stated previously, the public and WVDNR place high value on this watershed. TS-B and TS-C would not directly impact the Patterson Creek watershed and, therefore, may be preferable from a resource minimization standpoint.

The WVDNR appreciates the opportunity to offer comments on this project in the early developmental stage. Mr. Danny Bennett of my staff has been assigned the coordination duties concerning this project. Mr. Bennett will serve as your primary contact. He may be reached at (304) 637-0245 or e-mail him at dannybennett@wvdnr.gov.

Sincerely,



Curtis I. Taylor, Chief  
Wildlife Resources Section

CIT/adk

OCT 30 2008



# City of Cumberland

57 N. Liberty Street, P.O. Box 1702  
Cumberland, MD 21502  
301-722-2000 • Fax (301) 75-9-6438 • TDD (800) 735-2258  
www.ci.cumberland.md.us

**MAYOR**  
Lee N. Fiedler

**COUNCIL**  
F. "Pete" Elliott  
Mary Beth Pirolozzi  
H. "Butch" Hendershot  
Edward C. Hedrick, Jr

**CITY ADMINISTRATOR**  
Jeffrey E. Repp

**CITY SOLICITOR**  
Michael S. Cohen

**CITY CLERK**  
Marjorie A. Birich

October 28, 2008

Raja Veeramachaneni, Director  
Office of Planning and Preliminary Engineering  
Maryland Department of Transportation  
State Highway Administration  
707 North Calvert Street, Mail Stop C-301  
Baltimore, MD 21202

Re: NHS Corridor Between I-68 and Corridor H (U.S. Route 220  
Tier One Draft EIS)

Dear Mr. Veeramachaneni:

The City of Cumberland has reviewed both the April 16, 2007 Purpose and Need Statement and the Preliminary Draft Corridors Retained for Further Analysis of the same date for the proposed U.S. Highway 220 upgrade project between I-68 and Corridor H in West Virginia. Based on our review, we would like to submit the following formal comments to you and the project team for consideration.

Overall, the City is highly supportive of this proposed highway improvement project. One of the greatest impediments to economic development in Cumberland is the lack of a high-speed north/south highway corridor to/through the City. We believe that the proposed highway improvement will provide a substantial benefit the City and County and we want to do what we can to ensure the swift and successful completion of the planned highway improvements.

The City wishes to support and recommend further consideration of all three corridors, with only one minor modification. We suggest that the proposed initial segment of Transportation Scenario D, which begins in LaVale near Exits 39 & 40 and extending south along Winchester Road (MD Highway 53) to U.S. Highway 220 in Cresaptown, be removed from consideration in favor of the initial segment of Scenario B, which roughly follows the current alignment of U.S. 220 from I-68 to Cresaptown. We have three specific reasons for recommending this modification to Transportation Scenario D:

1. We believe that a corridor that more closely follows the current U.S. Highway 220 alignment will better serve commuter traffic in and out of



A MARYLAND  
PLANT COMMUNITY

Page two

Mr. Raja Veeramachaneni

October 28, 2008

Cumberland than the proposed Winchester Road spur. Since this project and the U.S. Highway 219 project were determined to have independent utility, we feel that the commuter traffic flows should take precedent in determining the most appropriate connection of the highway with I-68. We further note that the traffic projections in Table 2 of the April 16, 2007 Purpose and Need Statement for the project shows that Level of Service (LOS) for our preferred U.S. Highway 220 segment is projected to decline from E to F by 2025, while the corresponding projected LOS for the Winchester Road segment is projected to remain at an E.

2. We believe that the construction of the proposed highway following the current U.S. Highway 220 corridor from Cresaptown to I-68 would provide improved and safer access for truck traffic seeking to serve the prison complex and the Upper Potomac Industrial Park, thereby better supporting the City's and County's primary Industrial Development areas on that side of the City and alleviating one of the biggest congestion conflicts with commuter traffic on that section of Highway 220.

3. From a perspective of "Smart Growth" as espoused by the State of Maryland, we feel that improvement and expansion of the current U.S. Highway 220 Corridor from Cresaptown to I-68 would promote a more compact future development pattern, would foster revitalization and redevelopment of existing developed areas, would further promote job growth in areas already designated for that purpose, and would reinforce existing infrastructure investments and urban land development patterns to a higher degree than the proposed Winchester Road segment, which is less intensively developed and farther removed from the central city of Cumberland. We would like to suggest that any finding that it could be more difficult and potentially more expensive to acquire land for highway improvements in and adjacent to more intensively developed areas does not necessarily mean that it is *better* to shift the proposed highway improvement to a less intensively developed area. In fact, that line of thinking in past highway projects has often contributed to suburban sprawl and the corresponding decline of bypassed urban areas.

The City also concurs with a recommendation from your office for the addition of a new corridor connector between Scenario C and Scenarios B & D roughly following WV Highway 956 between Corridors B/D near Pinto, MD and Short Gap, WV and extending on to the Scenario C Corridor at a logical location. This proposed improvement could provide a critical link between the City's primary hospital and medical community, Allegany College, and our future growth area and the ATK ballistics plant at Rocket Factory, WV.

Cumberland, like all other municipalities in Maryland, is in the process of updating our Comprehensive Plan to include a Municipal Growth Element as required by HB 1141. Although our work on this element is not complete, our planning to date indicates that the City's primary and planned future growth area lies on the City's east side between I-68 and U.S. Highway 51, which we loosely refer to as the Willowbrook/Williams/Messick Road Corridor. Your office is currently in the process of expanding State Highway 639 (Willowbrook Road) to include the sections of Williams and Messick Roads which define the heart of this corridor. All but one of the City's annexations since 1997 have occurred within this area and

Page three

Mr. Raja Veeramachaneni

October 28, 2008

additional annexation is anticipated along that corridor due to the growing medical, educational, and professional office community in that area. The City also has proposed to work cooperatively with Allegany County and SHA to plan cooperatively for the future development of this area, coordinate planned highway improvements, and develop a more consistent and compatible Zoning strategy for the Corridor. We specifically note these planning and development efforts because one of the corridors retained for further analysis (Scenario C) would begin in the vicinity of the current intersection of U.S. Highway 220, MD Highway 144, and I-68 and would continue south through a portion of this identified future growth area. We feel that this project has the potential to provide traffic relief and improved connectivity to this rapidly developing corridor. However, we would like to note our extensive planning efforts in this area and request that, should this corridor receive further consideration, that our planning work in this area and the efforts to extend and improve MD Highway 639 be considered in the design of the highway improvements so that the maximum transportation connectivity and circulation benefits can be achieved.

Again, thank you for the opportunity to participate in and comment on this important highway improvement project. If you have any questions regarding our comments, please contact David Umling, our City Planner at 301-759-6503, or by e-mail at [dumling@allconet.org](mailto:dumling@allconet.org). He will be glad to provide any further assistance you may need.

Sincerely



Lee N. Fiedler, Mayor  
City of Cumberland, MD

OCT 30 2008

cc; Joseph C. Romano, AICP, Skelly & Loy  
Kameel Holmes, Project Manager, SHA  
Robert Fisher, District Engineer, SHA District #6  
Jackqueline Giles, Project Manager, WVDOH  
John DiFonzo, Director of Engineering, City of Cumberland  
David Umling, City Planner

**APPENDIX D**  
**AGENCY COMMENTS**



Preserving America's Heritage

RECEIVED

SEP 16 2011

ENGINEERING DIVISION  
WV DOH

September 13, 2011

Gregory L. Bailey, P.E.  
Director, Engineering Division  
Federal Highway Administration  
West Virginia Division  
Capitol Complex, Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, West Virginia 25305-0430

Ref: *Request for comments on approved Tier One Draft Environmental Impact Statement for the NHS Corridor between I-68 and Corridor H Project Grant, Hardy, Hampshire and Mineral Counties, WV*

Dear Mr. Bailey:

On July 25, 2011, the Advisory Council on Historic Preservation (ACHP) received your request for comments on the referenced undertaking pursuant to Section 6002 of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU). We do not at this time anticipate providing formal comments for this Tier One Draft Environmental Impact Statement and at other environmental review milestones. However, we would appreciate your keeping us informed of progress, and we may decide to become more actively involved in the future, as warranted. We are also happy to provide the Federal Highway Administration (FHWA) with technical assistance at any time on matters related to historic preservation and Section 106 of the National Historic Preservation Act.

In addition, the ACHP encourages your agency to coordinate the Section 106 process with National Environmental Policy Act (NEPA) compliance by notifying, at your earliest convenience, the appropriate State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO), Indian tribes, and other consulting parties pursuant to our regulations, "Protection of Historic Properties" (36 CFR Part 800). Through early consultation, your agency will be able to determine the appropriate strategy to ensure Section 106 compliance is completed in a timely manner for this undertaking.

The agency should continue consultation with the appropriate SHPO/THPO, Indian tribes, and other consulting parties to identify and evaluate historic properties and to assess any potential adverse effects on those historic properties. If your agency determines through consultation with the consulting parties that the undertaking will adversely affect historic properties, or that the development of a programmatic agreement is necessary, the agency must notify the ACHP and provide the documentation detailed at 36 CFR §800.11(e).

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004  
Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

Thank you for inviting our participation in the development of this project. Should you have any questions as to how your agency should comply with the requirements of Section 106, please contact Najah Duvall-Gabriel by telephone at (202) 606-8585 or by e-mail at [ngabriel@achp.gov](mailto:ngabriel@achp.gov).

Sincerely,

A handwritten signature in cursive script that reads "Charlene Dwin Vaughn". The signature is written in black ink and is positioned above the typed name and title.

Charlene Dwin Vaughn, AICP  
Assistant Director  
Office of Federal Agency Programs  
Federal Permitting, Licensing, and Assistance Section



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
P.O. BOX 1715  
BALTIMORE, MD 21203-1715

**MAR 28 2011**

Operations Division

U.S. Army Corps of Engineers, Huntington District  
Ms. LuAnne S. Conley, Chief, South/Transportation Section OR-F  
502 8th Street  
Huntington, WV 25701

Dear Ms. Conley:

This office has reviewed the preliminary US 220 Tier One Draft Environmental Impact Statement, dated July 2010, and offers the following comments:

First, this office concurs on the Purpose & Need. In the Alternatives Development section in the DEIS, we would suggest that all of the transportation scenarios (TS) except TS-A and TS-E be carried forward. It would be helpful to discuss how much opportunity for avoidance and minimization of impacts to resources exist within each scenario.

Concerning transportation scenarios to be carried forward, while we appreciate that TS-A was dropped from further consideration for potential impacts to Dan's Mountain, we suggest that impacts to Dan's Mountain by TS-B be avoided and minimized to the maximum extent practicable. Dan's Mountain Management Area is an important natural area that is proposed to be affected by TS-B. We received information from the Maryland Department of Natural Resources (MD DNR) that Mill Run is a brook trout stream and this is located along the TS-B corridor near Rawlings. Not all of the streams on the eastern slope of Dan's Mountain have been assessed for brook trout habitat so aquatic sampling should be done to more precisely map the location of brook trout populations. According to MD DNR there is one other stream that locals claim has brook trout that is located a little further north of the Mill Run near Rawlings location going towards LaVale.

The Potomac River crossing has not been addressed. This is a navigable waterway subject to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Spanning the entire floodplain, minimizing the number of piers and spanning all wetlands are options that will need to be addressed.

A joint federal/state permit would be required for activities that impact Waters of the U.S. The applicant must demonstrate that proposed impacts to streams and wetlands are necessary and unavoidable and that all avoidance and minimization measures have been fully exhausted. Avoidance and minimization of impacts to Waters of the U.S. include the use of compressed medians, reduced safety grading widths, and interchange designs in areas where the alignment would impact aquatic resources. Other options for avoiding impacts include bridging the entire floodplain, bridging of wetlands, and building bottomless arches. Installation of free-span

bridge structures and bottomless arch culverts reduce the risk of not passing flows during a high water event, decreases the possibility of down-cutting of the streambed or riverbed (upstream or downstream of the crossing), minimizes the possibility of bank erosion upstream and/or downstream of the crossing, and promotes fish passage.

Section 404 (b) (1) of the Clean Water Act requires us to authorize projects that are the least environmentally damaging practicable alternative to the aquatic environment. These Guidelines require an applicant to consider and demonstrate that all practicable and feasible alternatives were examined that would avoid or minimize impacts to waters.

Please be advised that the 220 Improvement Project will be subject to the 2008 Final Mitigation Rule. A discussion of potential environmental mitigation for unavoidable adverse impacts to Waters of the US should be included.

We have been coordinating with the Environmental Protection Agency and concur with their comments.

Thank you for the opportunity to review the preliminary US 220 Tier One Draft Environmental Impact Statement. A copy of this letter is being forwarded to the Maryland State Highway Administration and Maryland Department of the Environment Nontidal Wetlands Division for informational purposes. If you have any questions concerning the information provided in this letter, please call Mrs. Mary Frazier of this office at (410) 962-5679.

Sincerely,



Mary A. Frazier  
Biologist, Maryland Section Northern



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
P.O. BOX 1715  
BALTIMORE, MD 21203-1715

OCT 26 2011

Operations Division

U.S. Army Corps of Engineers, Huntington District  
Ms. LuAnne S. Conley, Chief, South/Transportation Section OR-F  
502 8th Street  
Huntington, WV 25701

Dear Ms. Conley:

The U.S. Army Corps of Engineers, Baltimore District has reviewed the preliminary US 220 Tier One Draft Environmental Impact Statement, dated July 2011. We appreciate the opportunity to provide Baltimore District comments to the Huntington District, the lead Corps District for the project.

As stated in the Alternatives section of the Executive Summary, 4.0, we agree that all of the transportation scenarios (TS) except TS-A and TS-E be carried forward. It would be helpful to discuss how much opportunity for avoidance and minimization of impacts to resources exist within each scenario.

Concerning transportation scenarios to be carried forward, while we appreciate that TS-A was dropped from further consideration for potential impacts to Dan's Mountain, we suggest that impacts to Dan's Mountain by TS-B be avoided and minimized to the maximum extent practicable. Dan's Mountain Management Area is an important natural area that is proposed to be affected by TS-B. We received information from the Maryland Department of Natural Resources (MD DNR) that Mill Run is a brook trout stream and this is located along the TS-B corridor near Rawlings. Not all of the streams on the eastern slope of Dan's Mountain have been assessed for brook trout habitat so aquatic sampling should be done to more precisely map the location of brook trout populations. According to MD DNR there is one other stream that locals claim has brook trout that is located a little further north of the Mill Run near Rawlings location going towards LaVale. The document states that additional studies will be conducted in Mill Run and other streams on the eastern slope of Dan's Mountain during Tier Two.

The Potomac River crossing has not been addressed. This is a navigable waterway subject to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Spanning the entire floodplain, minimizing the number of piers and spanning all wetlands are options that will need to be addressed.

A joint federal/state permit would be required for activities that impact Waters of the U.S. in Maryland. The applicant must demonstrate that proposed impacts to streams and wetlands are necessary and unavoidable and that all avoidance and minimization measures have been fully exhausted. Avoidance and minimization of impacts to Waters of the U.S. include the use of

compressed medians, reduced safety grading widths, and interchange design alternatives in areas where the alignment would impact aquatic resources. Other options for avoiding impacts include bridging the entire floodplain, bridging of wetlands, and building bottomless arches. Installation of free-span bridge structures and bottomless arch culverts reduce the risk of not passing flows during a high water event, decreases the possibility of down-cutting of the streambed or riverbed (upstream or downstream of the crossing), minimizes the possibility of bank erosion upstream and/or downstream of the crossing, and promotes fish passage.

As you are aware, Section 404 (b) (1) of the Clean Water Act requires us to authorize projects that are the least environmentally damaging practicable alternative to the aquatic environment. These Guidelines require an applicant to consider and demonstrate that all practicable and feasible alternatives were examined that would avoid or minimize impacts to waters. The US 220 Improvement Project will be subject to the EPA/Corps 2008 Mitigation Rule. A discussion of potential environmental mitigation for unavoidable adverse impacts to Waters of the US should be included. The document states that this will be addressed during Tier Two.

We have been coordinating with the Environmental Protection Agency and concur with their comments.

Thank you for the opportunity to review the US 220 Tier One Draft Environmental Impact Statement. A copy of this letter is being forwarded to the Maryland State Highway Administration, West Virginia Division of Highways and Maryland Department of the Environment Nontidal Wetlands Division for informational purposes. If you have any questions concerning the information provided in this letter, please call Mrs. Mary Frazier of this office at (410) 962-5679.

Sincerely,



Mary A. Frazier  
Biologist, Maryland Section Northern



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
HUNTINGTON DISTRICT, CORPS OF ENGINEERS  
502 EIGHTH STREET  
HUNTINGTON, WEST VIRGINIA 25701-2070

NOV 22 2011

Operations and Readiness Division  
Regulatory Branch  
2007-1171  
US Route 220

Mr. Greg Bailey  
Engineering Division  
West Virginia Division of Highways  
1900 Kanawha Boulevard East  
Building Five, Room A-317  
Charleston, West Virginia 25305-0430

Dear Mr. Bailey:

I refer to your letter dated July 18, 2011 regarding the U.S. Route 220 Tier One Draft Environmental Impact Statement (DEIS) in which you have requested comments concerning the document. The project is located in Grant, Hardy, Hampshire, and Mineral counties in West Virginia and Allegany County in Maryland. The project area encompasses I-68 near Cumberland, Maryland, to the proposed alignment of Corridor H in West Virginia. While the U.S. 220 Corridor extends into Maryland and therefore within the boundaries of the Baltimore District the majority of the project is located within the Huntington District boundaries. Therefore, the Huntington District will serve as the lead United States Army Corps of Engineers (USACE) District for the project.

To reiterate previous comment letters, we agree with the purpose and need of the proposed project and with the elimination of corridors A and E. Also, the USACE continues to urge the West Virginia Division of Highways (WVDOH) and Federal Highway Administration (FHWA) to further avoid and minimize impacts during future alignment studies for the project. This will help ensure the least environmentally damaging practicable alternative is selected. It should be noted the USACE has authority over all jurisdictional waters of the U.S. and therefore, before a Section 404 Clean Water Act permit application is submitted to this office, a jurisdictional determination(s) shall be submitted for review and approval. These determinations shall be conducted in accordance with the most recent jurisdictional guidance (i.e. Rapanos) and may be evaluated on a contract by contract basis.

The USACE understands the intent of the Tier One DEIS is to screen potential corridors for impacts from a planning level. We also recognize that impacts noted in the document represent a worst case scenario as the actual impacts needed for a highway alignment would be much less. The USACE recommends the WVDOH and FHWA continue to narrow the evaluation, especially as it pertains to aquatic resources, as the project continues into the Tier Two process and eventually into final design. This would allow for a more detailed review of the preferred corridor and ultimately the chosen alignment. Also, as the project continues to move through the process anticipated temporary impacts should also be considered and evaluated. The USACE looks forward to working with the WVDOH and FHWA to find further opportunities to avoid and minimize impacts to the environment.

As summarized in the Preface of the DEIS (P-5), the Potomac River is a navigable waterway and could potentially fall within the jurisdiction of the U.S. Coast Guard (USCG). It was determined by the USCG that the project would not cross the Potomac River in a navigable location. However, if the corridor or alignments should shift, the WVDOH should coordinate with USCG, as appropriate, to determine if the project lies within their authority.

The Huntington District also submits comments made by the Baltimore District for your consideration. Both Districts will comment on our overall program, however the Huntington District will defer to the Baltimore District to comment on resources of importance within the State of Maryland. We look forward to working with the WVDOH and FHWA through out this cooperative agreement. If you have any questions concerning the above, please contact Sarah Workman of the South Regulatory Section at 304-399-5710.

Sincerely,



LuAnne S. Conley  
Project Manager  
South Regulatory Section

Enclosures  
Copies furnished:

Ms. Amy Fox  
Director, Office of Program Development  
U.S. Department of Transportation  
Federal Highways Administration  
Geary Plaza, Suite 200  
700 Washington Street, East  
Charleston, West Virginia 25301

Ms. Mary Frazier  
U.S. Corps of Engineers  
Baltimore District  
P.O. Box 1715  
Baltimore, Maryland 21203



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

West Virginia Field Office  
694 Beverly Pike  
Elkins, West Virginia 26241

May 17, 2006



Mr. Henry E. Compton  
Division Environmental Coordinator  
Federal Highway Administration  
Geary Plaza, Suite 200  
700 Washington Street, East  
Charleston, West Virginia 25301

| A                | I | Init               | A | I | Init                 |
|------------------|---|--------------------|---|---|----------------------|
|                  |   | Div Administrator  |   |   | Admin Coord/Sec      |
|                  |   | Asst Div Admin     |   |   | Admin Coordinator    |
|                  |   | Operations Mgt Eng |   |   | Financial Specialist |
|                  |   | Financial Manager  |   |   | AE-1 Design          |
|                  |   | Trans Planning Eng |   |   | AE-2 Corr Mgt Eng    |
|                  |   | Structures Eng     |   |   | AE-3 Materials       |
|                  |   | Planning/Envir     |   |   | Asst Structures Eng  |
|                  |   | Safety Eng         |   |   | IT Specialist        |
|                  |   | Rec/T/ Eng         |   |   | Library              |
|                  |   | Trans Specialist   |   |   |                      |
| File #           |   |                    |   |   |                      |
| File Name (Scan) |   |                    |   |   |                      |

Re: NOI for Transportation Improvements between I-68 in Western Maryland and Appalachian Corridor "H" in the West Virginia Potomac Highlands

Dear Mr. Compton:

The U.S. Fish and Wildlife Service has reviewed the Notice of Intent published in the Federal Register dated April 14, 2006, for the preparation of a Tier 1 Environmental Impact Statement for transportation improvements between I-68 in Western Maryland and Appalachian Corridor "H" in the West Virginia Potomac Highlands in Alleghany County, Maryland; and Grant, Hardy, Hampshire, and Mineral Counties, West Virginia. These comments are provided pursuant to the Endangered Species Act (ESA)(87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) and the Fish and Wildlife Coordination Act of 1956 (16 U.S.C. 742a *et seq.*).

### Federally-listed Species

The Service participated in the Tier One Environmental Impact Statement Agency Field View held on May 3, 2006. At that time, the Service expressed concerns that several Federally-listed species could potentially be impacted by the proposed project depending on which alignment is selected. The Federally-listed endangered Indiana bat (*Myotis sodalis*), the federally-listed endangered Virginia big-eared bat (*Corynorhinus townsendii virginianus*), and the federally-listed threatened bald eagle (*Haliaeetus leucocephalus*) may be present throughout the area and would need to be considered for any of the alignments. The Patterson Creek alignment may include habitats suitable for the Federally-listed endangered plant, shale barrens rock cress (*Arabis serotina*), and sensitive mussel fauna.

Indiana bat foraging habitat is generally defined as riparian, bottomland, or upland forest, as well as old fields or pastures with scattered trees. Roosting and maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions

of tree boles and limbs also provide roost sites. Forest habitat containing trees > 5 inches in diameter at breast height (dbh) is suitable summer roosting habitat for the Indiana bat.

Virginia big-eared bats utilize caves year-round as roost sites. During the winter, most populations hibernate in a few cold caves that provide optimum temperatures for hibernation. During the summer, females congregate in warm maternity caves to raise their young.

Bald eagles breed in, winter in, and migrate through West Virginia. State biologists conduct annual surveys to identify nesting territories as well as nest productivity. All documented bald eagle nests in West Virginia are located in the Potomac River watershed of the eastern panhandle.

Shale barrens rock-cress is a biennial herb which blooms from mid-July to October. It is an endemic of shale deposits and occurs on south-facing slopes at elevations of 1300 to 1500 feet. In the past, shale barrens have been destroyed by road construction.

### **Wetlands/Riparian Areas**

Wetlands and riparian areas/streams may be impacted by the proposed project. Wetlands perform significant ecological functions which include: (1) providing habitat for numerous aquatic and terrestrial wildlife species, (2) aiding in the dispersal of floods, (3) improving water quality through retention and assimilation of pollutants from storm water runoff, and (4) recharging the aquifer. Wetlands also possess aesthetic and recreational values. The Service recommends measures be taken to avoid and minimize wetland losses in accordance with Section 404 of the Clean Water Act and Executive Order 11988 (floodplain management) as well as the goal of "no net loss of wetlands." If wetlands may be destroyed or degraded by the proposed action, those wetlands in the project area should be inventoried and fully described in terms of their functions and values. Acreage of wetlands, by type, should be disclosed and specific actions should be outlined to avoid, minimize, and compensate for all unavoidable wetland impacts.

Riparian or streamside areas are a valuable natural resource and impacts to these areas should be avoided whenever possible. Riparian areas are the single most productive wildlife habitat type in North America. They support a greater variety of wildlife than any other habitat. Riparian vegetation plays an important role in protecting streams, reducing erosion and sedimentation as well as improving water quality, maintaining the water table, controlling flooding, and providing shade and cover. In view of their importance and relative scarcity, impacts to riparian areas should be avoided. Any potential, unavoidable encroachment into these areas should be further avoided and minimized. Unavoidable impacts to streams should be assessed in terms of their functions and values, linear feet and vegetation type lost, potential effects on wildlife, and potential effects on bank stability and water quality. Measures to compensate for unavoidable losses of riparian areas should be developed and implemented as part of the project.

### **Dans Mountain Wildlife Management Area**

The Service is also concerned that one of the alignments travels through the Dans Mountain Wildlife Management Area (WMA) in Allegany County, Maryland. The Service recommends avoiding the WMA in its entirety. The WMA is the largest contiguous state-owned forest in Maryland. The 9,200 acre area is high quality habitat for forest songbirds and many other species. This site may require a Section 4(f) evaluation. Section 4(f) states that land from a

Mr. Henry E. Compton  
May 17, 2006

3

publicly owned park, recreation area, wildlife or waterfowl refuge, or land of a historic site can be used for a transportation project only if:

- There is no feasible and prudent alternatives to the use of these resources, and
- All possible planning has been taken to minimize harm to the resource.

At this time, it appears that other alternatives exist that would preclude the crossing of the WMA.

If you have any questions regarding this letter, please contact Christy Johnson-Hughes of my staff at the letterhead address or phone (304) 636-6586, extension 17.

Sincerely,

*For*   
Thomas R. Chapman  
Field Supervisor

JUL 13 2007



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE



West Virginia Field Office  
694 Beverly Pike  
Elkins, West Virginia 26241

July 11, 2007

Mr. Joseph C. Romano  
Skelly and Loy  
2500 Eldo Road, Suite 2  
Monroeville, Pennsylvania 15146-1456

Re: NHS Corridor between I-68 and Corridor H (U.S. Route 220), Tier One DEIS, Grant, Hardy, and Mineral Counties, West Virginia

Dear Mr. Romano:

The U.S. Fish and Wildlife Service (Service) has reviewed your letter, dated May 15, 2007, requesting species information for the proposed National Highway System (NHS) Corridor between I-68 and Corridor H (U.S. Route 220), Tier One Draft Environmental Impact Statement, located in Grant, Hardy and Mineral counties, West Virginia. The proposed project consists of identification of generalized travel corridors to be evaluated at a planning level of detail. The analysis during this first phase will lead to the identification of one corridor with the potential to have the fewest environmental impacts. These comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U. S. C. 1531 *et seq.*) (ESA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, as amended) (Eagle Act), and the Migratory Bird Treaty Act (16 U.S.C. 703-712) (MBTA).

Based upon the information and maps provided in your letter, the Service has determined that the Federally-listed endangered Indiana bat and shale barren rock cress may be present in one or more of the travel corridors. In addition, the bald eagle may also be present. The bald eagle is protected by the Eagle Act and MBTA. Effective August 8, 2007, the bald eagle will no longer be protected by the ESA (72 FR 37345).

### **Bald Eagle (*Haliaeetus leucocephalus*)**

The project area may provide roosting and foraging habitat for the bald eagle. Disruption, destruction, or obstruction of roosting and foraging areas can negatively affect this species, and potentially could result in disturbance of bald eagles. The term "disturb" has been defined by the Service in regulations at 50 CFR 22.3 as: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1)

Mr. Joseph C. Romano  
July 11, 2007

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injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (72 FR 31132).

Disruptive activities in or near eagle foraging areas can interfere with feeding, reducing chances of survival. Interference with feeding can also result in reduced productivity (number of young successfully fledged). Migrating and wintering bald eagles often congregate at specific sites for purposes of feeding and sheltering. Bald eagles rely on established roost sites because of their proximity to sufficient food sources. Roost sites are usually in mature trees where the eagles are somewhat sheltered from the wind and weather. Human activities near or within communal roost sites may prevent eagles from feeding or taking shelter, especially if there are not other undisturbed and productive feeding and roosting sites available. Activities that permanently alter communal roost sites and important foraging areas can altogether eliminate the elements that are essential for feeding and sheltering eagles.

For information on protections for bald eagles under the Eagle Act, please refer to the Service's National Bald Eagle Management Guidelines (72 FR 31156) and regulatory definition of the term "disturb" (72 FR 31132), which were published in the *Federal Register* on June 5, 2007. In addition, the Service has proposed to establish a new permit program under the Eagle Act that would allow a limited take of bald eagles (72 FR 31132). Copies of these documents are currently available from our national bald eagle web page located at <http://www.fws.gov/migratorybirds/baldeagle.htm>.

#### **Indiana Bat (*Myotis sodalis*)**

The project area may provide summer foraging and roosting habitat for the endangered Indiana bat. The Indiana bat may use the project area for foraging and roosting between April 1 and November 14. Indiana bat foraging habitat is generally defined as riparian, bottomland, or upland forest, as well as old fields or pastures with scattered trees. Roosting and maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. Forest habitat containing trees  $\geq 5$  inches in diameter at breast height (dbh) is suitable summer roosting habitat for the Indiana bat.

Seventeen (17) acres is presently used as the threshold between projects which will have discountable effects on Indiana bats, and projects which may affect Indiana bats. If less than 17 acres of Indiana bat summer habitat will be removed as a result of the proposed project, tree removal can occur at any season of the year. If 17 acres to 247 acres of Indiana bat summer roosting habitat will be disturbed as a result of the proposed mine operation, we recommend that either mist net surveys be conducted or a Protection and Enhancement Plan be developed. If over 247 acres of habitat is to be removed, then mist net surveys must be conducted.

Mr. Joseph C. Romano  
July 11, 2007

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**Shale Barren Rock Cress (*Arabis serotina*)**

The project boundary intersects the northern extent of the known distribution of the shale barrens rock-cress. This plant is a biennial herb which blooms from mid-July to October. It is an endemic of shale deposits and occurs on south-facing slopes at elevations of 1300 to 1500 feet. Mid-Appalachian shale barren is often characterized by open, scrubby growth of pine, oak, red cedar, and other woody species adapted to xeric conditions.

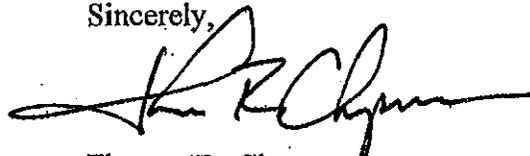
A survey for shale barren rock cress habitat should be conducted. If appropriate habitat exists, then a survey for the shale barren rock cress should be conducted by a qualified botanist to determine if the plant is present.

The Service recommends that the West Virginia Division of Highways consider travel corridors that avoid impacts to federally-listed species and the bald eagle. If it is not possible to avoid impacts to federally-listed species and the bald eagle, then the Service is available to assist you with any coordination pursuant to section 7 of the ESA.

Please note that these comments are limited to potential project impacts in West Virginia. For information on natural resources in Maryland, please contact the Service's Chesapeake Bay Field Office.

If you have any questions regarding this letter, please contact Ms. Christy Johnson-Hughes of my staff, at (304) 636-6586 ex 17, or at the letterhead address.

Sincerely,



Thomas R. Chapman  
Field Supervisor



United States Department of the Interior

NATIONAL PARK SERVICE  
Northeast Region  
United States Custom House  
200 Chestnut Street  
Philadelphia, PA 19106

IN REPLY REFER TO:

ER-06/0388

MAY 23 2006

Henry E. Compton  
Division Environmental Coordinator  
Federal Highway Administration, West Virginia Division  
Geary Plaza, Suite 200  
700 Washington Street East  
Charleston, West Virginia 25301

Dear Mr. Compton:

Subject: Notice of Intent to Prepare Environmental Impact Statement, Tier 1 Transportation Improvements between I-68 in Western Maryland and Appalachian Corridor: "H" in the West Virginia Potomac Highlands (ER-06/0388)

Dear Mr. Compton:

This is in response to a request for the Department of the Interior's (Department) review and comment on the Notice of Intent to Prepare Environmental Impact Statement, Tier 1 Transportation Improvements between I-68 in Western Maryland and Appalachian Corridor: "H" in the West Virginia Potomac Highlands (ER-06/0388).

We are in the process of preparing a list of resources of interest to the National Park Service in the four West Virginia and one Maryland counties that comprise the planning area for this project. We anticipate being able to provide tabular lists and GIS-based mapping of these resources to you within about two weeks of the date of this letter.

We appreciate the opportunity to assist the FHWA West Virginia Division and the West Virginia Department of Transportation on the planning for this project.

Sincerely,

Shaun Eyring  
Manager, Resource Planning and Compliance

bcc:

OEPC, AS/PMB®, AS/FWP

REO/PHL

NPS

ACHP

SHPO-West Virginia

FNPO-0001

FNP-2310

NPS-NER, RP&C-Philadelphia

Note: This NPS response was initially drafted by L. Chapman, NER-RP&C-Philadelphia based on review of the subject document.



# United States Department of the Interior

## NATIONAL PARK SERVICE

National Capital Region  
1100 Ohio Drive, S.W.  
Washington, D.C. 20242

IN REPLY REFER TO:  
L7617 (NCR-LRP)

Ben L. Hark, Environmental Section Head  
Engineering Division  
West Virginia Division of Highways  
State Capitol Complex, Building 5  
1900 Kanawha Boulevard, East  
Charleston, West Virginia 25305-0430

SEP 24 2010

RECEIVED

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Environmental Section  
Engineering Division  
WVDOT/DOH

Dear Mr. Hark:

This letter is in response to your request for the National Park Service (NPS) review of the Preliminary US 220 Tier One Draft Environmental Impact Statement (DEIS) dated July 2010. The NPS understands that the proposed project would establish a National Highway System (NHS) roadway between Interstate 68 near Cumberland, Maryland and proposed alignment of Corridor H in West Virginia. This section of highway would become part of a greater north-south interstate roadway connecting New York with points south within the Appalachian region and would replace an existing two-lane highway in the Cumberland, Maryland area. This project would impact NPS lands within Chesapeake and Ohio Canal National Historical Park (C&O Canal NHP), the Western Maryland Railroad Corridor (WMRR), and the Potomac Heritage National Scenic Trail (Potomac Heritage NST). The NPS understands that this project is a joint project among the Federal Highway Administration (FHWA), the Maryland State Highway Administration and the West Virginia State Department of Transportation (WVDOT) with the latter serving as the lead state agency. We have reviewed the preliminary DEIS and have the following comments.

### GENERAL COMMENTS

The DEIS outlines three potential Transportation Scenarios (TS) for north/south alignments of US Route 220 between Interstate 68 and Corridor H which are defined as TS-B, TS-C, and TS-D. The NPS will not be commenting on TS-B and TS-D. These corridors, as they are currently aligned, do not impact NPS land. The NPS recommends that WVDOT eliminate TS-C from consideration or significantly modify the alignment of the corridor to avoid impacts to NPS lands and related resources. The TS-C would be located east of Cumberland, Maryland, through an area called Mexico Farms. The alignment of TS-C corridor has the potential of significantly impacting lands under the jurisdiction of the NPS. The C&O Canal NHP and, specifically, the historic C & O Canal Towpath and canal prism, which are also a segment of the Potomac Heritage NST, are located within the Mexico Farms area and would be within the proposed TS-C corridor.

#### *Transportation Scenarios*

The length of the C&O Canal NHP within the Mexico Farms area is approximately 13,000 feet (2.5 miles). The proposed highway would parallel a large percentage of the park in this area. Other significant landholdings within the Mexico Farms area include the Cumberland Federal Correctional Institution (FCI) and AES Warrior Run Power Plant. Based on the information in the DEIS, it seems unlikely that the proposed highway alignment would bisect these facilities, but rather take a line on the west side of the FCI, which is bounded by the C&O Canal NHP on both sides of the facility. This scenario would irreversibly and irretrievably impact the park. The DEIS presents various typical highway sections which range in width anywhere from 112 feet to 140 feet of constructed roadway features. These would be included within the 300 foot Right-of-Way, as stated within the document.

There are several areas within Mexico Farms that are approximately 500 feet or less in width from the TS-C boundary to our property line. As noted in the DEIS, there is “no environmentally sensitive manner to cross the park” and it would be “impossible to construct a new transportation facility within the park.” Compared to the other TS corridors being investigated, TS-C contains the greatest amount of direct and indirect impacts to cultural and natural resources throughout the corridor. The TS-A was modified and then dropped from further analysis in order to avoid impacts to Dans Mountain Wildlife Management Area.

The federal ownership of the abandoned WMRR corridor terminates near the TS-C area; however, owners of the railroad corridor, which included the NPS, are developing a rail trail to connect with the C&O Canal Towpath. Impacts to this corridor will affect future planning and the expansion of a rail trail system which has demonstrated the potential to bring economic benefits to small communities along its length. There is little mention of the WMRR within the DEIS except for page 2-29 and 3-39. Further information needs to be provided, especially since page 2-29 indicates that the abandoned railroad corridor could complicate the proposed project.

As noted above, the C&O Canal NHP is quite narrow in the Mexico Farms area and construction of a roadway through or even parallel to the C&O Canal NHP has the potential to severely disrupt the continuity of the C&O Canal NHP and related resources. The C&O Canal NHP is a significant resource and the proposed alignment of TS-C would sever the continuity of the park. Property of the Chesapeake and Ohio Canal Company was placed under federal jurisdiction in 1938. In 1953, Public Law 184 was passed to create a parkway between Washington, D.C. and Cumberland, Maryland. Within that legislation, utility and transportation corridors (rights-of-ways) across the park were addressed with a stipulation that none of rights-of-ways granted by the Secretary of the Interior would sever the continuity of the park from Great Falls to Cumberland, Maryland. In 1971, Public Law 91-664 was passed, creating the C&O Canal NHP. The 1971 legislation upheld the earlier legislation and further directed that “Other uses of park lands, and utility, highway, and railway crossings may be authorized under permit by the Secretary of the Interior, if such crossings are not in conflict with the purposes of the park and are in accord with any requirements found necessary to preserve park values.”

#### *Section 4(f) Properties*

There are two NPS properties in the TS-C corridor that qualify as Section 4(f) properties pursuant to the provisions of National Transportation Act of 1966, as amended 23 U.S.C. 138 and 49 U.S.C. 303, referred to as Section 4(f). The NPS has determined that the C&O Canal NHP and the WMRR qualify as Section 4(f) properties as they are significant park lands and historic sites and listed on the National Register of Historic Places.

Established in January 1971, the C&O Canal NHP is a unit of the National Park System and includes nearly 20,000 acres, receives over 3 million visitors a year, and provides a continuous pedestrian and bicycling route for 184.5 miles between Cumberland, Maryland, and Georgetown in Washington, D.C. The Towpath connects in Cumberland, Maryland, with the 150-mile Great Allegheny Passage to create a 325-mile off-road route between Washington, D.C. and Pittsburgh, Pennsylvania. Both facilities are segments of the Potomac Heritage NST network. Use of the historic Towpath has increased over the past several years, with through-travelers using the C&O Canal NHP for multi-day journeys, usually on bicycle. The C&O Canal was listed on the National Register of Historic Places in 1979 for its national significance in the areas of transportation and engineering. Its period of significance is 1828-1924.

The WMRR was once a regional railway serving the agricultural areas that other means of shipping cargo did not. It is steeped in the history of the region and, because it was once part of the transportation corridor of the Potomac, the history of the nation as well. From reviewing files and maps and then

visiting areas where the rail once lay, one can imagine how communities developed and changed along with the rail and then were left after it was abandoned. Neither the rail nor the surrounding areas remained the same even after the rail's abandonment. In some places there is so much quiet and "natural" surroundings that it is difficult to remember this were ever any more than a path. In others there is definitive testament to the trains that once passed. Still others areas, where small towns once stood, now show the signs of the development seen elsewhere along the river. All of which are to the similar to the evolution of the C&O Canal and the park. C&O Canal acquired a 34.59 mile length of the Cumberland Extension of the Western Maryland Railway, by Public Law 95-625, The National Parks and Recreation Act of 1978. The WMRR was listed on the National Register of Historic Place on July 23, 1981 for its regional and state significance in the areas of transportation and engineering. Its period of significance is 1903-1906.

The Potomac Heritage NST, one of 11 national scenic trails within the National Trails System, is also considered a unit of the National Park System. Potomac Heritage NST is a network of locally-managed trails between the mouth of the Potomac River and the Allegheny Highlands. Through five geographic regions, the varied trail segments are a means to explore the origins and continuing evolution of the nation. The National Trails System Act of 1968 authorized a feasibility study for a "Potomac Heritage Trail," subsequently completed and published by the Bureau of Outdoor Recreation in 1974. In 1983 an amendment to the Act recognized a corridor for development of the Potomac Heritage National Scenic Trail.

NPS lands need to be considered as the WVDOT moves forward with Tier Two which will require a Section 4(f) Evaluation in order to evaluate alternatives that avoid the use of Section 4(f) properties. Comments provided here are preliminary and do not represent the results of formal consultation by WVDOT with the NPS and the Department of the Interior (DOI). Coordination with the NPS will need to occur as the draft Section 4(f) Evaluation is being prepared. The Section 4(f) Evaluation must be submitted to the NPS and the DOI for review and comment. NPS land cannot be taken for transportation purposes until the FHWA has determined, after rigorous exploration and objective evaluation of alternative actions that would avoid the use of Section 4(f) properties, that there is no other feasible or prudent alternative to the use of parkland and that all possible planning has been done to minimize harm to Section 4(f) properties.

#### *C&O Canal NHP General Plan*

This project is not compatible with the C&O Canal NHP General Plan. The C&O Canal NHP was established to provide opportunities for visitors to:

- Understand the canal's reason for being, its construction, its role in transportation, economic development and westward expansion, the way of life which evolved upon it, the history of the region through which it passes and to gain an insight into the era of canal building in the country,
- Appreciate the setting in which it lies and the natural and human history that can be studied along its way, and,
- Enjoy the recreational use of the canal, the parkland and the adjacent Potomac River.

The General Plan also designates this section of the park as Zone C – short term recreational zone. "These sections are designated to serve the general towpath user seeking a leisurely stroll of 2-6 hours in a natural setting. These areas are limited in historic resources and available land for visitor facilities. The sections are short and often are links between two zones of higher density where cross traffic is consider desirable. The object here is to ensure a leisurely recreational experience in a natural setting."(Chesapeake and Ohio Canal National Historical Park, District of Columbia/Maryland, General Plan, 2nd Printing August 31, 1981, Page 22)

### *National Highway System*

The proposed modifications to US 220 will convert it from a rural principal arterial two lane road (12-foot lanes) with a posted speed limit that ranges from 40 to 55 mph with reduced speeds as low as 25 mph in some areas to a four lane (12-foot lanes with 12-foot shoulders) rural divided arterial with a design speed of 65 mph. On page ES-2 of the DEIS, the text references that the project will become part of the NHS without explanation for what that means. This is a very important point as the proposed project is slated to become part of an interstate system which will significantly change the character of the current roadway and surrounding area.

### *Tiered Environmental Impact Statements (EIS)*

We understand that this preliminary DEIS is Tier One and is intended to cover generalized transportation scenarios in order to select a preferred transportation corridor that will be analyzed in more detail in Tier Two. This approach is placing the NPS at a disadvantage for reviewing the document that does not designate a preferred transportation scenario prior to the Record of Decision. The TS-C which would sever the continuity of the C&O Canal Towpath and the canal prism by crossing through and on top of the canal 1 – 3 times and running parallel for a long distance in very close proximity to NPS lands within the Mexico Farms area of the corridor.

### *Additional Coordination*

Upon review of the document, we noticed that neither the Department of Justice nor the Federal Emergency Management Administration is on the list for cooperating or participating federal agencies. Both of these agencies have facilities located within the TS-C area of Mexico Farms. We suggest that these two entities be contacted regarding your project in the event you have not already done so.

## **SPECIFIC COMMENTS**

- The WMRR needs to be added to Table 4.14-2 as a potential Section 4(f) property.
- The WMRR should be listed within the National Register of Historic Places tables.
- According to the Army Corps of Engineers (ACOE), the C&O Canal NHP is a navigable waterway, even if it is not deliberately rewatered. As such, any changes to the canal prism need to be in concurrence with the ACOE. Jurisdictional wetlands for both the ACOE and Maryland Department of the Environment would need to be determined within TS-C. The NPS is not in a position to mitigate large amounts of jurisdictional wetlands within the park.
- The DEIS cites 2006 correspondence with the U.S. Fish and Wildlife Service regarding endangered species within the project area. Please be aware that since that time, the Indiana bat (*Myotis sodalis*) has been confirmed within the C&O Canal NHP at Indigo Tunnel, 20 miles east of the project area. Ongoing bat surveys have been, and will be taking place. This information should be updated within the DEIS.
- All references to natural resource surveys should have citations for who conducted the surveys and what documents were produced. For example, who conducted the wetland preliminary field investigations and was a report produced?
- There is also some confusion regarding the document's discussion on vegetation, habitat, and wildlife. In some locations in the document they are presented as being one in the same. In other text discussions they are presented differently. The executive summary does not mention plants or animals at all. We suggest three different affected environment listings to help clarify these important topics: Wildlife habitat, Vegetation habitat, and Wildlife.
- Additional studies and surveys will be required in order to determine the presence of Rare, Threatened and Endangered species, archeological and natural resources.
- What is meant by "tolerant" wildlife as stated on page 4-70?



# United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
Custom House, Room 244  
200 Chestnut Street  
Philadelphia, Pennsylvania 19106-2904



IN REPLY REFER TO:

October 31, 2011

9043.1  
ER 11/632

Henry Compton, P.E.  
U.S. Department of Transportation  
Federal Highway Administration  
Geary Plaza, Suite 200  
700 Washington Street, East  
Charleston, West Virginia, 25301

Dear Mr. Compton:

The Department of the Interior (Department) has reviewed the Tier One Draft Environmental Impact Statement (DEIS) for the National Highway System (NHS) Corridor between I-68 and Corridor H (U.S. 220 Planning Study) in WV and MD. The project consists of a new highway between Interstate 68 and the Appalachian Development Highway System Corridor H as part of the NHS. The proposed NHS corridor will essentially parallel Route 220 within Alleghany County, Maryland and Mineral, Hampshire, Hardy and Grant Counties in West Virginia.

## **GENERAL COMMENTS**

The Department appreciates the efforts of the U.S. Department of Transportation: Federal Highway Administration, the West Virginia Division of Highways, and the Maryland State Highway Administration (the project sponsors) to work with resource and regulatory agencies to identify, evaluate, and avoid potential impacts of the proposed project on the Department's public trust resources. The project has the potential for significant impacts to public trust resources including the Chesapeake and Ohio Canal (C & O Canal) National Historical Park, which is managed by the National Park Service. It also may impact public fish and wildlife, including Federally-listed threatened and endangered species, other species of management or conservation concern, and the forest, stream and wetland habitats that support them. We understand that the assessment of project-related impacts on these resources in the Tier One phase has been necessarily cursory. Our comments are intended to provide information and guidance useful for the more detailed assessment that will be necessary during Tier Two.

## **DETAILED COMMENTS**

### **U.S. Fish and Wildlife Service**

The FWS's previous comments of May 17, 2006, and July 11, 2007, are incorporated by reference except as revised here. We provide updated information based on current knowledge regarding Federally-listed endangered and threatened species and their designated habitats, migratory birds, interjurisdictional fish, wetlands, and relevant law, policy and Executive Orders.

These following FWS comments are provided pursuant to the Endangered Species Act (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the Fish and Wildlife Coordination Act (FWCA; 16 U.S.C. 742a *et seq.*), the Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703-712), and the Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668-668c, as amended).

### Federally-listed Species

In previous correspondence, the FWS identified several Federally-listed species that may occur within the study area. These included the endangered Indiana bat (*Myotis sodalis*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), and shale barren rock cress (*Arabis serotina*); and the threatened bald eagle (*Haliaeetus leucocephalus*). The latter has since been de-listed but is still protected under the MBTA and the BGEPA.

Endangered Bats - Because the project will, regardless of which corridor ultimately is selected, impact thousands of acres of forested habitat potentially-suitable as Indiana bat summer foraging, roosting and maternity habitats, consultation with the FWS under section 7 of the ESA will be required. This consultation will focus on identification of potential impacts and development of measures to avoid or minimize them. The FWS may recommend a detailed assessment of Indiana bat summer habitats, avoidance of areas of highly-suitable habitat if any are identified, mist net surveys to determine presence/probable absence of Indiana bats, seasonal restrictions on timber-clearing, or some combination of these measures. Since the FWS previous comments, white nose syndrome has been documented in some of our important cave hibernacula in West Virginia, in some cases adversely impacting Indiana bats. Therefore, the Department's concern is heightened regarding potential impacts to this species.

Additionally, because Indiana bats hibernate in caves and abandoned mine portals during winter, and Virginia big-eared bats use caves or portals year-round, the FWS will recommend surveys of the final corridor and surrounding area to identify whether such features occur in the action area. If so, additional evaluation of the suitability of these features for listed bats will be required, with trapping or surveys recommended at those caves/portals determined to be potentially-suitable. The FWS will recommend avoidance and protective buffers for any caves/portals determined to be used by either or both species, and will work with the project sponsors and other resource agencies to determine if additional protective measures are needed. Caves used by both species are documented to the east, south and west of the study area, and the potential exists for other caves/portals in the action area to support either or both of these endangered mammals.

Listed Plants - In previous correspondence, the FWS indicated the potential occurrence of the shale barren rock cress, an endangered plant, within the study area. A review of our data indicates that no occurrences of this species have been documented within the study area. The nearest documented occurrence is about 22.6 km (16.5 mi) south of the study area. Additionally, recently-completed habitat modeling for this plant has identified potentially-suitable habitat to the south and southeast of, but not within, the study area. Based on this information, the FWS believes it is unlikely that shale barren rock cress occurs within the study area.

However, based on similar recent habitat modeling, potentially-suitable habitat for another listed plant, the threatened Virginia spiraea (*Spiraea virginiana*), does occur within the study area, including along portions of Corridors B, C, and D. Modeled potential habitat for this species occurs in West Virginia along:

- South Branch Potomac River north of Moorefield (Corridor D);
- several smaller drainages crossing or adjacent to U.S. 220 north of Old Fields (Corridor D);
- tributaries of Patterson Creek south of Burlington (Corridor D) and at Ridgeville (corridors C and D);
- New Creek from the town of New Creek north to Keyser (corridors B and D); and
- North Branch Potomac River and/or tributaries at and north of Rawlings (corridors B and D).

Surveys for this species by qualified botanists may be necessary depending upon final corridor and alignment selection, and the potential for project-related impacts in areas of potentially-suitable habitat.

Bald Eagle - As mentioned above, the bald eagle was removed from the list of threatened and endangered species effective August 8, 2007. However, the FWS is responsible for continued monitoring of this species to ensure that its population does not trend toward a level that would warrant re-listing. Bald eagles also continue to receive Federal protection under the MBTA and the BGEPA, and they are listed by the FWS as a Bird of Conservation Concern (BCC) in the Appalachian Mountains Bird Conservation Region (AMBCR), within which the study area occurs (U.S. Fish and Wildlife Service 2008). In addition to the guidance in previous FWS letters, please review the FWS's most current guidance and information relative to bald eagles at the following link: <http://www.fws.gov/migratorybirds/BaldEagle.htm>

### Migratory Birds

The FWS is also the primary Federal agency responsible for the protection and conservation of migratory birds and their habitats under the MBTA. In addition to the bald eagle, the following 15 species of migratory birds are also listed as BCC species that may occur within the study area:

|  |  |
|--|--|
| Peregrine falcon ( <i>Falco peregrinus</i> )           | Prairie warbler ( <i>Setophaga discolor</i> )        |
| Upland sandpiper ( <i>Bartramia longicauda</i> )       | Cerulean warbler ( <i>Setophaga cerulean</i> )       |
| N. saw-whet owl ( <i>Aegolius acadicus</i> )           | Worm-eating warbler ( <i>Helminthos vermivorum</i> ) |
| E. whip-poor-will ( <i>Caprimulgus vociferous</i> )    | Louisiana waterthrush ( <i>Parkesia motacilla</i> )  |
| Loggerhead shrike ( <i>Lanius ludovicianus</i> )       | Kentucky warbler ( <i>Geothlypis formosus</i> )      |
| Black-capped chickadee ( <i>Poecileatricapillus</i> )  | Canada warbler ( <i>Cardellina Canadensis</i> )      |
| Wood thrush ( <i>Hylocichla mustelina</i> )            | Henslow's sparrow ( <i>Ammodramus henslowii</i> )    |
| Golden-winged warbler ( <i>Vermivora chrysoptera</i> ) |  |

Among these, several species may be particularly vulnerable to the large-scale forest clearing and fragmentation that may occur as a result of this project. These include the cerulean and worm-eating warblers and the Louisiana waterthrush. Cerulean and worm-eating warblers are both area-sensitive species that rely on large blocks of intact, mature, interior forest habitats to support productive breeding populations. Both species are considered to be among the 100 most at-risk bird species in North America (Wells 2007). The cerulean warbler breeding population is thought to have declined by about 75% over the past 45 years – the most dramatic decline of any North American warbler monitored by the Breeding Bird Survey (Sauer et al. 2005). The Louisiana waterthrush is also an area-sensitive riparian-obligate species that nests and forages along headwater streams of intact interior forests; it relies for breeding success on the diverse and productive assemblage of aquatic insects supported by healthy headwater systems (Mattson et al. 2009). All three species are threatened by the loss and fragmentation of these habitats

(U.S. Fish and Wildlife Service 2007, Wells 2007), and the waterthrush is particularly vulnerable to degradation of water quality and aquatic insect communities (Mattsson and Cooper 2006, Mulvihill et al. 2008).

We encourage the project sponsors to work with Federal and State resource agencies to identify and avoid impacts to habitats important to BCC species within the final corridor alignment. Additional information on migratory birds and the efforts of the FWS and its partners to conserve them can be found at the following links:

FWS Migratory Birds Program - <http://www.fws.gov/migratorybirds/dmbmdbhc.html>

Birds of Conservation Concern -

<http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BCC2008/BCC2008.pdf>

Appalachian Mountains Joint Venture - <http://www.amjv.org/>

### **Chesapeake Bay Executive Order 13508**

On May 12, 2009, President Barack Obama signed Chesapeake Bay Restoration and Protection Executive Order 13508. The Executive Order recognizes the Chesapeake Bay as a national treasure and calls on the Federal government to lead a renewed effort to restore and protect the nation's largest estuary and its watershed. The Executive Order directed Federal agencies to “define environmental goals for the Chesapeake Bay and describe milestones for making progress toward attainment of these goals.” The Federal agencies were charged with developing recommendations to address seven key challenges: water quality, targeting of resources, stormwater management on Federal land, climate change, land conservation and public access, scientific tools and monitoring, and protection of habitat, fish and wildlife. The initiatives from these seven reports were refined into the “Strategy for Protecting and Restoring the Chesapeake Bay Watershed.”

Eastern brook trout (*Salvelinus fontinalis*) - As a part of the strategy, Federal agencies have focused on achieving the most essential priorities for a healthy Chesapeake ecosystem: Restore Clean Water, Recover Habitat, Sustain Fish and Wildlife, and Conserve Land and Increase Public Access. The Strategy specifically identifies brook trout as a priority species that is the basis for measureable outcomes that both the State and Federal agencies will be held accountable toward. The goal for brook trout is to restore naturally reproducing populations in headwater streams by improving 58 sub-watersheds from “reduced” classification (10 – 50 percent of habitat lost) to “healthy” (less than 10 percent of habitat lost) by 2025. (Current condition: 388 of 1,294 sub-watersheds in the Chesapeake Bay currently classified as “reduced” for brook trout.) The FWS is the lead agency working with the Eastern Brook Trout Joint Venture, local landowners and Federal, State and non-governmental partners to identify priority sub-watersheds for habitat improvement for native Eastern brook trout.

The eastern brook trout is the only native trout that inhabits the cold, clear streams of the eastern United States. Most brook trout are relegated to headwater streams, where forest cover is still prevalent originating in the mountains and foothills. In a report compiled by the Eastern Brook Trout Joint Venture (2005), the Mid-Atlantic Region, including Pennsylvania, Maryland and West Virginia, has seen the greatest decline in brook trout populations. Conversion of land

through development has resulted in warmer water temperatures due to loss of forest shading (fragmentation), heated runoff from paved surfaces (impervious surfaces), over-widening of streams (altered hydrology), and loss of physical habitat and cover in streams.

Additional critical living resources of the Chesapeake Bay Watershed by Region and Priority Habitat are identified in Appendix D of the “Executive Order 13508: Strategy for Protecting and Restoring the Chesapeake Bay Watershed,” May 12, 2010. The species listed in Appendix D are based on current scientific assessments of species ecological, commercial and recreational significance. Please review the strategy (<http://executiveorder.chesapeakebay.net>).

The Department encourages the project sponsors to work with the resource agencies to: (1) identify all brook trout streams that may be impacted by the project; (2) avoid and minimize impacts to these streams and adjacent riparian habitats to the maximum extent practicable; and, (3) mitigate appropriately for any unavoidable impacts to these systems. This should include measures to ensure fish and aquatic organism passage at project-related structures, avoid erosion and the introduction of sediment into brook trout streams, prevent the introduction and spread of non-native invasive plants and aquatic organisms, and maintain stream flow and temperature regimes suitable for brook trout survival and reproduction.

#### Wetlands Impacts and Mitigation

The FWS encourages the project sponsors to work with the resource agencies to: (1) identify all wetlands and streams that may be impacted by the project; (2) avoid and minimize impacts to these habitats to the maximum extent practicable; and, (3) mitigate appropriately for any unavoidable wetland impacts. We recommend that the sponsors develop a Compensatory Mitigation Plan (CMP) that will identify all on-site and off-site compensatory mitigation that will be carried out to offset all unavoidable wetlands impacts. The CMP should include an assessment, using the most recent version of the West Virginia Stream and Wetland Valuation Metric or other appropriate functional assessment tool, of the wetland functions and values that will be lost as a result of the project and that will be offset by proposed compensation. The CMP should also define performance standards, a monitoring schedule, and the long-term management strategy for mitigation sites, including the financial assurances that will facilitate their long-term management and stewardship in perpetuity in accordance with the 2008 *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* (33 CFR Parts 325 and 332 and 40 CFR Part 230).

#### U.S. Geological Survey

##### Avian fauna

**Section 3.3.3.3 (page 3-57):** The United States Geological Survey (USGS) suggests including a representative list of birds in the study area and using the reference below to help determine likely effects relative to the trends in the status of avian species. The USGS Breeding Bird survey includes two routes that are close to the study area:

Route 90048: YELLOW SPG, WEST VIRGINIA, and  
Route 90149 (WV-149) LOST RIVER, WV.

The list of species for each route can be found at  
<http://www.pwrc.usgs.gov/BBS/results/routemaps/routeAssignMap.cfm#>

Additional information on the trends in bird populations can be found at <http://www.mbrpwr.usgs.gov/bbs/bbs.html> and in the publication: Sauer, J. R., J. E. Hines, J. E. Fallon, K. L. Pardieck, D. J. Ziolkowski, Jr., and W. A. Link. 2011. *The North American Breeding Bird Survey, Results and Analysis 1966 - 2009. Version 3.23.2011* USGS Patuxent Wildlife Research Center, Laurel, MD

### **National Park Service**

The Department particularly wishes to draw your attention to previous comments expressed by the National Park Service (NPS) on this study. The NPS-National Capital Region and Chesapeake and Ohio Canal (C & O Canal) National Historical Park (NHP) re-state the following from its September 24, 2010 letter for your further consideration:

- Two and one half miles of the C & O Canal NHP (Park) are located within the boundaries of Corridor C.
  - Any parallel placement of the proposed roadway and the Park's historic towpath and canal prism would irreversibly and irretrievably impact the Park.
  - Indeed, the Preliminary DEIS states that there is "no environmentally sensitive manner to cross the park" and it would be "impossible to construct a new transportation facility within the park."
  - The probable alignment, along the north edge of the Mexico Farms area of Corridor C, would parallel/cross the Park. Park legislation stipulates that no right-of-way would sever the continuity of the park.
- Potential impacts for future development of the Western Maryland Railroad property could be realized, should the roadway sever that property.
- There are two NPS units within Corridor C – The Park and the Potomac Heritage National Scenic Trail. However, within Corridor C, both units use the C&O Canal's towpath as the corridors.
- Departmental reviews will be required for any Section 4(f) Statement.
- The project is not compatible with the Park's General Plan.
  - Corridor C is within Zone C of the Park – short term recreational zone, providing for a 2-6 hour walk for the general towpath user within a natural setting.
  - Corridor C conflicts with the Park's purpose and need.
- Both the Department of Justice and the Federal Emergency Management Agency (FEMA) have property holdings within the Mexico Farm section and do not appear on the agency review list.

NPS Regional Director National Capital Region Peggy O'Dell's September 24, 2010 correspondence is not included within the correspondence section of the DEIS. This letter should be included within the Final EIS as it is the basis for several text references, such as on page ES-12 under Unresolved Issues.

The NPS and Department will review and comment on the Section 4(f) Evaluation when it is completed in conjunction with the Tier Two analysis.

### **Impact Summary**

The impact summary chart on page 6-2 of the DEIS lists useful quantitative data for each impact topic. The NPS assigned numeric rankings from least to most impacts for the selected topics and then added the numbers to compare the impacts of each Corridor. The resulting modified table is enclosed with this letter. It appears that Corridor B (37) has the least overall impacts, followed by C (47), then D (65).

It appears that the interchange necessary for Corridor C at Interstate 68 is the most complex of the three interchanges proposed. The preliminary costs for the interchanges indicate that Corridor C is the most expensive, followed by D and B respectively. Please confirm this finding and use the analysis as appropriate in the Final Tier I EIS.

### Cost Analysis

The DEIS presents three dissimilar listings for “total construction costs.”

Page ES-5 (Table ES-1) list B - \$459,000,000; C - \$597,000,000; and, and D - \$607,000,000.

Page ES-11 (Table ES-2) and page 6-2 (Table 6.2-1) list - B- \$482-\$500,000,000; C - 651,000,000; and, D - \$630-\$648,000,000.

Page 2-25 (Tables 2.6-1 and 2.6-2) presents another scenario. Table 2.6-1 is a repeat of Table ES-1. However, Table 2.6-2 lists “Interchange Construction Cost Estimates.” Corridor B has an estimated interchange cost of \$27,000,000, Corridor C is \$40,000,000, and Corridor B is \$27,000,000. It is unclear if the interchange costs are a part of the estimated construction costs, or if they are above and beyond the totals within Table 2.6-1. If they are in addition to the construction cost estimates, then the estimated total cost would be: B - \$486,000,000; C - \$687,000,000; and D - \$634,000,000.

The Final EIS should clarify the estimated construction costs for each corridor. Regardless, please confirm that Corridor C is the most expensive for any given estimate.

### Park Economic Benefits

Through review of the DEIS and subsequent information presented at the September 13 and 14, 2011 public meetings, it appears that economic enhancement is the impetus for the project. Project leaders, at the September 14 public meeting indicated that the DEIS corridors had been identified through previous economic studies. These were the 1997 Smart Growth initiative and/or the 2001 North/South Appalachian Economic Feasibility Study. It appears that the corridors were identified based on an economic study, not a transportation cost/benefit analysis. The three corridors retained within the Tier One DEIS were evaluated to be able to accommodate at least one 4 lane roadway alignment within the study corridors at any given location.

Project officials, during the September 14, 2011 public meeting, stated that the project would meet economic development goals, set forward in these previous economic development reports. In response, we would like to note that a National Park is a vital asset to economic development for any community/region. During the past 20 years, the NPS has partnered with Canal Place Authority and the City of Cumberland to address economic development through improvements and enhancements to the Park. In addition, the Park is a part of the Great Allegheny Passage (GAP) which, as a bicycle and pedestrian corridor, connects Washington DC with Pittsburgh,

PA. The GAP is bringing in new visitation to the greater Cumberland area. Page 3-27 of the DEIS acknowledges that tourism is a growing industry for Allegany County.

The DEIS does not acknowledge the economic benefits of the Park. Any adverse impacts from the proposed roadway project could have adverse economic ramifications to communities beyond the greater Cumberland area. Only one of the project staff during the public meetings even mentioned the NPS. The graphics and posters made no mention of a “National Park.” Page 10, Table 3 of the public meeting brochure lists the Park as the “Chesapeake and Ohio Canal.” The proper and full name is “Chesapeake and Ohio Canal National Historical Park.”

Additionally, with the national emphasis on the conversion of abandoned railroad corridors into viable rail trail systems, the Western Maryland Railroad (WMRR) Right of Way (ROW) could have future economic benefits upon development. The WMRR, while it has various ownerships, is being transformed into rail trails within the project area. Selection of Corridor C could impact this potential, and thus impact the economic potential that additional trail systems could have on the project area.

A National Park within the greater Allegany County region is truly an asset that will continue to contribute to the growth and development of a viable tourism industry, both in Allegany and Washington County, MD. The Department believes that with the ongoing partnership between the Park and partners, the greater Cumberland area will continue to grow as a tourist destination, enhancing their economy through the tourism industry.

#### Mid-Nineteenth and Early Twentieth Century Canal Tunnel and Lockhouse, Boat Building and Repair Yard

On Page 4-47, information is presented for Corridor D regarding a mid-nineteenth and early twentieth century canal tunnel and lockhouse, boat building and repair yard. This information should be verified. To our knowledge, the C&O Canal is/was the only canal within the project area. It terminates in downtown Cumberland and would not have any physical remnants within the Corridor D area. The C&O Canal Company did have future plans to continue construction west of Cumberland, which would have included a tunnel. This construction was never undertaken. We do not know what sources were contacted for this data, but it could affect the overall historic resource projected impacts.

#### Corridor C – Mexico Farms/North Branch Industrial Park

Since impacts to the C&O Canal NHP, as a result of the selection of Corridor C, would be within the Mexico Farms/North Branch Industrial Park area of Allegany County, we offer the following information specifically to that segment of the Corridor C alignment.

The NPS previously stated (September 24, 2010 letter) that the only feasible alignment for a 300 foot wide, 4 lane divided highway would be on the north edge of the Mexico Farm study corridor. This statement was based on the knowledge of the existing landownership within that area. We believe that the open “green” space on the north edge would be a likely alignment and that is highly unlikely that a new road would displace the federal prison or the electric generation power plant holdings. Those two landowners, together, effectively span the width of Corridor C, with the exception of NPS land ownership (the “green” space) on the north side.

As NPS staff spoke with Route 220 project members at both the September 13 and 14, 2011 public meetings, we were able to confirm that the most likely placement of the highway would be, in fact, the scenario NPS identified a year ago. Page 2-11 of the Tier One DEIS, Best Fit Alignment (BFA), states that each corridor (4,000 feet wide) study area was developed to assure that at least one alignment was possible within each corridor. The BFA through Mexico Farms/Corridor C logically will avoid existing infrastructure/businesses. Thus, the only “open” space for the highway alignment is land occupied by the C&O Canal NHP. This alignment would impact over one mile of the Park.

During the September 14, 2011 Public meeting/hearing, one project engineer did confirm that alignment through the Mexico Farm area would be challenging, if not problematic due to landownership issues of the federal prison and the Allegheny Power generation plant. While the engineer did not confirm an alignment along the north side of Mexico Farms, he did indicate that other alignments would need to curve to avoid the two large property owners. He said that tightly curving a 4 lane highway within the Mexico Farm area would not be possible. The Park would be crossed regardless of the roadway alignment; however, the alignment that is the most probable would impact the Park for a distance of over one mile.

The Allegheny Energy’s Warrior’s Run Generation Plant is located within the Mexico Farm area, but was not identified in any of the September 2011 public meeting posters or mapping. It was not mentioned in the public meeting booklet. Under the Build Alternatives, the DEIS text on page 4-148 states “There appears to be no stand-alone facilities that would indicate a fatal flaw in selection of a preferred transportation corridor. No major electric generation plants were identified in the utility responses or through supplemental field views. Three of the five electric companies contacted, however, did not respond.” We find it hard to accept that a power generation plant within Mexico Farms was not noted. The power plant is clearly visible within the Corridor C boundaries on Place C/ Sheet 10 of 11.

Page 4-29 does list the federal prison as being located within the North Branch Industrial Park, but does not say whether or not it could be impacted by the Corridor C. We noticed that the Department of Justice, Federal Correctional Institution at Cumberland is not on the agency review list. As stated within our previous correspondence, this facility is wholly within Corridor C at the Mexico Farm area and should be engaged for this planning process.

In addition to the federal prison and the power plant, the North Branch Industrial Park area of Mexico Farms contains other entities that present other concerns for the project, such as contaminated sites.

Page 3-65 – Table 3.4-1 lists the FEMA Distribution Center at Mexico Farms as potentially contaminated site. If confirmed, it could provide incentive to locate the highway elsewhere within the 4,000 foot wide corridor. Since FEMA is located on the south side of the corridor, the most viable best fit alignment would be on the north side. The center of the corridor contains the federal prison and the electric generation plant, which more than likely would be avoided. That leaves, again, the mile long section of the Park that runs parallel, rather than perpendicular, to the BFA.

Pages 3-68 and 69 list additional properties within Mexico Farms Industrial area that have the potential for contamination sites. There are a total of nine sites, in addition to FEMA. Avoidance of these sites favors aligning any roadway through the Mexico Farm area.

The Mexico Farms area contains a historic airstrip, but the Mexico Farms Airstrip is not listed under the Airport Section. It is listed later in the document, page 3-36, as a National Register site. It should be listed within the Airport Section of the document since it is maintained as an airstrip. The DEIS also states that there are no airports within Corridor C. While it is true that the airstrip is situated just north of the 4,000 corridor boundary, the avoidance of that site plays into the study corridor location. The available real-estate between the airstrip and the federal prison lands is approximately one-quarter mile, through which the Park passes. Since the runway is at grade, a roadway infrastructure could significantly impact the usability of any of its runways.

The Cumberland Airport is located north of the Mexico Farms area. Part of Corridor C, near Evitts Creek, would be within their Runway Protection Zone (RPZ). We are interested to have more information on the impacts of a major 4 lane highway on the RPZ.

During the September 13 public meeting, a project staff member was heard to state to attendees that the active B&O Railroad's tunnel, south of Mexico Farms within Corridor C, would be an impediment. This tunnel spans the width of Corridor C, approximately three miles south of Mexico Farms.

The DEIS states that Corridor C would not be as effective at diverting traffic away from existing Route 220 as the other two corridors. Although the corridor may mitigate traffic on some congested roadways, it will equally cause more traffic issues by bringing more truck and car traffic through the region.

Based on the foregoing, we believe that the Mexico Farms area of Corridor C presents many difficult problems issues or concerns that would need to be overcome if Corridor C is selected.

### EIS Process

As noted in previous correspondence, the NPS responded with concerns regarding the alignment of Corridor C, which would see construction of a new 4 lane divided highway through an area called Mexico Farms. Mexico Farms is located near Cumberland and contains a variety of land uses, including industrial, residential, agricultural, judicial, and recreational. The Chesapeake and Ohio Canal National Historical Park is one of the recreational uses.

Within the DEIS, Corridor C was one of three corridors retained for analysis. It is understood that a Record of Decision (ROD) will be issued at the conclusion of the Tier One DEIS and the ROD will identify which corridor(s) will advance to the Tier Two analysis.

As previously noted, the NPS and the Department are concerned that the Tier One DEIS did not contain a copy of the NPS September 24, 2010 correspondence. Although referenced numerous times, it was not included within the DEIS.

In the Comparison of Tier One and Tier Two Study Methodologies within the Tier One DEIS, Page P-7, the DEIS states that Tier Two will undertake an MOA with the NPS to specifically address NPS concerns. It is unclear whether this is referencing the Park, Western Maryland Rail Road, Potomac Heritage Trail or whether it is in reference to the National Register in general which is administered by the NPS.

That same page notes that the Tier One DEIS infers impacts to the C&O Canal NHP. To state that the Park would be impacted, and thus analyzed in Tier Two, is inappropriate since no decision has been made for a corridor in Tier One.

On page P-11, the unresolved issues section for Cultural Resources, the DEIS states that during Tier Two, the project sponsor again mentions that a memorandum of agreement will be developed with the NPS for resources within NPS jurisdiction. This statement is inappropriate, since it presumes that Corridor C may be carried through Tier Two and not dismissed.

#### Section 4(f)

Page P-12 states: “A 4(f) property should be avoided unless there is no prudent and feasible alternative to that use.” As stated in the NPS September correspondence, it appears that the roadway project has the potential for irreversibly and irretrievably impacting the Park. At his time, the NPS believes that Corridors B and D are prudent and feasible alternatives.

We call your attention to discussion occurring at the public meetings in which attendees and project staff discussed alternatives beyond the Tier One DEIS’s three listed corridors. Some of the suggested alternatives were combination of the existing study corridors, or modifications of the study corridors. One project engineer stated that should another alternative, other than the three listed in the Tier One DEIS, be selected to carry through to Tier Two, there would not be another public review of the new corridor prior to the release of the Tier One Record of Decision. The Department believes that it would be inappropriate for project sponsors to act on any new alternatives without public review. If such alternatives are developed, they should be coordinated with the Department.

#### Tier One DEIS, Possible Mitigation Efforts

Page 4-38 addresses possible mitigation efforts that could be implemented for parks and recreation areas within the various corridors. Table 4.1-7 lists potential park and recreation impacts. The list includes ball fields, golf courses, driving ranges, etc. While these types of recreational facilities are extremely important to a local area, it should be noted that a National Park is among this listing, which carries a national significance that the other facilities do not. Page 4-38 states: “Additional parks and recreation coordination will need to take place during Tier Two. The owner of each park and recreation area that would be impacted by any of the alternatives developed during Tier Two will be consulted to determine appropriate mitigation. This could involve identifying and purchasing replacement park property; improving other parts of the park facility; trail relocation, if necessary; or financial compensation.” While we would expect mitigation actions should C be selected as the preferred, the listed mitigation would not be acceptable to the NPS and the Department. Those listed are more appropriate for a local park or recreation area.

#### Irreversible and Irretrievable Commitment of Resources

Page 4-154 states “Construction of the project could involve the irretrievable use of wetlands, floodplains, sources of minerals, cultural resource areas, and other natural resource areas. While the commitment of these types of resources would be irretrievable, they are not unusual in the development of large-scale transportation projects that benefit many people.” This statement implies that the irretrievable losses of wetlands, floodplains, cultural resource areas, etc., would affect fewer people than not developing a roadway. We believe that many people benefit by

these resources, some of which Congress has seen fit to set aside or protect for public use and enjoyment. If such areas are to be sacrificed, and we are not yet persuaded that they need to be, there is no justification provided in the DEIS to support the notion that fewer people benefit from some assets than others, especially a road that does not yet exist. Please modify the statement to eliminate any bias in the Final EIS.

Page 4-154 also discusses the one time expenditure of funds for construction and future maintenance funds within the irreversible commitment of resources. We do not understand why the Federal Highway Administration considers funding to fall within irreversible category. We do not agree that funding is the same as the irreversible loss of natural and cultural resources.

#### Tier One DEIS/Public Meetings

The Western Maryland Rail Trail (WMRT) is highlighted as a potential Park and Recreational Area impacted by the proposed project. This information is incorrect. The WMRT does not extend as far west as the proposed study area. It could extend that far eventually, so it may be appropriate to include the WMRT as an impacted resource.

It should be noted that two NPS regions are encompassed by this project. On page 4-26, it is noted that some data was collected from the NPS for West Virginia. However, the data collected for Maryland does not list the NPS as a data source.

The project booklet, which was distributed prior to the public meetings, is misleading. The cover of the booklet stated that the project was a “study” not a draft EIS. In addition, the impact summary chart, on page 12 of the booklet, had less than half of the impact topics listed. The impact topics included from the public meeting review booklet include:

- Parks and Recreation Areas*
- NRHP- Listed & NRHP – Eligible Resources*
- Wetlands*
- Streams*
- Floodplains*
- Forests*
- Agricultural Land Cover*
- Preservation Districts/Easements*
- Potentially Contaminated Sites*
- Estimated Cost of New Highway Facility*

The impact topics NOT included from the public meeting review booklet include:

- Residential Land Use*
- Mixed Use Built-up Land Use*
- Commercial and Industrial Land Use*
- Economic Development (trade centers served)*
- Impacts to Community Cohesion*
- Environmental Justice Impacts*
- Community Facilities*
- Very High/High Archaeological Potential*
- Flood Control Dams*
- Rangeland*
- Mixed Forests/Rangeland*
- Prime Farmland Soil*

*Farm Soils of State or Local Importance*  
*RTE Species*  
*Noise Sensitive Area (Residential)*  
*Potential Section 4(f) Resources*  
*Residual US 220 Traffic (2025)*

We do not understand why some topics were included in the project overview booklet, while others were not.

Project staff at the meeting stated that the ROW would be 500 feet wide, not the 300 feet described in the DEIS. This increased footprint could have significant effect on any given property along the selected corridor. This inconsistency needs to be resolved. One citizen suggested that Corridor C could be redesigned regarding the Mexico Farm area to miss the North Branch Industrial Park. While, on the surface, that seems like a feasible solution, please be aware of several factors that would result from a shifting of the corridor to the south of the existing center line of Corridor C.

First, the C&O Canal NHP, along the southern edge of the Mexico Farm area, would again, parallel a proposed roadway. The overall length of the towpath would be slightly less than along the north side, but the Park could incur significant impacts.

Second, there is a major CSX Railroad crossing at the south end of Mexico Farms. Should the new Corridor C alignment stay north of this bridge, the project would impact one of the most photographed locations along the entire Park, Lock 75. To move the new corridor south of the railroad bridge would impact Lock 74 and would be moving the corridor more in line with Corridor E, which has been dismissed due to high potential resource impacts.

Many of the public meeting project boards had erroneous information. The Park was not shown as NATIONAL PARK on any of the posters or maps, but rather as a “canal feature.” Project staff stated in conversation to Park staff that the GIS used for the mapping was older and that perhaps they missed a lot of current data points, such as the power plant. Warrior’s Run was built in the mid 1990’s, so it is uncertain how old the data is.

Additional mapping issues, not already addressed, were:

- Carpendale was labeled as Wiley Ford
- The abandoned WMRT was shown as a road obstruction.
- GIS mapping information was both outdated and misplaced because of scalable information.
- The actual boundaries of the Park were not correctly shown on the large-scale aerial project mapping of Corridor C.

### Summary

In view of the foregoing concerns, the Department strongly opposes the proposed Corridor C, due to the significant adverse impacts this alternative would have on the resources associated with the C & O Canal NHP. From a NPS standpoint, Corridor C will severely endanger the resources located in the western area of the Park near Mexico Farms. Corridor C would be an unnecessary inconvenience to numerous resources located in its path for a purpose that has not been clearly articulated or supported by the MD SHA.

The Department seeks commitment from the FHWA, SHA, and WVDOH to protect the C&O Canal NHP, and we would like you to meet with us to share with us how you intend to do that. We would also expect you to meet with us in conjunction with the development of the ROD.

For future correspondence please contact:

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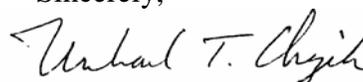
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The Department appreciates the opportunity to provide these comments.

Sincerely,



Michael T. Chezik  
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Enclosure (1)

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## Enclosure

**Table 6.2-1**

**Summary of Potential Effects**

*1= least impacts/cost*

*2 = middle impacts/cost*

*3=most impacts/cost*

| <i>Resource/Element</i>                             | <i>Corridor B</i>   |    | <i>Corridor C</i> |    | <i>Corridor D</i>   |    |
|---|---------------------|----|-------------------|----|---------------------|----|
| <i>Residential Land Use</i>                         | 2,590 acres         | 2  | 2,400 acres       | 1  | 2,620 acres         | 3  |
| <i>Mixed Use Built-up Land Use</i>                  | 1,300 acres         | 3  | 90 acres          | 1  | 860 acres           | 2  |
| <i>Commercial and Industrial Land Use</i>           | 170 acres           | 1  | 450 acres         | 3  | 340 acres           | 2  |
| <i>Economic Development (trade centers served)</i>  | 3                   | 2  | 2                 | 1  | 4                   | 3  |
| <i>Impacts to Community Cohesion</i>                | 3                   | 2  | 2                 | 1  | 3                   | 2  |
| <i>Environmental Justice Impacts</i>                | Yes                 | 1  | Yes               | 1  | Yes                 | 1  |
| <i>Community Facilities</i>                         | 58                  | 1  | 70                | 2  | 58                  | 1  |
| <i>Parks and Recreation Areas</i>                   | 8                   | 1  | 10                | 3  | 9                   | 2  |
| <i>Very High/High Archaeological Potential</i>      | 5,338 acres         | 1  | 6,974 acres       | 2  | 7,709 acres         | 3  |
| <i>NRHP- Listed &amp; NRHP – Eligible Resources</i> | 4                   | 1  | 9                 | 2  | 21                  | 3  |
| <i>Wetlands</i>                                     | 118 acres           | 1  | 152 acres         | 3  | 143 acres           | 2  |
| <i>Streams</i>                                      | 300,239feet         | 1  | 330,834 feet      | 2  | 448,803 feet        | 3  |
| <i>Floodplains</i>                                  | 775 acres           | 2  | 719 acres         | 1  | 2,244 acres         | 3  |
| <i>Flood Control Dams</i>                           | 8                   | 3  | 4                 | 1  | 6                   | 2  |
| <i>Rangeland</i>                                    | 127 acres           | 1  | 644 acres         | 2  | 720 acres           | 3  |
| <i>Forests</i>                                      | 9,890 acres         | 1  | 11,130 acres      | 2  | 11,409 acres        | 3  |
| <i>Mixed Forests/Rangeland</i>                      | 0 acres             | 1  | 53 acres          | 2  | 91 acres            | 3  |
| <i>Prime Farmland Soil</i>                          | 2,146 acres         | 2  | 1,491 acres       | 1  | 3,335 acres         | 3  |
| <i>Farm Soils of State or Local Importance</i>      | 2,276 acres         | 1  | 5,456 acres       | 3  | 3,728 acres         | 2  |
| <i>Agricultural Land Cover</i>                      | 2,963acres          | 1  | 6,489 acres       | 3  | 5,487 acres         | 2  |
| <i>Preservation Districts/Easements</i>             | 0                   | 1  | 1 acre            | 2  | 67 acres            | 3  |
| <i>RTE Species</i>                                  | 13                  | 1  | 16                | 2  | 30                  | 3  |
| <i>Potentially Contaminated Sites</i>               | 43                  | 2  | 42                | 1  | 55                  | 3  |
| <i>Noise Sensitive Area (Residential)</i>           | 2,590 acres         | 2  | 2,400 acres       | 1  | 2,620 acres         | 3  |
| <i>Potential Section 4(f) Resources</i>             | 6                   | 1  | 13                | 2  | 21                  | 3  |
| <i>Residual US 220 Traffic (2025)</i>               | Local               |    | 6,100 AADT        |    | Local               |    |
| <i>Estimated Cost of New Highway Facility</i>       | \$482-\$500 million | 1  | \$651 million     | 2  | \$630-\$648 million | 2  |
| <i>Total impacts</i>                                |                     | 37 |                   | 47 |                     | 65 |



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

28 OCT 2011

Jeff Blanton  
Director, Office of Program Development  
Federal Highway Administration-West Virginia  
Geary Plaza, Suite 200  
700 Washington St. E  
Charleston, West Virginia 25301

Re: Tier One Draft Environmental Impact Statement for the National Highway System  
Corridor between I-68 and Corridor H, US 220, Maryland and West Virginia, July 2011

Dear Mr. Blanton,

In accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality regulations implementing NEPA (40 CFR 1500-1509), the U.S. Environmental Protection Agency (EPA) has reviewed the Tier One Draft Environmental Impact Statement (DEIS) for the National Highway System (NHS) Corridor between I-68 and Corridor H, US 220. The study has been jointly prepared by the Federal Highway Administration (FHWA), West Virginia Division of Highways (WVDOH) and Maryland State Highway Administration with WVDOH as the lead state agency. The approximate 40 mile proposed highway project would involve connecting Interstate 68 (I-68) near Cumberland, Maryland and one of the proposed interchanges on Corridor H in West Virginia. The project is located in Grant, Hardy, Hampshire and Mineral Counties in West Virginia, and Allegany County in Maryland. As a result of our review and coordination with resource agencies, EPA believes that while the proposed build alternative corridors appears to meet the project needs, the build alternatives will result in significant adverse environmental impacts. EPA recommends that multiple corridors, in addition to the No Action alternative, be retained for study in Tier Two.

The purpose of the proposed action is to develop an improved north-south transportation corridor connecting I-68 in western Maryland and Corridor H in West Virginia that will become part of the NHS. The need for the proposed project is due to geometric deficiencies on the existing US 220 alignment and parallel roadways, inadequate roadway capacity, safety deficiencies, the need to support economic development efforts, and the need to provide additional system linkage to complete the regional road network.

The Tier One DEIS evaluates corridors at the planning level of detail. Tier One intends to screen build alternative corridors by considering major environmental factors that can be



incorporated into the planning process at a very early stage. At the conclusion of Tier One, a preferred corridor or corridors will be identified and advanced to Tier Two. Tier Two will include more detailed studies on the advanced corridor(s) from Tier One, as well as additional coordination and consultation with federal, state, and local agencies. Additional avoidance and minimization of impacts to resources will also be included in Tier Two.

EPA, as a cooperating agency on this project, has been involved with the preliminary review of the project purpose and need, as well as preliminary review of proposed alternatives, and has provided comments. The DEIS discussed several alternatives that were initially considered but not retained for further study in the document. One of these, Corridor A, was dropped after resource agencies expressed concerns about impacts to Dans Mountain Wildlife Management Area. Corridor A would have directly bisected this important Maryland Department of Natural Resources (MD DNR) resource. EPA greatly appreciates efforts that have been made in the early stages of alternatives analysis to avoid impacts to key environmental resources. EPA supports exclusion of Corridor A and E from further analysis.

The Tier One DEIS examines four alternatives, including the no action alternative. All of the action alternative corridors are 4,000 feet (ft) wide, however it is estimated that only 300 ft will be needed for a highway alignment. The action alternatives include Corridor B, Corridor C and Corridor D. Corridor B is approximately 34.2 miles in length, originating at I-68 near LaVale, Maryland, and extends southwest to Corridor H near Scherr, West Virginia. Corridor C is approximately 44.5 miles in length, originating at I-68 near Cumberland, Maryland, and extends southwest to Corridor H near Maysville, West Virginia. Corridor D is approximately 45.3 miles in length, originating at I-68 near LaVale, Maryland, and extends south to Corridor H at Moorefield, West Virginia. At this time, a preferred alternative has not been identified. All of the build alternative corridors have significant adverse impacts to the environment. Direct impacts to streams could range between approximately 56 – 85 miles. Direct impacts to wetlands could range between 118-152 acres. It is understood that impact levels are “inflated” as a 4000-foot corridor is considered, but there is concern that potential build alignments could have an objectionable amount environmental impact.

EPA is concerned about the potential adverse impacts to aquatic resources, including streams, wetlands and floodplains. Corridor B has the potential to directly impact 300,239 ft of perennial and intermittent stream, 118 acres of wetland and 775 acres of floodplain. Corridor C could potentially directly impact 330,834 ft of perennial and intermittent stream, 152 acres of wetland, and 719 acres of floodplain. Corridor D has the potential to directly impact 448,803 ft of perennial and intermittent stream, 143 acres of wetland and 2,244 acres of floodplain. All of the corridors have the potential to have adverse impacts to large amounts of aquatic resources, even if the right-of-way is reduced to one tenth the corridor. It should also be noted, that Tier One stream impact information does not include potential impacts to ephemeral streams. The Tier One does not include detailed stream and wetland information, for example quality, habitat values, function, or size. EPA requests that FHWA work with appropriate federal and state resource agencies to determine what areas may be sensitive and what measures will be appropriate. Additional comments on aquatic resources can be found as an enclosure to this document.



The DEIS states on page 4-114 that “excavation waste material may be used to build modest fill areas without encroaching on sensitive features or affecting the operating characteristics of the system.” Please clarify what is meant by modest fill features and if these fill features will be placed in stream valleys; please state how large these features may be and how many could potentially be encountered within the corridor. Disposal of excavation waste should be placed in upland locations, outside of streams and other aquatic resources. The Final EIS and any subsequent documents should discuss options for transporting waste for disposal in upland locations. The DEIS mentions that waste materials may be used for site developments where they are planned but existing terrain is unsuitable; use of excavation waste to support development is not included as part of the project purpose and need.

Large impacts to terrestrial resources, including forest and parklands, are objectionable to EPA. Corridor B could potentially impact 9,890 acres of forest and six potential Section 4(f) resources. Corridor C could potentially impact 11,130 acres of forest and 13 potential Section 4(f) resources. Corridor D has the potential to impact 11,409 acres of forest and 21 potential 4(f) resources. Although it is stated in the DEIS that forest impacts will be mitigated, we believe that the loss of mature forest will take decades to replace and will have adverse impacts on forest interior dwelling species (FIDS). Both Corridors B and D are likely to result in adverse impacts to Dans Mountain Wildlife Management Area (WMA) in Maryland, which spans the entire width of both corridors offering no opportunity for avoidance. Dans Mountain WMA is the largest contiguous state-owned tract of forestland in Maryland and is managed by MD DNR. It is also known to contain at least one stream, Mill Run, which is habitat for brook trout. Corridor D would also impact the Middle South Branch Valley Rural Historic District and the Moorefield Battlefield which span the entire width of the corridor. The Chesapeake-Ohio Canal, Chesapeake and Ohio National Historic Park and the Potomac Heritage National Scenic Trail are within Corridor C and with no apparent opportunity for avoidance if the corridor is selected. National Park Service has expressed concerns about impacts to the Chesapeake-Ohio Canal in their September 24, 2010 letter stating that “The project is not compatible with the C&O Canal NHP General Plan.”

While EPA recognizes that limited information is available for review in Tier One and that more detailed information is planned to be included as part of Tier Two, EPA is concerned that the selection of a build alternative will result in significant adverse environmental impacts. EPA strongly recommends that further NEPA documentation, including Tier Two and any break out projects, for this project be evaluated in an Environmental Impact Statement with full resource agency and public stakeholder participation. The EPA recognizes that a great deal more can be done to minimize the environmental impacts of the construction and operation of the highway, but that many details of highway location and design, construction methods, sediment control, etc will not be defined until later in the process. Full avoidance and minimization efforts, particularly to aquatic resources, need to be investigated and accomplished utilizing all best available technologies, including longer bridges, advanced stormwater management concepts, and reduced highway widths in sensitive areas. Extra precautions should be taken when working in sensitive areas. EPA would like to see commitment made in the Final EIS to study alignment alternatives which avoid valuable resources and incorporate best technologies for natural resource impact avoidance and minimization.

Based on our review of the Tier One DEIS and in light of the fact that no preferred alternative has been identified, EPA has rated the environmental impacts associated with all of the action alternative corridors as Environmental Objections (“EO”) and the adequacy of the impact statement as “2” (Insufficient Information). This rating is due to the direct, indirect and cumulative impacts of the proposed corridors on aquatic resources, including streams, wetlands and floodplains, and terrestrial resources, including forest and parkland. Details on the basis for this rating are contained in the remainder of this letter. A description of our rating system can be found at: [www.epa.gov/compliance/nepa/comments/ratings.html](http://www.epa.gov/compliance/nepa/comments/ratings.html).

Please consider the issues, questions and comments included in this letter and enclosure. EPA believes that with careful analysis and selection of alignment, environmental objections could be reduced. We recognize the complexity of the analysis needed and difficulty in balancing impacts to natural resources, farmland and communities for any build alternative. EPA emphasizes that seeking input of the interagency team, through continued interagency meeting and coordination, is an effective and necessary step to assist with assessment of resources while developing ideas for avoidance, to improve project outcome. EPA looks forward to the continued interagency involvement in the Tier One Final EIS and subsequent NEPA study for the development of an alignment. We would appreciate the opportunity to discuss the comments provided here, at your convenience. Thank you for allowing EPA with the opportunity to review and comment on the Tier One DEIS for US 220. If you have questions regarding these comments, the contact for this project is Ms. Alaina DeGeorgio; she can be reached at (215) 814-2741 or [degeorgio.alaina@epa.gov](mailto:degeorgio.alaina@epa.gov).

Sincerely,



Jessica Martinsen  
Acting Associate Director  
Office of Environmental Programs

Enclosure

cc Jessica Greathouse, USEPA  
Mitch Keiler, USFWS  
Jim Zelenack, USFWS  
Mary Frazer, USACE Baltimore  
Sarah Workman, USACE Huntington  
Greg Golden, MD DNR  
Greg Bailey, WV Division of Highways  
Bill Carver, MD SHA  
Bruce Grey, MD SHA  
Jeanette Mar, FHWA DELMAR  
Elder Ghigiarelli, MDE



## **Technical Comments on the Tier One US 220 DEIS**

### *Environmental Justice*

While EPA understands that more detailed analysis for impacts, additional community outreach, and identification of populations will occur in Tier Two, EPA remains concerned about possible impacts to environmental justice (EJ) communities within the study area. Tier One has identified that the potential for EJ concerns exist for each of the corridors. Tier Two should consider at-risk populations that are small in number. There is no relationship between the size of the EJ community/impacted populations and the existence of an EJ concern. The EJ assessment should take into consideration the localization of impacts, proximity to population, multiple impacts, displacements, hazards such as fugitive dust, and any other potential adverse impacts that may affect populations of concern. Data used in the evaluation should be representative of current populations, utilizing the most up to date data available. The document notes that Tier Two analysis will be conducted using data from the 2010 U.S. Census. Additional outreach and data gathering to assure that areas of concern identified in the cursory assessment accurately represent those populations will be needed in Tier Two.

### *Community Impacts*

The DEIS identifies potential impacts to community cohesion for all three of the action corridors. Corridor B and D could impact community cohesion in the Cresaptown – Bel Air area, the west end of Keyser, and south of Keyser between the Polish Pines Golf Club and Keyser High School. Corridor C could impact community cohesion along WV 28 from Wiley Ford to Short Gap, and near Fountain, WV. It is not clear in the DEIS how impacts to community cohesion will be analyzed or addressed in Tier 2.

Commercial and residential business displacements were also considered in Tier One. Corridor B could impact 4,060 acres of built-up land, which includes residential, commercial, industrial, and mixed use of a similar nature. Corridor C could impact 2,940 acres of built-up land; and Corridor D could impact 3,820 acres of built-up land. EPA is concerned about the amount of potential residential and commercial displacements that are possible for each action corridor.

### *Rare, Threatened and Endangered Species*

EPA is concerned about the magnitude of potentially impacted federally and state listed rare, threatened and endangered species. Of particular concern are the eastern brook trout, shale barrings rock cress, wood rat and Indiana Bat. Also of concern is the bald eagle, while no longer listed is under the protection of the Golden and Bald Eagle Protection Act. Dans Mountain WMA is a rich habitat area and unique resource that is known habitat to many Maryland state listed species. EPA remains very concerned about potential impacts to this resource and the species that inhabit the WMA. Additional coordination with Fish and Wildlife Service and appropriate state agencies will be necessary in Tier Two. EPA recommends that Service and state recommendations for surveys and avoidance and minimization of impacts to listed species



and habitat be followed.

EPA is concerned about potential wildlife passage issues with the proposed project for rare, threatened or endangered (RTE) species. Passage for these sensitive species should be addressed in Tier Two. Passage concerns for non-RTE species should also be included in Tier Two. Discuss what efforts can be/will be made to promote passage of both large and small animals from one side of the alignment to the other, as well as ways to decrease potential for animal/vehicle collisions and strikes.

### *Aquatic Resources*

- Tier Two coordination for aquatic resources should involve resource agencies, especially for field reviews. Coordination is necessary to help identify high quality, high value streams and wetlands. Efforts must be made to avoid and minimize impacts to these resources.
- The DEIS used the National Wetland Inventory (NWI) to identify the amount of wetlands that are potentially in each corridor. While NWI can be used to generalize potential wetland amounts, it does not replace the need for detailed site investigations and for waters of the U.S. to be delineated using the most recent supplements. In many cases there can be more wetlands on a site than are listed on NWI.
- In this ecoregion, which tends to be dominated by rolling hills and mountains, and narrow stream valleys, wetland systems are not usually as plentiful as they are in ecoregions in the eastern part of Maryland or West Virginia. EPA is concerned about the potentially large adverse wetland impact, especially in this area with comparatively fewer wetland resources. A commitment to continue to avoid and minimize impacts to wetlands and streams in Tier 2 should be emphasized by FHWA.
- Corridor B and corridor D could potentially impact Pinto Marsh, a Maryland Wetland of Special State Concern (WSSC). More information about this resource should be included in Tier Two, as well as information about state listed rare, threatened or endangered species that inhabit Pinto Marsh. EPA recommends avoiding adverse impacts to this resource as much as possible.
- Tier Two should include an in depth stream water quality data from monitoring, as well as detailed habitat assessment information and benthic macroinvertebrate data. This information is needed to help identify high quality streams that may need additional avoidance, minimization or mitigation efforts. Minimization techniques should include spanning or bridging aquatic resources. Tier Two should include information about perennial, intermittent and ephemeral streams that are in the corridor(s).
- Tier Two should begin to identify any necessary stream closure periods or steps to work with resource agencies to identify if stream closures are appropriate.

### *Farmlands*

Each of the action corridors could impact prime, statewide and locally important farmlands. Corridor C contains some lands in MD that are Agriculture Land Preservation Districts. Corridor D contains 67 acres of WV Preserved Farmland Easements. The selection of any of the action corridors could result in impacts to farmland and agricultural resources. Tier Two should



include avoidance and minimization of these resources.

### *Indirect and Cumulative Impacts*

The DEIS included a discussion of possible indirect and cumulative impacts that could result should an action alternative be selected. Additional more detailed indirect and cumulative impact assessment would be conducted in Tier Two. Tier One provides a less detailed evaluation of indirect and cumulative impacts. The indirect impact analysis used a one mile area around each possible interchange for the limits of their analysis, assuming that development would occur within this area impacting wetlands, streams, floodplains, forests, farmlands and historic resources that occur within the radius. Corridor B would have 6 interchanges indirectly impacting a total of 69 acres of wetland, 284,250 ft of perennial and intermittent stream, and 50 acres of flood plain. Corridor C would have 5 interchanges indirectly impacting 32 acres of wetland, 338,355 ft of perennial and intermittent stream, and 263 acres of flood plain. Corridor D would have 6 interchanges indirectly impacting 81 acres of wetland, 351,642 ft of perennial and intermittent stream, and 1,547 acres of floodplain. While the indirect impact analysis only evaluated impacts occurring within one mile of interchanges in Tier One, indirect impacts are not limited to this radius and can occur beyond one mile. Indirect impacts resulting from the ultimate construction of this project are significant. Additional evaluation and discussion of mitigation strategies or controls is needed in Tier Two.

### *Interagency Coordination*

EPA appreciates the efforts made to include the large number of government agencies with regulatory authority in the NEPA and permitting process. It is recognized that the project has an unusual situation of agencies also being landowners in the study area. This will require particularly careful coordination. It is appreciated that agencies were given the opportunity to review preliminary copies of NEPA documents prepared for the project, and it is hoped that this advanced coordination will continue through the tiered development of the project. It is also of note that comments from some agencies were not included in the final draft, and that errata pages were not forwarded. Other agencies did not receive copies of the final draft documents for review. The project is complicated as it spans two states and federal jurisdictions, but coordination will need to proceed (and improve) as the project continues.

Please find our attached comments made on the preliminary Tier One Draft EIS; these comments were not incorporated into the final DEIS.





**EPA comments US 220**  
Alaina DeGeorgio to: ben.l.hark  
Cc: Barbara Okorn

11/18/2010 10:06 AM

Hi Ben,

Below are EPA's comments on the US 220 Tier One pre-Draft EIS. Please contact us if you have any questions. We look forward to working with you on this project.

Thanks,

Alaina

-More detailed information is needed about Pinto Marsh and about state listed threatened, rare or endangered species that live there. We recommend avoiding this unique resource as much as possible.

-Dan's Mountain Management Area is an important natural area that is proposed to be affected by TS-B. While we appreciate that TS-A was dropped from further consideration for potential impacts to Dan's Mountain, we suggest that impacts to this area by TS-B be avoided and minimized to the maximum extent practicable. We are also concerned about the eastern brook trout that may have habitat in streams along the eastern face of Dan's MT in these areas. We recommend that further coordination and consultation with FWS and other agencies be completed on this issue.

-Coordination and consultation will also be needed for the various other potential impacts to federally and state listed T&E species. We are concerned about the magnitude of potentially impacted species. Of particular concern are the wood rat, and shale barrings rock cress. We defer to the expertise of FWS in this area.

- More detailed information is needed for wetlands and streams within each transportation scenario. Further information is needed about the quality of resources within these corridors in order to determine if a particular corridor is environmentally preferable. At this time, we do not feel as though we have enough detailed information to make an informed decision on which transportation scenario should be carried forward to Tier 2.

-Steps and decisions that will be taken during Tier 2 should be clarified. We recommend that more than one transportation scenario be carried forward into Tier 2 for more detailed analysis. With the level of information provided in Tier 1, it is difficult to discern the true amount of adverse impact between scenarios. It would be helpful to discuss how much opportunity for avoidance and minimization of impacts to resources exist within each scenario.

-How frequently are air attainment areas assessed and re-evaluated? The limited air data provided is from 2006. If possible, provide the most up to date air information. Be sure to include all attainment and air quality information beyond ozone and particulate matter, which were included in the draft. In section 4.6.1, it is assumed that mobile source air toxics (MSAT's) will decrease as a result of outside forces, and lower than values were used in analysis. It may be more prudent to use current amounts of MSAT's for analysis, it may give a more accurate representation of worse case scenario. It shouldn't be assumed that outside forces will lower MSATs. We also question the use of CO concentrations as the sole indicator of National Ambient Air Quality Standards (NAAQS).

-Effects analysis for community facilities and parks and recreational areas only discuss possible positive impacts, without analysis of any possible negative impacts. The document states that impacts will be analyzed in Tier 2, however we recommend that some level of analysis be included in Tier 1. A discussion of facility displacements and lost of park or recreational land should be included.

-Noise analysis was not included in the document. Is noise planned to be addressed in Tier 2. A description of the existing noise environment should be included in the affected environment section. Discussion of potential noise volumes during construction and post-construction should be included. While specific volumes may not be available at this time, a general discussion and inclusion in the document would be beneficial. It is difficult to evaluate noise impacts on potential noise sensitive areas bases solely on the quantity. Please included a more how noise is being addressed in tier 1 and tier 2.

-A discussion of potential environmental mitigation for unavoidable adverse impacts should be included.

-More detailed information about proposed interchanges should be included in the conclusions.

-Additional information is needed about the projects connection to Corridor H. It isn't clear where this project is in terms of planning, construction, authorization, planned opening date, capacity, etc.

-Clarification is needed for watersheds and subbasins given in Section 3.3.1.2. Subbasins refer to the HUC 8 size, ie North Branch of Potomac and South Branch of Potomac subbasins. Georges, Wills, Evitts, Patterson, and New Creeks all appears to be located within the North and South Branches of the Potomac subbasins. Please keep HUC levels consistent. It would also be helpful to breakdown impacts to streams and wetlands at the subwatershed level. This information would be helpful in assessing potential impacts associated with each scenario.

-Cumulative impact section needs to be more in depth. Impacts to affected resources should be considered, in addition to listing what other projects are in the area. Section 4.8.2.3 says that cumulative impacts are expected to accrue at a comparable existing trends and likely to be absorbed by development. Please clarify what this statement was intended to imply. It seems to be suggesting that cumulative effects are minimal or that they do not warrant mitigation. Without the proper cumulative effects analysis conducted it should not be stated that cumulative effects are minimal.

-Section 4.11.2 Construction Effects Analysis needs more detail. How long is the construction period expected to be, will the project be completed in sections, how long are temporary construction impacts expected for local residents? Clarify what information will be provided in Tier 2, for example road and traffic closures, staging areas, erosion and sediment controls, disposal of road cut waste, air/fugitive dust, etc. Impacts from construction should be evaluated in the environmental consequences section by resource.

-Section 4.1.3.2 Environmental Justice Effects analysis needs more detail and some clarification. There is no relationship between the size of the EJ community/impacted population and the existence of an EJ concern. Many times at-risk populations are small in number. This information should be reflected in the document. Maps outlining the location of at-risk populations in the study area, as well as tables that include screening thresholds, census tract percentages and block group percentages for minority and low-income populations should be included. The EJ assessment should take into consideration the localization of impacts, proximity to population, multiple impacts, displacements, hazards such as fugitive dust, and any other potentially adverse impacts that may affect populations of concern. Information should be provided to discuss how potential for adverse impacts would be evaluated. Consider the possible need to translate documentation into other languages. Potential benefits to minority and low income populations should also be discussed. Table ES-2 indicates that there is a potential for impacts that may be of EJ concern. Explain what these concerns are and who may be adversely impacted by them and why. It should also be noted that data used in the assessment is now ten years old, and may not be representative of current populations. Additional outreach and data gathering to assure that areas of concern identified by cursory assessment accurately represent those populations.

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Alaina DeGeorgio  
EPA Region III

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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January 2, 2013

Jason Workman  
Federal Highway Administration- West Virginia  
Geary Plaza, Suite 200  
700 Washington Street E  
Charleston, West Virginia 25301

Jeanette Mar  
Federal Highway Administration  
DelMar Division  
10 South Howard Street  
Suite 2450  
Baltimore, Maryland 21201

Dear Mr. Workman and Ms. Mar:

The U.S. Environmental Protection Agency (EPA) reviewed and provided comments on the July 2011 Tier 1 Draft Environmental Impact Statement (DEIS) for the National Highway System Corridor between I-68 and Corridor H, US 220, Maryland and West Virginia in a letter dated October 28, 2011. In this letter, EPA identified issues in each of the alternative corridors evaluated in the DEIS and rated each of the action alternative corridors as Environmental Objections ("EO") and the adequacy of the document as "2" (insufficient information). The Environmental Objections rating is the second harshest rating that EPA can give to an EIS, and requires EPA (EPA Policy and Procedures for the Review of Federal Actions Impacting the Environment, 1984) to meet with the lead agencies "to describe the specific EPA concerns and discuss ways to resolve those concerns, to ensure that the EPA review has correctly interpreted the proposal and supporting information, and to become aware of any ongoing lead agency actions that might resolve the EPA concerns". Along with EPA, several other environmental agencies also raised concerns about portions of the proposed alternative corridors, including Maryland Department of the Environment (MDE), Maryland Department of Natural Resources (DNR), Department of Interior-Fish and Wildlife Service, and the U.S. Army Corps of Engineers- Baltimore District. EPA agreed to be a cooperating agency on this project on June 14, 2006.

EPA understands that FHWA is undertaking the environmental study as a tiered process and that at the Tier 1 phase, it is the desired outcome to eliminate some corridors from review in order to focus the effort in Tier 2 on a more limited area. It is in Tier 2 that a specific alignment within a corridor is evaluated. It seems to be assumed that avoidance of resources can be made when the alignment is selected within the 4000 foot corridor; but, it has been seen that in some portions of the corridors, high value resource is present over the entire width of the corridor, and alternatives to the corridor, or portions of the corridor, should be considered.

The immediate task at hand is to respond to the request for input on the proposed crossover/modification of corridor C suggested by MDE. On November 28, 2012, Federal Highways- DelMar and West Virginia Divisions convened a meeting with the regulatory agencies to discuss the team's recommendation for preferred alternative. At that time, attendee's heard about the comments received at various public meetings and hearing, as well as how FHWA was planning to address those comments. Agencies, including EPA, expected responses to their comment letters, which had been sent more than a year before. The interagency team expected that consideration and discussion of issues would take place during the process of selection of a preferred alternative corridor. During the November meeting, it was pointed out that MDE's 2011 comments on the DEIS raised a new crossover alternative corridor; it had been recommended that the crossover be evaluated before selection of a preferred alternative. It is this crossover option from corridor B to corridor C in the area of McKenzie that has been since sent out for agency comment, which has been requested by January 2, 2013.

EPA supports retaining one or more crossover option for more detailed analysis in the Tier 2 EIS study for US 220. EPA is supportive of evaluating these crossover options, as utilizing a crossover may significantly reduce impacts to highly sensitive resources evaluated in the EIS, particularly Dans Mountain Wildlife Management Area and the Chesapeake-Ohio Canal. EPA expressed concerns for both of these important areas in our October 2011 letter. Also in our letter, we encouraged that more than one corridor be carried forward into the Tier 2 EIS process. Including a crossover option and/or a modified corridor C would allow for more alignment options and flexibility to avoid and minimize impacts to resources in the next Tier. In addition to the northern crossover options raised by MDE, EPA would also like to recognize a southern or mid-corridor option as well. We have heard concerns about carrying forward a full corridor C; while we recognize that the full length of corridor C may have opposition and limited ability to meet the purpose and need, portions of corridor C may remain viable. EPA recommends that from the northern crossover locations at McKenzie south to where corridor C meets corridors D, near Ridgeville, West Virginia, be retained allowing the southern portion of C below existing 220 be dropped.

This modified corridor C, or crossover options north and south, are especially important considering the need for future Clean Water Act Section 404 permits. Should FHWA only choose to carry forward one corridor into Tier 2, EPA may not be able to support the selection of any alignment within that corridor as the least environmentally damaging

practicable alternative (LEDPA). Without the consideration of a full range of practicable alternative, it cannot be assumed that an alignment in FHWA's preferred corridor is the LEDPA. By carrying forward and evaluating, a portion of corridor C or corridor C modified in addition to corridor B, it allows for a broader alternatives analysis to be conducted as well as a more detailed environmental impact analysis in Tier 2. The inclusion of a corridor C modified and a crossover option are even more important based on the FHWA's project team's stated desire to retain an upgrade of existing roads option for corridor D in West Virginia. Should corridor C modified/crossover be retained, it would intersect the upgrade of existing US 220 in corridor D at Ridgeville, WV.

The upgrade of existing roads was not an alternative corridor that was evaluated and retained for the detailed study in the Tier 1 DEIS. It is not clear how the recently proposed upgrade of existing US 220 only in West Virginia will meet the project's state purpose and need. Nor is it clear why an upgrade of existing roadways, including US 220, in Maryland is not feasible if upgrading in West Virginia is. Should FHWA desire carrying an upgrade of existing roadways in corridor D forward into Tier 2, EPA would recommend that an upgrade of existing roadways throughout the entire corridor be carried forward as opposed to only in one state. EPA feels that modifying corridor D to an upgrade of existing roads in West Virginia represents a significant change from the originally proposed corridor D, which did not follow/mirror existing US 220 in its entirety, but diverged from existing US 220 east of Ridgeville rejoining US 220 along Mill Creek east of the Hampshire and Mineral County line. While EPA generally agrees that upgrading an existing roadway may reduce environmental impacts compared to building on new alignment, it should not be assumed without supporting analysis that upgrading existing roadways in this area will achieve the project purpose and need, or represent avoidance and minimize of impacts to resources. It would be reasonable to include analysis of this, or a combination of upgrading existing US 220 in corridor D along with a portion of new corridor/alignment, to determine if it might be a viable alternative to be carried to the Tier 2 study.

Based on the comments EPA has provided in our October 28, 2011 letter, verbally at recent project meetings and in this letter, as well as in consideration of other comments raised by other resource agencies, EPA requests another project meeting with all of the involved resource agencies prior to the release of the FEIS. Resource agencies, including EPA, would like an opportunity to hear how FHWA has considered and is responding to agency comments. A discussion of crossover options as well as a modified corridor C option is warranted and necessary. We have found that working with the lead agency in advance of release of a document and discussing agency concerns, especially when cooperating agencies have significant concerns, greatly reduces negative comments on the finalized document, gives the public a greater sense of agency cooperation, and results in a better, more effective project.

Thank you for your continued consideration of EPA and other resource agency comments regarding the US 220 Tier 1 DEIS. We anticipate meeting with you or your representatives soon to discuss agency comments on this project. The staff contact for this project is Alaina McCurdy; she can be reached at 215-814-2741.

Sincerely,



Barbara Rudnick  
NEPA Team Leader

CC List: Anne Elrays, MD SHA  
Kameel Hall, MD SHA  
Ben Hark, WV DOH  
Mary Frazer, USACE Baltimore  
Sarah Workman, USACE Huntington  
Mitch Keiler, US FWS  
Tony Redman, MD DNR  
Elder Ghigiarelli, MDE  
Paul Wettlaufer, RKK

From: McCurdy, Alaina [mailto:McCurdy.Alaina@epa.gov]

Sent: Wednesday, April 03, 2013 2:43 PM

To: Anne Elrays

Cc: Kameel Hall; Rudnick, Barbara

Subject: RE: follow up to March IRM

Anne,

I am glad that SHA also feels a meeting would be prudent. Below are some minutes/notes that I have prepared and recently shared with the other resource agencies. These bullets are in addition to concerns and comments raised in our earlier letters on the DEIS and January 2013 letter on crossovers, we still stand by and reiterate those comments. Please let me know if you would like any clarification or to discuss the notes below.

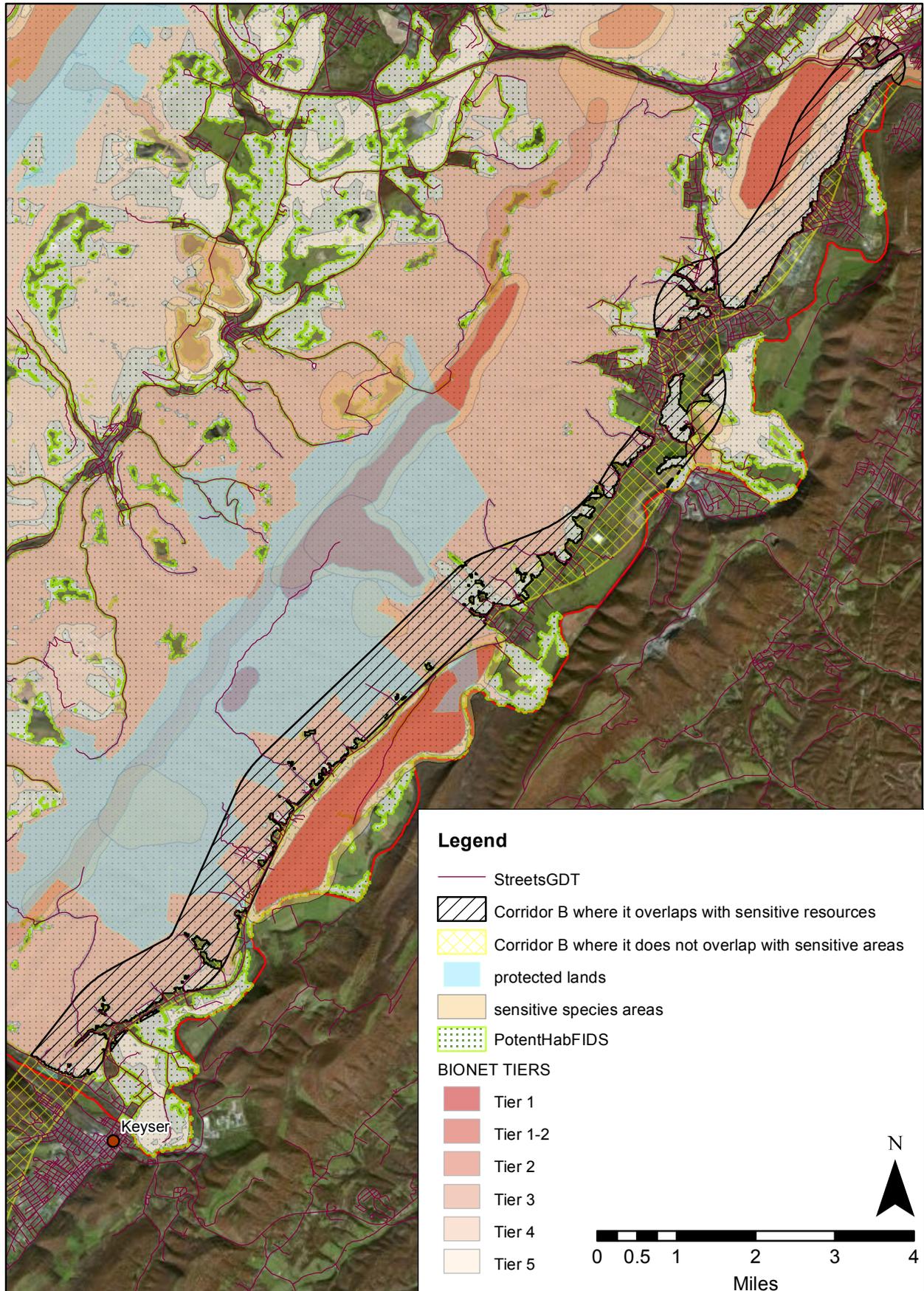
Thanks,

Alaina

- Viewed potential crossover location along 956. Need more detailed information about northern crossover areas. I understand that a white paper is being prepared by FHWA/DOTs on these crossovers. This information should be shared with the resource agencies in order to have an informed discussion on the crossover options. Without more detailed information the viability of the options cannot be determined.
- Concern about viability of corridor B, especially whether any alignment within the entire 4,000ft is feasible in next tier. Concern that there are many areas in corridor B where sensitive resources, including Dans Mt WMA, comprise the width of the entire corridor or significantly constrain the corridor and therefore future alignments. Recognize that yes this is a tiered document, but mapping should be done using publically available data, especially DNR data, to further evaluate corridor B. (See attached map as a starting point.) Additionally, given the apparent constraints in Corridor B, portions of corridor C or option should be carried forward into Tier 2 as specific alignments are identified and evaluated.
- Concern that upgrade of existing US220 in Maryland is not included or proposed to be retained into Tier 2, despite upgrade of existing roads being proposed to be retained in WV. Concern that upgrading on existing US 220 may be only/most viable alternative moving forward. A characterization of the roadway needs to be completed and discussed. Some areas appear to have potential and more analysis is needed. Clarification on the upgraded of existing roads presented at last meeting should be given.
- Numerous state RTE species and associated habitat was identified by Dan Feller during our field view. Concern that many of these species occupy the corridor or habitats directly adjacent, and could be adversely affected by the proposed action. Karst topography occupies portions of the corridor- these areas need to be mapped. Concern for species and resources, particularly Pinto Marsh, Pinto caves, and rare cave fauna, that are/may be adversely affected by changes in ground water hydrology linked to karst topography.

-----  
Alaina McCurdy  
Office of Environmental Programs  
U.S. EPA Region 3  
1650 Arch Street  
Philadelphia, PA 19103  
phone: (215)814-2741  
fax: (215)814-2783

# US 220 Corridor B and Environmental Resources





# MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230  
410-537-3000 • 1-800-633-6101

Martin O' Malley  
Governor

Robert M. Summers, Ph.D.  
Secretary

Anthony G. Brown  
Lt. Governor

October 28, 2011

Mr. Greg Bailey  
Director  
Engineering Division  
West Virginia Division of Highways  
Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, WV 25305

Re: US 220 Tier One Draft Environmental Impact Statement

Dear Mr. Bailey:

This is in reply to the circulation of the Tier One Draft Environmental Impact Statement (DEIS) for the National Highway System Corridor along US 220, from I-68 to Corridor H. Thank you for the opportunity to comment on this DEIS. We look forward to continued coordination with you during the project development activities.

The State of Maryland has continued concerns regarding the project's impact to Dans Mountain Wildlife Management Area (WMA), a resource that is protected by Section 4(f) of the U.S. Department of Transportation Act of 1966, and Pinto Marsh, which has been designated by the State of Maryland as a Nontidal Wetland of Special State Concern. While we appreciate that Corridor A has been dropped from consideration, we continue to have concerns with Corridors B and D, which skirt the east side of the WMA and have the potential to impact Pinto Marsh.

It is apparent from Chapter 6.0 - Findings and Conclusions, that Corridor B is likely to be carried forward to Tier Two, while Corridor C will face substantial opposition from the National Park Service (NPS) due to its impact to two NPS-owned properties - the C&O Canal National Historic Park and the Western Maryland Railway. To preserve the ability to completely avoid the Dans Mountain WMA and Pinto Marsh, we request that consideration be given to retention of a modified Corridor C which would connect to Corridor B in the northern portion of the study area. The connector could depart the WV Route 9 corridor south of Short Gap, and veer in a northwest direction to a new crossing of the North Branch Potomac River just to the east of the community of McKenzie. The alignment of the connector could continue in a northwest direction to a merger with Corridor B in Cresaptown.

This hybrid corridor would avoid the two NPS-owned Section 4(f) resources, as well as nine of the other 11 Section 4(f) properties impacted by Corridor C, making it the least damaging alternative to Section 4(f) resources. This hybrid corridor would continue to provide new access to the WV Route 28 business corridor and the WV Route 46 industrial corridor, while avoiding impacts to Mexico Farms Airport and Industrial Park. The hybrid would also avoid impacts to the community located along WV Route 28 from Short Gap to Wiley Ford. We realize this alternative has the potential to result in the greatest impact to

agricultural land; however, according to the DEIS, it is also expected to result in the fewest residential, commercial, and industrial displacements.

Thank you for your consideration of this suggestion. We look forward to continued coordination on this matter. If you have questions or concerns, please contact Mr. Paul Wettlaufer at 410-462-9139.

Sincerely,



Elder Ghigiarelli, Deputy Program Administrator  
Wetlands and Waterways Program

Cc: Barrett Kiedrowski, MDSHA, Project Management Division  
Lori Byrne, DNR  
Mary Frazier, USACE  
Aliana DeGeorgio, EPA  
Joe Romano, Skelly and Loy  
Paul Wettlaufer, RKK  
Sean McKewen, MDE, Nontidal Wetlands Division





Martin O'Malley, Governor  
Anthony G. Brown, Lt. Governor  
John R. Griffin, Secretary  
Eric Schwaab, Deputy Secretary

October 23, 2007

Mr. Bruce M. Grey  
Maryland Department of Transportation  
State Highway Administration  
707 North Calvert Street  
Baltimore, MD 21202

**RE: Revised Environmental Review for Project No. AW896 - NHS Corridor H - US  
Route 220 Tier One DEIS, Allegany County, Maryland.**

Dear Mr. Grey:

The Wildlife and Heritage Service's database indicates that there are the following records for rare, threatened or endangered species (RT&Es) occurring within the boundaries of each alternate as delineated on your maps. It is also possible that these species could be present in other areas of the project site, but not documented at this time. Please note that the utilization of state funds or the need to obtain a state-authorized permit may warrant additional evaluations that could lead to protection or survey recommendations by the Wildlife and Heritage Service. We look forward to further coordination on these resource issues as the project moves forward and further details become available.

#### Alternate A

Within this alternate there is a nest site of the state rare Common Raven (*Corvus corax*), located on the south side of Route 68, near Hoffman Hill. We generally recommend that no disturbance within an approximate ¼-mile radius of the nest occur during the Common Raven breeding season of any given year.

Within one mile to the west of Dans Rock Lookout Tower there are breeding records for the Henslow's Sparrow (*Ammodramus henslowii*), a state-listed threatened breeding species in Maryland. This species utilizes meadow/ grassy field habitat during the breeding season.

On a section of Dans Mountain ridge (on the Keyser USGS Quad) there is habitat that supports the state rare Harebell (*Campanula rotundifolia*), state-listed endangered Maple-leaved Goosefoot (*Chenopodium gigantospermum*), and state-listed threatened Climbing Fumitory (*Adlumia fungosa*). These plants are often associated with rocky outcrops.

To the North, along the ridge of Dans Mountain (from Wolf Rock to Dans Rock) there are records for the following:

| <u>Scientific Name</u>            | <u>Common Name</u>         | <u>State Status</u>     |
|-----------------------------------|----------------------------|-------------------------|
| <b>Animals</b>                    |                            |                         |
| <i>Neotoma magister</i>           | Allegheny Woodrat          | Endangered              |
| <i>Plethodon wehrlei</i>          | Wehrle's Salamander        | In Need of Conservation |
| <i>Nymphalis vaualbum</i>         | Compton Tortoiseshell      | Endangered              |
| <i>Accipiter striatus</i>         | Sharp-shinned Hawk         | Rare (breeding)         |
| <i>Erethizon dorsatum</i>         | North American Porcupine   | In Need of Conservation |
| <i>Lynx rufus</i>                 | Bobcat                     | In Need of Conservation |
| <b>Plants</b>                     |                            |                         |
| <i>Amelanchier humulis</i>        | Running Serviceberry       | Threatened              |
| <i>Chenopodium standleyanum</i>   | Standley's Goosefoot       | Endangered              |
| <i>Chenopodium gigantospermum</i> | Maple-leaved Goosefoot     | Endangered              |
| <i>Oryzopsis racemosa</i>         | Black-fruited Mountainrice | Threatened              |
| <i>Adlumia fungosa</i>            | Climbing Fumitory          | Threatened              |
| <i>Cornus rugosa</i>              | Round-leaved Dogwood       | Endangered              |

These species were all observed in the high-elevation open rocky wooded areas, and most were associated with sandstone outcrops.

Also of concern to WHS is for the Timber Rattlesnake (*Crotalus horridus*). While this species is not a state-listed species in Maryland, (it is considered Watchlist) it may be especially vulnerable to impacts from a project such as this highway proposal.

### Alternate B

There is a record for the Harebell south of the Ridgedale Reservoir and north of the Potomac River in this alternate, on a south-facing hillside just north of the railroad tracks. This population is located along the steep calcareous cliffs here.

### Alternate C

Across Evitts Creek and just north of the Cumberland Country Club in this alternate, on a southern-facing slope there is a shale barren habitat that supports:

| <u>Scientific Name</u>        | <u>Common Name</u>        | <u>State Status</u>     |
|-------------------------------|---------------------------|-------------------------|
| <i>Trifolium virginicum</i>   | Kate's-mountain Clover    | Threatened              |
| <i>Melica nitens</i>          | Three-flowered Melicgrass | Threatened              |
| <i>Euchloe olympia</i>        | Olympia Marble            | In Need of Conservation |
| <i>Bouteloua curtipendula</i> | Side-oats Grama           | Rare                    |

**Alternate D**

The WHS has no records of RT&E species occurring within this alternate route.

**Alternate B/D**

There is a 2-3 acre marshy pond known as Pinto Marsh that is located off of Route 53 north of the Pinto area on this alternate route. This wetland is designated in state regulations as a Nontidal Wetland of Special State Concern (NTWSSC) and this NTWSSC is regulated, along with its 100-foot upland buffer, as an NTWSSC by Maryland Department of the Environment. There is a breeding record of the state rare Sora (*Porzana carolina*) observed in this wetland.

The Pinto Mine in this area supports the state-listed endangered Franz' Cave Isopod (*Caecidotea franzi*), the Franz' Cave Amphipod (*Stygobromus franzi*) and the Eastern Small-footed Myotis (*Myotis leibii*), the latter two species with In Need of Conservation status in Maryland. In addition to direct adverse impacts, it is important to consider degradation of water quality or changes in hydrology that would affect the groundwater of this cave system.

The top of the cliffs on the north side of the railroad tracks in the Pinto area are known to support a population of state-listed endangered Cliff Stonecrop (*Sedum glaucophyllum*). This occurrence is found on a limestone outcrop on the cliffs here.

**Alternate E**

The WHS has no records of RT&E species occurring within this alternate.

**Overall Study Area:**

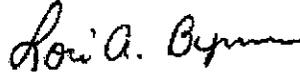
Also of concern to the WHS is the potential for impacts to the Indiana Bat (*Myotis sodalis*), a species listed as endangered at both the Maryland state and Federal levels. There are known winter hibernacula occurring in the area of all of these proposed alternate routes. This species is thought to utilize ridges for its migration corridors, and may also summer in forested areas along the proposed alternates, especially along the forested edges.

For the overall area of the project site, our analysis of the information provided suggests that the forested area on or adjacent to the project site contains Forest Interior Dwelling Bird habitat. Populations of many Forest Interior Dwelling Bird Species (FIDS) are declining in Maryland and throughout the eastern United States. The conservation of FIDS habitat is strongly encouraged by the Department of Natural Resources.

Page 4

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,



Lori A. Byrne,  
Environmental Review Coordinator  
Wildlife and Heritage Service  
MD Dept. of Natural Resources

ER #2007.0754.al  
cc: R. Dintaman, ERU  
E.L. Thompson, WHS  
D. Feller, WHS  
G. Golden, ERU



**MARYLAND**  
DEPARTMENT OF  
NATURAL RESOURCES

**RECEIVED**  
NOV 21 2011  
ENGINEERING DIVISION  
WV DOH

*Martin O'Malley, Governor*  
*Anthony G. Brown, Lt. Governor*  
*John R. Griffin, Secretary*  
*Joseph P. Gill, Deputy Secretary*

November 9, 2011

Mr. Greg Bailey  
Engineering Division  
West Virginia Division of Highways  
Capitol Complex, Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, West Virginia 25305

RE: Tier One Draft Environmental Impact Statement for the National Highway System Corridor between I-68 and Corridor H, US 220, Maryland and West Virginia, July, 2011.

Dear Mr. Bailey,

The Maryland Department of Natural Resources (DNR) has reviewed the Tier One Draft Environmental Impact Statement (DEIS) for the National Highway System Corridor between I-68 and Corridor H, US 220

The purpose of the proposed action is to develop an improved north-south transportation corridor that will become part of the National Highway System. The need for the proposed project is due to geometric deficiencies on the existing US 220 alignment and parallel roadways, inadequate roadway capacity, safety deficiencies in roadway safety and the need to provide additional system linkage to complete the regional road network. We continue to support the proposed project based on the purpose and needs that have been identified. However, we find that the alternative corridors identified for possible alignments all hold potential to result in significant adverse environmental impacts.

We believe that focus on specific alignment, rather than the 4,000 foot wide corridors evaluated in the subject EIS, may result in a more precise identification of impacts and offer opportunities to avoid or minimize impacts. Until such time as more precise alignments can be identified, we recommend that multiple corridors, in addition to the No Action alternative be retained for further study in Tier Two.

We offer the following observations and comments to support your efforts to finalize the Tier One EIS and to guide the process of ongoing evaluation of potential impacts resulting from this project as continued efforts are made toward selection of final alternatives to be pursued.

- The DEIS discussed several alternative corridors for this highway that were initially considered but not retained for further study. We continue to support the decision to drop Corridor A from further consideration due to the impacts it would have to Dan's Mountain Wildlife Management Area. Alternate A would have literally bisected this Wildlife Management Area which at 9,400 acres is the largest such area in the State of Maryland.
- While most of the resource impacts associated with Corridor E were outside the State of Maryland, we continue to offer our cooperation and support of the study team and the West Virginia Agencies which identified the wide range of impacts to resources that led to dropping Corridor E from further consideration.
- Overall the draft EIS accurately conveyed the issues and concerns that have been raised by resource professionals and the general public regarding potential impacts to Dan's Mountain Wildlife Management Area (DMWMA). Most of the observations were accurate and the stated intent to avoid or minimize impacts to DMWMA was pervasive throughout the document. Chapter 7 page 7.2 lists several special concerns about impacts to DMWMA that were previously identified at the second field review by State resource professionals. In this same section, public comments from the Allegany County meeting reflected concerns for any impact to the WMA, and several suggested that no corridor should impact or be located near the WMA.
- Similarly in Section 7.1, the US Fish and Wildlife Service discussed concerns for potential impacts to DMWMA and the fact that Federal Funds have been used to purchase and maintain projects on the area. Overall, concerns related to DMWMA are mentioned in the following sections of the draft EIS: Preface, page 8, page 12, Chapter 1, page 34, Chapter 2, page 8 and 34, Chapter 4, page 37, Chapter 6, pages 6 and 7, pages 2 and 3.
- Other references made to DMWMA require additional clarification. In Chapter 3, page 21 the reference to Dan's Mountain State Park being located within the WMA is inaccurate. The State Park is a separate DNR land holding located near the WMA.
- Dan's Mountain Wildlife Management Area is described on page 3-21 as having an approximate size of 9,200 acres. The actual current acreage of DMWMA is approximately 9,600 acres. A similar reference to the size of the WMA as 9200 acres located on page 4-33 and should also be revised to approximately 9,600 acres.
- The Recreational Activities attributed to DMWMA in Chapter 4, page 33 are correct except for the reference to swimming. Swimming should be associated only with the State Park instead of the WMA.
- Impact assessment for wildlife and their associated habitats are difficult to quantify at the Tier One level due to the scale and general location of the routes. In Section 7.1, reference is made to USFWS correspondence raising many issues, including potential impacts to several federally listed animal and plant species. They also expressed

concern for wetlands, riparian areas, and streams in the proposed study area. Our Natural Heritage Ecologists have provided additional supplementation on state listed species and sensitive habitats. As potential corridors are refined, however additional reviews will be necessary to improve accuracy of the findings.

- DNR has identified Mill Run, located along the TS-B corridor near Rawlings to be occupied by Brook Trout. Not all streams on the eastern slope of Dan's Mountain have been assessed for brook trout habitat or populations. DNR field personnel indicate that locals claim one other stream, located a little farther north of the Mill Run near Rawlings, is also occupied by a Brook Trout population. We recommend that aquatic sampling should be done in all streams along the eastern slope of Dan's Mountain during Tier Two to more precisely map the location of brook trout populations to better assess potential impacts associated with Corridors B and D.

Once Streams with Brook Trout populations or habitat have been identified we encourage every effort be made to avoid and minimize impacts to these streams and adjacent riparian habitats to the maximum extent practicable. Any unavoidable impacts should be mitigated. Mitigation measures should include measures to ensure fish and aquatic organism passage at project-related structures, avoid erosion and the introduction of sediment into brook trout streams, prevent the introduction and spread of non-native invasive plants and aquatic organisms, and maintain stream flow and temperature regimes suitable for brook trout survival and reproduction.

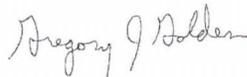
- Corridor's B and D could potentially impact Pinto Marsh, a Maryland Wetland of Special State Concern. More information about this resource should be included in Tier Two as well as information about state listed rare, threatened or endangered species that inhabit Pinto Marsh. DNR encourages avoidance of adverse impacts to this resource to the extent possible.
- DNR is also concerned about the potential impacts to federally and state listed rare, threatened and/or endangered species including shale barrings rock cress, wood rat, and Indiana Bat. We have coordinated our review with other review agencies including the USACOE, EPA and USFWS and share their concern that additional coordination among appropriate state and federal agencies will be necessary in Tier Two to avoid and minimize impacts to these species and their habitat.
- One final comment relates to the proposed I-68 interchange of the Corridors B and D proposals in Chapter 6, page 4. Depending on the specific location of the interchange in the vicinity of Old Macdonald Road, this project has the potential to impact several R, T&E species, as well as sensitive habitats. It also has the potential to disrupt a significant wildlife travel corridor between mile markers 34 and 42 on I-68. We have documented numerous wildlife/vehicle collisions, most notably deer and bear in this area over the past several years.

We have been coordinating our review with the Environmental Protection Agency, US Fish and Wildlife Service and US Army Corps of Engineers and are in support of their comments.

As we continue our review and coordination efforts concerning this project, we are assuming you will continue to be evaluating impacts associated with prospective alignments within Corridors B, C and D as well as the do nothing alternative as part of the Tier II EIS. If this is not the case and a decision might be made to eliminate any of these alternative corridors from further consideration, we ask that you let us know immediately.

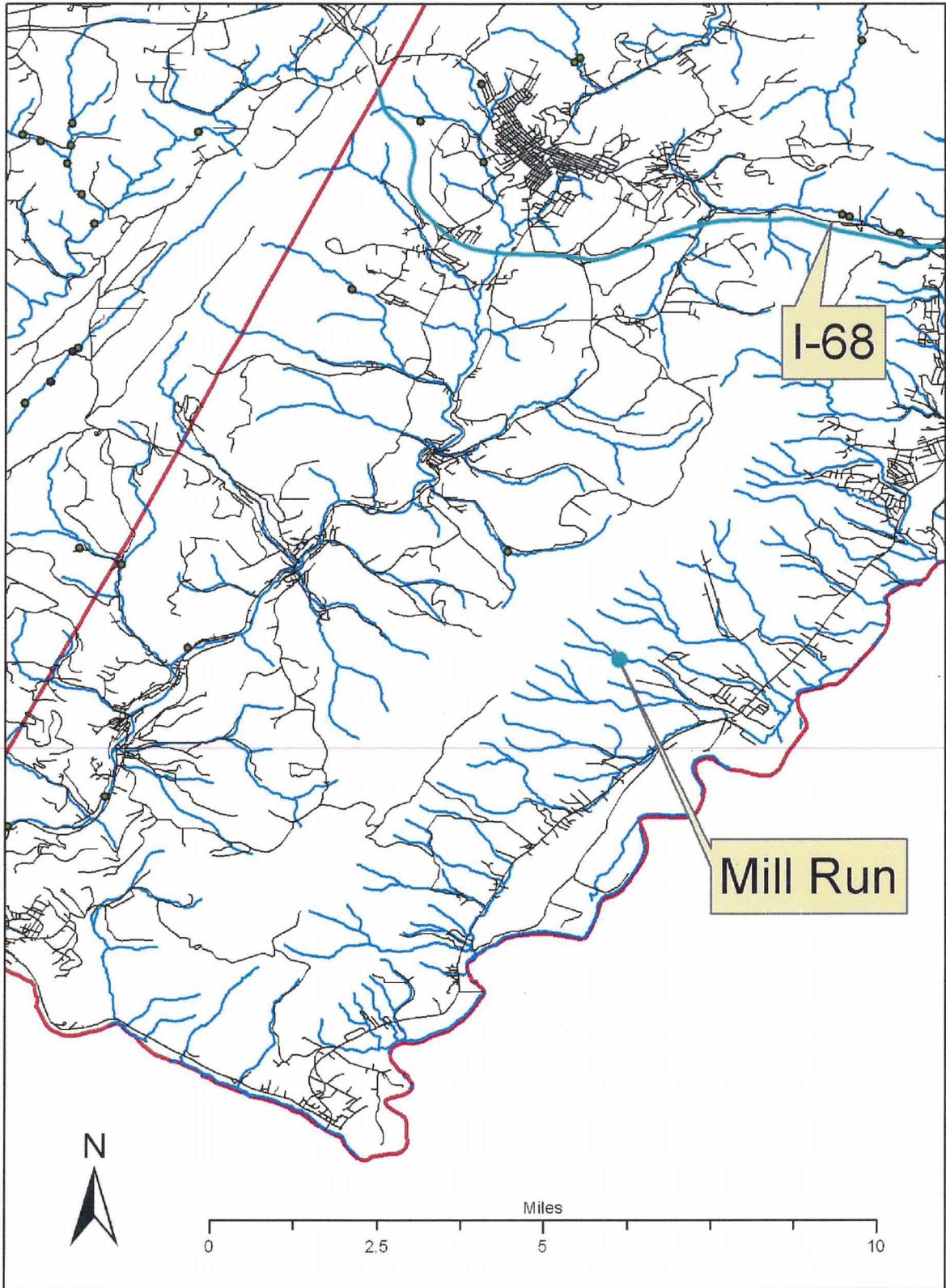
We thank you for the opportunity to comment on this project and recognize addressing and reconciling our comments with those of others will require additional effort as part of Tier Two. We trust you will give careful consideration of these comments as the project advances through future stages of impact assessment, design and construction. If you have any questions concerning these comments, please feel free to contact Mr. Tony Redman of our unit at 410-260-8336 or by email at [tredman@dnr.state.md.us](mailto:tredman@dnr.state.md.us).

Sincerely:



Greg Golden  
Director, Environmental Review Unit  
Maryland Department of Natural Resources

CC: Jeff Blanton  
Joe Kresslein



March 20, 2013

To: Joe Kresslein  
Assistant Division Chief  
Environmental Planning Division NEPA Compliance Section  
Maryland State Highway Administration.

From: Tony Redman  
Maryland Department of Natural Resources

With this memo I am requesting the US 220 project be brought back for discussion by the interagency review team. I believe our continuity in interagency review processes in Maryland should not be altered by this project in deference to West Virginia. I recognize the project outcome may be the same but I also believe we need further discussion of a "modified corridor C" that includes crossover options from C to B at the northern end of the B corridor.

In the past I have expressed concerns regarding the review process for the US 220 project. The process has appeared to me to be much less transparent than the typical project give and take interactions with SHA which I have grown to appreciate and to which I have become accustomed. I also have concerns that I saw no opportunity for concurrence on the decision to focus on only one of the corridors (B). Obviously, my concerns are in large part based on an interest in minimizing impacts to DNR's holdings at Dan's Mountain WMA and Pinto Marsh.

I have recently been told that the final US 220 Tier One EIS has been released to FHWA for review. This came as something of a surprise since it was my understanding that several crossover options from corridor C to northern portions of B were under study based on agency comments on the preliminary draft EIS. In fact, it was my understanding that the results of examining the crossover options would be provided to review agencies before the final EIS would be released.

Several months ago, both Maryland DNR and MDE suggested that crossover options from C to B at the northern end of the B corridor be examined. EPA

and USFWA supported our suggestion. Three optional locations for crossover locations were provided by SHA several months ago and it was my understanding that these crossover options would be investigated and that the results would be reported out to participants in the Interagency Review Team. We fully expected such examination would be performed since SHA sent us the 3 alternative locations for such a crossover to better define the area to be evaluated.

DNR continues to believe that alternative B holds great potential to result in significant adverse environmental impacts to Pinto Marsh, Dan's Mountain Wildlife Management Area and several state listed rare, threatened and endangered species of concern to DNR including Wood Rat, rock cress, shale barrens and Indiana Bat. This concern is underscored by our apprehension that alignment alternatives will be limited to locations only within the 4,000 foot width within corridor B. Our recent efforts to map resources in the corridor suggests that such an alignment cannot be established within the corridor without impact to 4F resources. For these reasons an "all the eggs in one 4,000 foot wide basket" approach would appear foolish at this juncture.

As you know, we have indicated in the past that until such time as more precise alignments can be identified, that portions of Corridor C should be retained for further study in Tier Two.

We also believe greater opportunity to discuss both alternative corridors, the crossover option and their respective impacts in the interest of attempting to achieve concurrence in project direction should be afforded process participants.

## MEMO

**To:** Gregory L/ Bailey, Director, Engineering Division, West Virginia Dept. of Transportation

**From:** Bihui Xu<sup>B. Xu</sup>, Transportation Planning, Maryland Dept. of Planning

**Date:** November 1, 2010

**Subject:** NHS Corridor between I-68 & Corridor H - Preliminary Draft Tier One EIS

**CC:** Bill Atkinson, Western MD Regional Office, Maryland Dept. of Planning  
Kameel Hall, Maryland State Highway Administration

We reviewed this Preliminary Draft Tier One EIS and appreciate the EIS document includes the information on the Maryland's Smart Growth - Priority Funding Area (PFA) law and the analysis of potential land use impacts as they relate to PFA. As you may know, Maryland can't fund a major "growth related" capital project that is outside PFA unless an exception is granted under the provisions of the PFA law. Since this tier one NEPA project will not provide specific alignment locations for the roadway improvements, the specific evaluation of the project for compliance with the PFA law may have to be deferred until the tier II NEPA project planning study is conducted. The Maryland Department of Planning will coordinate with MDOT/SHA to have a consensus on this issue.

Nevertheless, it is appropriate for the tier I study to address broad land use and growth effect issues and how a corridor project may support the Maryland's State Smart Growth Policies and local growth plans. We note that this document covers relevant analyses and discussions on this subject. In addition, the document should indicate that the transportation study team will continue coordinating with the states and local jurisdictions to address transportation and land use strategies that positively support planned development and smart growth policies; and that how a corridor supports the State and local land use and development plans will be a criterion for corridor selection if in fact that the tier one study is to select a corridor.

On page 4-110, we appreciate the consideration of whether the representative interchanges and their indirect impact areas will locate inside a PFA. After examining the potential interchange locations, it appears that portions of the one-mile radius areas of the interchange 1, 2, 3, and 6 will be outside PFAs. We suggest you change "yes" to "Partially" under "Priority Funding Area" in Table 4.8 -1 for Interchange 1, 2, 3, and 6; and replace the sentence, "All of the locations within Maryland fall within a Priority Funding Area" on page 4-110 with "The area around the interchange 7 (I-68 at Cumberland) falls within a Priority Funding Area while the other locations within Maryland fall partially inside a Priority Funding Area."



Maryland Department of Planning

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ENGINEERING DIVISION  
WV DOH

Richard Eberhart Hall  
Secretary

Matthew J. Power  
Deputy Secretary

Martin O'Malley  
Governor  
Anthony G. Brown  
Lt. Governor

July 26, 2011

Mr. Gregory Bailey  
Director, Engineering Division  
West Virginia Department of Transportation, Division of Highways  
Capitol Complex, Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, WV 25305

**STATE CLEARINGHOUSE REVIEW PROCESS**

**State Application Identifier:** MD20110726-0585

**Reply Due Date:** 09/09/2011

**Project Description:** US 220 Tier One Draft EIS: develop improved transportation corridor connecting I-68 and Corridor H: consider new roadways and/or upgrading existing roadways: consider six (6) alternatives including "no build": studied potential Section 4(f) resources

**Project Location:** Allegany County, and State of West Virginia

**Clearinghouse Contact:** Bob Rosenbush

Dear Mr. Bailey:

Thank you for submitting your project for intergovernmental review. Your participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps to ensure that your project will be consistent with the plans, programs, and objectives of State agencies and local governments.

We have forwarded your project to the following agencies and/or jurisdictions for their review and comments: the Maryland Department(s) of State Police, Agriculture, Natural Resources, Transportation, the Environment; the County of Allegany; the City of Cumberland; and the Maryland Department of Planning; including the Maryland Historical Trust. A composite review and recommendation letter will be sent to you by the reply due date. Your project has been assigned a unique State Application Identifier that you should use on all documents and correspondence.

Please be assured that we will expeditiously process your project. The issues resolved through the MIRC process enhance the opportunities for project funding and minimize delays during project implementation.

If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey, J.D., Assistant Secretary  
for Clearinghouse and Communications

LCJ:BR

cc: Bruce Grey - SHA

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ENGINEERING DIVISION  
WV DOH

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west virginia department of environmental protection

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Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304 926 0475 • FAX: 304 926 0479

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.wvdep.org](http://www.wvdep.org)

July 26, 2011

Mr. Greg Bailey  
Engineering Division  
WV Div. of Highways  
Capital Complex, Bldg. 5, Rm. A-317  
1900 Kanawha Blvd., East  
Charleston, WV 25305

RE: NHS Corridor between I-68 and  
Corridor H (US220)  
Tier One DEIS  
WV: U212-220-1265 00  
Fed: NPDC-0220(149)C

Dear Mr. Baily:

Per your July 18<sup>th</sup> letter to Director Benedict, the Division of Air Quality (DAQ) offers the following comments on the Tier One Draft Environmental Impact Statement for the NHS Corridor between I-68 and Corridor H (US220). The subject document addresses air quality issues in section 3.5 and 4.6, respectively. The first correctly notes that all project-related counties: Allegany (MD), Grant (WV), Hardy, Hampshire and Mineral are designated as attainment for both the 1997 8-hr. ozone and PM<sub>2.5</sub> national ambient air quality standards (NAAQS). This determination may be verified by consulting EPA's "Green Book" at: <http://www.epa.gov/airquality/greenbk/index.html>

Further, authors may wish to update the NAAQS status by including the 2006 PM<sub>2.5</sub> standards, for which all five counties are also designated attainment. The project is located in counties which are designated attainment for all transportation relevant pollutants. Therefore, this project is not subject to the transportation conformity requirements of 40 CFR Part 93, Subpart A.

Section 4.6 mentions the attainment status but does not elaborate concerning the 1997 and 2006 PM<sub>2.5</sub> standards. This section also addresses mobile source air toxics and construction activities impacts. DAQ concurs that the low design year AADT (maximum 21,100) appears to obviate any need for more detailed air quality analyses.

Promoting a healthy environment.

Letter to Mr. Baily  
July 26, 2011  
Page 2 of 2

If it is necessary to burn land clearing debris in order to complete the project, approval by the WVDEP Secretary or his or her authorized representative is required to conduct such burning (see 45CSR6). If the project entails the renovation, remodeling, or demolition, either partially or totally, of a structure, building, or installation, irrespective of the presence or absence of asbestos-containing materials, and is subject to 45CSR15 (the asbestos NESHAP at 40CFR61, Subpart M), a formal Notification of Abatement, Demolition, or Renovation must be completed and timely filed with the WVDEP Secretary's authorized representative and approval received before commencement of the activities addressed in the Notification.

If the project involves demolition, and/or excavation and transportation of soil/aggregates or the handling of materials that can cause problems such as nuisance dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Copies of all of the WVDAQ rules cited in this letter may be reviewed on the agency's website at <http://www.dep.wv.gov/daq/> To review the rules click on "Summary of Rules" after accessing the website.

If you have any questions or need further assistance or information, please contact me by phone: 304.926.0499 ext.1242 or email: [william.f.durham@wv.gov](mailto:william.f.durham@wv.gov)

Sincerely,



William Fred Durham  
Deputy Director

JUN 5 2007



**DIVISION OF NATURAL RESOURCES**

**Wildlife Resources Section**

**Operations Center**

**P.O. Box 67**

**Elkins, West Virginia 26241-3235**

**Telephone (304) 637-0245**

**Fax (304) 637-0250**

**Joe Manchin III**  
*Governor*

**Frank Jezioro**  
*Director*

June 1, 2007

Mr. Joseph C. Romano  
Skelly & Loy, Inc.  
2500 Eldo Road, Suite 2  
Monroeville, PA 15146-1456

Dear Mr. Romano:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed NHS Corridor between I-68 and Corridor H Tier One DEIS in Grant, Hardy and Mineral counties, WV.

Attached is a listing of RTE species found in the area of each proposed corridor (Scenarios A-E). The list includes the species name, rarity ranking, date of the last observation and the general location. An explanation of our ranking system is also enclosed. All RTE species that have been documented from this area are given on the list, so there are many historic records, which have vague directions. This information has been included to provide you with a complete listing of what could be found in the area.

The only federal listed species known to occur within any of the corridors is the bald eagle. Nesting records were documented this year on Rosser Run (Scenario D) and Patterson Creek Mountain (Scenario E). Other nesting sites may be present near Mount Storm because of the number of eagles seen in the area, but, to date, no nests have been recorded.

Other RTE species issues which will need to be addressed with this project are possible surveys for the WV northern flying squirrel at the southern extent of Scenario A, and Indiana bat surveys for all the scenarios. Surveys for freshwater mussels may be required for many of the scenarios, especially Scenario D which impacts Patterson Creek.

The Wildlife Resources Section knows of no surveys that have been conducted in the area specifically for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review.

In addition, this response may fulfill your obligation for a permitting process for the presence of RTE species at the state level. This response and/or the data provided does not

constitute an approval by the Division of Natural Resources (DNR) to proceed with a project without satisfying any and all additional required permits or approvals from DNR or other local, state or federal agencies.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, extension 2048. Enclosed please find an invoice.

Sincerely,

  
Barbara Sargent  
Environmental Resources Specialist  
Natural Heritage Program

enclosures

cc: Barbara Douglas - USFWS

u:\BDSInv\S&L.doc

207-518

**Documented Rare, Threatened & Endangered Species  
NHS Corridor – Grant, Hardy and Mineral Counties, WV**

**Scenario A**

| Common Name<br>Scientific Name                                       | Rankings |       |  | Date | Location                            |
|--|----------|-------|--|------|-------------------------------------|
| Oceanorus<br><i>Zigadenus leimanthoides</i>                          | S2       | G4Q   |  | 1971 | Near Bismark                        |
| Swamp saxifrage<br><i>Saxifraga pensylvanica</i>                     | S2       | G5    |  | 1983 | North side of Rt. 50 at county line |
|  |          |       |  | 1955 | Kitzmilller Farm near Sulphur City  |
| Blue ash<br><i>Fraxinus quadrangulata</i>                            | S1       | G5    |  | 1971 | Sulphur City                        |
| Orange coneflower<br><i>Rudbeckia fulgida</i> var.<br><i>fulgida</i> | S2       | G4T4? |  | 1965 | Sulphur City                        |

**Scenario B**

| Common Name<br>Scientific Name                          | Rankings |      |  | Date       | Location   |
|---|----------|------|--|------------|--|
| Nuttall waterweed<br><i>Elodea nuttallii</i>            | S3       | G5   |  | 1953       | Laureldale   |
| Glaucous willow<br><i>Salix discolor</i>                | S2       | G5   |  | 1956       | Laureldale   |
| Canby's mountain-lover<br><i>Paxistima canbyi</i>       | S2       | G2   |  | 1985       | NW-facing slope of New Creek Mtn;<br>2 mi SW of Keyser |
|   |          |      |  | 1934       | 6mi SE of Keyser along New Creek                       |
| Allegheny woodrat<br><i>Neotoma magister</i>            | S3       | G3G4 |  | 1998       | New Creek Quarry                                       |
| American harebell<br><i>Campanula rotundifolia</i>      | S2       | G5   |  | 1983       | New Creek Quarry                                       |
| Troublesome sedge<br><i>Carex molesta</i>               | S3       | G4   |  | 1956       | Riverbank where Rt. 220 crosses at<br>New Creek        |
| Kates Mountain clover<br><i>Trifolium virginicum</i>    | S3       | G3   |  | 2005       | South side of Block Run, 0.7mi NW<br>of Rt. 220        |
| Jefferson salamander<br><i>Ambystona jeffersonianum</i> | S3       | G4   |  | 1938       | West of Keyser   |
| Franz's cave amphipod<br><i>Stygobromus franzi</i>      | S1       | G3G4 |  | No<br>date | Kites Cave – 0.6mi E of Powder<br>House Run            |
| Franz's cave isopod<br><i>Caecidotea franzi</i>         | S1       | G2G4 |  | 1992       | Kites Cave – 0.6mi E of Powder<br>House Run            |

### Scenario C

| Common Name<br>Scientific Name  | Rankings    |        | Date | Location                             |
|---|-------------|--------|------|--------------------------------------|
| Allegheny plum<br><i>Prunus alleghaniensis</i> var.<br><i>alleghaniensis</i>  | S3          | G4T4   | 1979 | 3mi NE of Greenland Gap; along CR 12 |
|   |             |        | 1979 | 0.25mi S of Falls; along CR 3        |
| Canby's mountain-lover<br><i>Paxistima canbyi</i>                             | S2          | G2     | 1997 | Falls Gap                            |
| White cedar<br><i>Thuja occidentalis</i>                                      | S2          | G5     | 1997 | Falls Gap                            |
| Shale barren bindweed<br><i>Calystegia spithamea</i><br>ssp. <i>purshiana</i> | S3          | G4G5T4 | 1973 | Falls Gap                            |
| Mountain pimpernel<br><i>Taenidia montana</i>                                 | S3          | G3     | 1973 | Falls Gap                            |
| Allegheny woodrat<br><i>Neotoma magister</i>                                  | S3          | G3G5   | 1995 | Greenland Gap Cave – 0.25 N of Falls |
| American harebell<br><i>Campanula rotundifolia</i>                            | S2          | G5     | 1997 | Falls Gap                            |
|   |             |        | 1965 | Near Wiley Ford                      |
| Side-oats grama<br><i>Bouteloua curtipendula</i><br>var. <i>curtipendula</i>  | S3          | G5T5   | 1973 | Falls Gap                            |
| Loggerhead shrike<br><i>Lanius ludovicianus</i><br><i>migrans</i>             | S1B,<br>S2N | G4T3Q  | 2004 | Belle Babb, 2mi W of Medley          |
|   |             |        | 1993 | Near Martin                          |
| Bent milkvetch<br><i>Astragalus distortus</i> var.<br><i>distortus</i>        | S2          | G5T5?  | 1977 | Watershed dam near Martin            |
| Snow trillium<br><i>Trillium nivale</i>                                       | S2          | G4     | 2002 | 0.4mi W of Martin                    |
| Balsam squaw-weed<br><i>Packera paupercula</i>                                | S2          | G5     | 1917 | Antioch                              |
| Shale barren evening<br>primrose<br><i>Oenothera argillicola</i>              | S3          | G3G4   | 1933 | 3mi S of Ridgely                     |

### Scenario D

| Common Name<br>Scientific Name  | Rankings |        | Date | Location                                 |
|---|----------|--------|------|--|
| Shale barren bindweed<br><i>Calystegia spithamea</i><br>ssp. <i>purshiana</i> | S3       | G4G5T4 | 1980 | Bob Snyder Farm, 0.2mi S of Lahmansville |
|   |          |        | 1980 | Headsville Road, 3.3mi N of Burlington   |
|   |          |        | 1985 | N side of Wild Meadow Run                |
| Wood turtle<br><i>Glyptemys insculpta</i>                                     | S2       | G4     | 1993 | North Fork Patterson Creek               |
|   |          |        | 1993 | Plum Run                                 |

| Common Name<br>Scientific Name   | Rankings    |       |    | Date | Location                                       |
|--|-------------|-------|----|------|--|
| Allegheny plum<br><i>Prunus alleghaniensis</i> var.<br><i>alleghaniensis</i> | S3          | G4T4  |    | 1984 | Martin watershed dam                           |
|  |             |       |    | 1980 | N side of Rt. 50/4, 1.7mi W of CR 11           |
|  |             |       |    | 2000 | Larenim Park                                   |
| Brook floater<br><i>Alasmidonta varicosa</i>                                 | S1          | G3    |    | 1996 | Patterson Creek – county line to Johnson Run   |
|  |             |       |    | 1993 | Patterson Creek – Plum Run to mouth            |
|  |             |       |    | 1993 | North Fork Patterson Creek – from mouth to dam |
|  |             |       |    | 1993 | Patterson Creek – near Ft. Ashby               |
| Bald eagle<br><i>Haliaeetus leucocephalus</i>                                | S2B,<br>S3N | G5    | LT | 2007 | Rosser Run                                     |
| Triangle floater<br><i>Alasmidonta undulata</i>                              | S1          | G4    |    | 1996 | Patterson Creek – just up from Grant Co. line  |
| Yellow lampmussel<br><i>Lampsilis cariosa</i>                                | S1          | G3G4  |    | 1996 | Patterson Creek – just up from Grant Co. line  |
| Grizzled skipper<br><i>Pyrgus wyandot</i>                                    | S1          | G1G2Q |    | 1985 | N side of Wild Meadow Run                      |
|  |             |       |    | 1990 | Larenim Park                                   |
| Olympia marble<br><i>Euchloe olympia</i>                                     | S2S3        | G4G5  |    | 1985 | Wild Meadow Run                                |
|  |             |       |    | 1991 | Larenim Park                                   |
| Upland chorus frog<br><i>Pseudacris feriarum feriarum</i>                    | S2          | G5T5  |    | 2004 | 5.9mi S on CR 11 from Burlington               |
|  |             |       |    | 1937 | In pond about 3mi NE of Burlington             |
| False pimpernel<br><i>Lindernia dubia</i> var.<br><i>anagallidea</i>         | S2          | G5T4  |    | 1933 | Patterson Creek                                |
| Marsh speedwell<br><i>Veronica scutellata</i>                                | S2          | G5    |    | 1928 | Patterson Creek                                |
|  |             |       |    | 1933 | Burlington                                     |
| Mountain pimpernel<br><i>Taenidia montana</i>                                | S3          | G3    |    | 1985 | Wild Meadow Run                                |
| Downy arrow-wood<br><i>Viburnum rafinesquianum</i>                           | S3          | G5    |    | 1930 | Wild Meadow Run                                |
| Downy milkpea<br><i>Galactia volubilis</i>                                   | S1          | G5    |    | 1931 | Burlington                                     |
| Bent milkvetch<br><i>Astragalus distortus</i> var.<br><i>distortus</i>       | S2          | G5T5? |    | 1964 | 1mi N of Burlington                            |
| Narrow-leaved blue curls<br><i>Trichostema setaceum</i>                      | S2          | G5    |    | 2000 | Larenim Park                                   |
| Northern metalmark<br><i>Calephelis borealis</i>                             | S2          | G3G4  |    | 1984 | Larenim Park                                   |
| Kates Mountain clover<br><i>Trifolium virginicum</i>                         | S3          | G3    |    | 2000 | Larenim Park                                   |
|  |             |       |    | 1986 | Headsville Shale Barren                        |
| Meadow jumping mouse<br><i>Zapus hudsonius</i>                               | S3          | G5    |    | 1987 | Larenim Park                                   |

| Common Name<br>Scientific Name   | Rankings    |       | Date | Location                    |
|--|-------------|-------|------|-----------------------------|
| A noctuid moth<br><i>Zale calycanthata</i>                               | SU          | G4    | 1985 | Larenim Park                |
| American harebell<br><i>Campanula rotundifolia</i>                       | S2          | G5    | 1968 | Headsville Road             |
| Shale barren evening-primrose<br><i>Oenothera argillicola</i>            | S3          | G3G4  | 1986 | Headsville Shale Barren     |
| Shale barren goldenrod<br><i>Solidago arguta</i> var.<br><i>harrisii</i> | S3          | G5T4  | 1986 | Headsville Shale Barren     |
| Loggerhead shrike<br><i>Lanius ludovicianus</i><br><i>migrans</i>        | S1B,<br>S2N | G4T3Q | 1995 | Reeses Mill                 |
| Lesser snakeroot<br><i>Ageratina aromatica</i> var.<br><i>aromatica</i>  | S1          | G5T5  | 1984 | 0.5mi SW of Patterson Creek |

### Scenario E

| Common Name<br>Scientific Name  | Rankings    |        | Date | Location  |  |
|---|-------------|--------|------|---|--|
| Barn owl<br><i>Tyto alba</i>  | S2B,<br>S2N | G5     | 2004 | Ours Valley View Farm, 0.2mi S of Old Fields      |  |
| Upland chorus frog<br><i>Pseudacris feriarum</i><br><i>feriarum</i>           | S2          | G5T5   | 1945 | 0.5mi W of Old Fields                             |  |
| Low spearwort<br><i>Ranunculus pusillus</i> var.<br><i>pusillus</i>           | S1          | G4T4?  | 1960 | Old Fields  |  |
| Loggerhead shrike<br><i>Lanius ludovicianus</i><br><i>migrans</i>             | S1B,<br>S2N | G4T3Q  | 2002 | Reynolds Gap Road                                 |  |
| Grizzled skipper<br><i>Pyrgus wyandot</i>                                     | S1          | G1G2Q  | 1985 | Across from Purgittsville Church                  |  |
|   |             |        | 1990 | On N side of Rt. 50, 0.5mi SE of Ridgeville       |  |
| Olympia marble<br><i>Euchloe olympia</i>                                      | S2S3        | G4G5   | 1967 | N of Rada   |  |
|   |             |        | 1985 | On N side of Rt. 50, 0.5mi SE of Ridgeville       |  |
| Bald eagle<br><i>Haliaeetus leucocephalus</i>                                 | S2B,<br>S3N | G5     | LT   | 2007  | Patterson Creek Mountain, south of Russelldale |
| Shale barren bindweed<br><i>Calystegia spithamea</i><br>spp. <i>purshiana</i> | S3          | G4G5T4 | 1985 | Wild Meadow Run                                   |  |
|   |             |        | 1984 | Ridgeville Golf Course                            |  |
| Mountain pimpernel<br><i>Taenidia montana</i>                                 | S3          | G3     | 1985 | Wild Meadow Run                                   |  |
| Downy arrow-wood<br><i>Viburnum rafinesquianum</i>                            | S2          | G5     | 1930 | Wild Meadow Run                                   |  |
| Potomac sculpin<br><i>Cottus girardi</i>                                      | S3          | G4     | 1983 | Mill Creek – 5km W of Burlington at Rts. 50 & 220 |  |

| Common Name<br>Scientific Name   | Rankings |       | Date    | Location  |
|--|----------|-------|---------|---|
| Allegheny plum<br><i>Prunus alleghaniensis</i><br>var. <i>alleghaniensis</i> | S3       | G4T4  | 1980    | N side of CR 50/4, 1.7mi W of CR 11                 |
|  |          |       | 1984    | SE of Ridgeville                                    |
|  |          |       | 1952    | Near Keyser   |
| Bent milkvetch<br><i>Astragalus distortus</i> var. <i>distortus</i>          | S2       | G5T5? | 1988    | SE of Ridgeville                                    |
| Kates Mountain clover<br><i>Trifolium virginicum</i>                         | S3       | G3    | 2005    | S side of Block Run, 0.7mi NW of Rt. 220            |
| Canby's mountain-lover<br><i>Paxistima canbyi</i>                            | S2       | G2    | 1985    | NW-facing slope of New Creek Mtn; 2 mi SW of Keyser |
| Jefferson salamander<br><i>Ambystoma jeffersonianum</i>                      | S3       | G4    | 1938    | West of Keyser                                      |
| Franz's cave amphipod<br><i>Stygobromus franzi</i>                           | S1       | G3G4  | No date | Kites Cave – 0.6mi E of Powder House Run            |
| Franz's cave isopod<br><i>Caecidotea franzi</i>                              | S1       | G2G4  | 1992    | Kites Cave – 0.6mi E of Powder House Run            |

June 1, 2007

## EXPLANATION OF RANKS

### GLOBAL RANK

- G1 Five or fewer documented occurrences, or very few remaining individuals globally. Extremely rare and critically imperiled.
- G2 Six to 20 documented occurrences, or few remaining individuals globally. Very rare and imperiled.
- G3 Twenty-one to 100 documented occurrences. Either very rare and local throughout its range or found locally in a restricted range.
- G4 Common and apparently secure globally, though it may be rare in parts of its range, especially at the periphery.
- G5 Very common and demonstrably secure, though it may be rare in parts of its range, especially at the periphery.
- GH Historical. May be rediscovered.
- GX Believed extirpated. Little likelihood of rediscovery.
- T# Rank of subspecies or variety.

### STATE RANK

- S1 Five or fewer documented occurrences, or very few remaining individuals within the state. Extremely rare and critically imperiled.
- S2 Six to 20 documented occurrences, or few remaining individuals within the state. Very rare and imperiled.
- S3 Twenty-one to 100 documented occurrences.
- S4 Common and apparently secure with more than 100 occurrences.
- S5 Very common and demonstrably secure.
- SH Historical. Species which have not been relocated within the last 20 years. May be rediscovered.
- SX Believed extirpated. Little likelihood of rediscovery.

## CHARACTERS RELATED TO GLOBAL & STATE RANKS

- B Breeding populations
- HYB Hybrid
- N Non-breeding populations
- NR Not ranked
- Q Questionable taxonomy
- ? Questionable rank
- U Unrankable

## FEDERAL STATUS

- LE Listed as endangered.
- LT Listed as threatened.
- PE Proposed to be listed as endangered.
- PT Proposed to be listed as threatened.
- C1 Candidate for listing.



**DIVISION OF NATURAL RESOURCES**  
Wildlife Resources Section  
324 Fourth Avenue  
South Charleston, West Virginia 25303-1228  
Telephone (304) 558-2771  
Fax (304-558-3147  
TDD 1-800-354-6087

Earl Ray Tomblin  
Governor

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SEP 09 2011

**ENGINEERING DIVISION  
WV DOH**

Frank Jezioro  
Director

September 7, 2011

Mr. Greg Baily, P.E.  
Engineering Division Director,  
West Virginia Division of Highways  
Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, WV 25305

RE: National Highway System (NHS) Corridor (US 220) between I-68 and Corridor H  
Tier One Draft Environmental Impact Statement

Dear Mr. Baily:

The West Virginia Division of Natural Resources (WVDNR) appreciates the opportunity to comment on the US 220 Tier One Draft Environmental Impact Statement for the NHD Corridor between I-68 and Corridor H (DEIS). The WVDNR concurs with the DEIS conclusion to only move forward Corridors B, C and D for Tier Two analysis. The WVDNR was pleased that the Patterson Creek alignment was not carried forward for further consideration.

As stated several times in the DEIS, the Tier One analysis is a broad based approach and does not contain sufficient detail to allow resource agencies to offer comprehensive and substantive comments on the proposed alignments. We look forward to reviewing the Tier Two document when it becomes available. If you have any questions concerning our comments or if we can be of assistance with the Tier Two analysis please contact Mr. Danny Bennett of my staff at the Elkins Operations Center [Danny.A.Bennett@wv.gov](mailto:Danny.A.Bennett@wv.gov) 304-637-0245.

Sincerely,

A handwritten signature in black ink, appearing to read "Curtis I. Taylor".

Curtis I. Taylor, Chief  
Wildlife Resources Section

CT/dc

cc: Preston/Hedrick  
Johansen/Rodgers  
Kordek/Anderson/Bennett

**Short Gap Volunteer Fire Deparement**  
Route 2 Box146-C  
Keyser, WV 26753

September 23, 2011

Mineral County Commissioners  
Mineral County Courthouse  
150 Armstrong Street  
Keyser, WV 26726

RE: Proposed Route 220, Corridor C

Dear Commissioners,

Recently the Department of Highways of Maryland and West Virginia have held informational meetings regarding a proposed 4 lane highway from interstate 68 in Cumberland to Corridor H. One proposed route, designated as Corridor C crosses the Potomac River about 2 miles south of Wiley Ford and parallel Route 28 to Short Gap. In Short Gap, the Corridor crosses through our community and runs parallel to Knobley Road south towards Maysville.

This proposed route puts our Fire Hall, Wesley Chapel Methodist Church, Graceland Baptist Church, Old Furnace Church, Grace Bible Fellowship, Mount Zion Church and many residences and businesses in this corridor.

In discussion with members of our community, we believe that Corridor C would be a great detriment to Mineral County and the quality of life in our community.

Many residents of the area are outraged. They have not had sufficient information or time to consider it. Residents of Maryland received either a booklet or post card in the mail in advance of the two public hearings advising them of the hearing dates and informing them of the routes. The Maryland booklet contained a postage paid comment card and information on how residents can be added to the mailing list for more information. In West Virginia, no one that we know of received any such booklet, post card or information. West Virginia printed the same booklet but it was apparently only available at the meeting; the WV booklet did not contain a postage paid comment card but simply a piece of paper with the address and a space for comments.

Many persons became aware of the project from their Maryland neighbors who got the booklet,

not from their own state! There were articles in the newspapers close to the date but our citizens did not get the information or time to consider it that Maryland did.

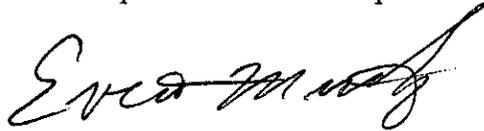
Members of the Short Gap Fire Department are asking you, as Mineral County Commissioners, to join us in calling a public informational meeting. We would offer our Fire Hall on Knobley Road as the venue and propose the date of **Wednesday, October 5, 2011 at 7:00 p.m.** I realize this is short notice and that we would normally have asked you to propose the date but time is of the essence and all citizen comments must be in Charleston, WV by October 14th.

We would like to include the Wiley Ford and Short Gap Fire Departments to join us in calling this meeting.

Would you please contact me and advise if you are willing to call such a meeting? You may reach me by phone at 301-268-7267

Thank you for your time and attention to this matter.

Sincerely,  
Short Gap Volunteer Fire Department

A handwritten signature in cursive script, appearing to read "Everett Metheny".

By: Everett Metheny,  
Chief

## Romano, Joe

---

**From:** Anne Elrays <AEIrays@sha.state.md.us>  
**Sent:** Wednesday, September 28, 2011 7:37 AM  
**To:** April Fehr  
**Cc:** William Carver  
**Subject:** RE: US 220 Planning Study

Hi April

Bill has just provided me a few hard copies of the brochure. I can put in the "archeology box" and/or give in person via chat anytime today after 9:30 am.

The only (and most current) schedule is as shown in the brochure on p. 13.

Yes! Is one thing to not know about the Barton site, and quite another to jump to not knowing anything about archeology id efforts as shown in the brochure and included in the script. Env. staff were amply provided by Skelly & Loy, including one staff dedicated exclusively to CR resources.

Thank you April

---

**From:** April Fehr  
**Sent:** Tuesday, September 27, 2011 3:29 PM  
**To:** Anne Elrays  
**Subject:** FW: US 220 Planning Study

Anne: The below was resulting from the public meeting for 220 south. Can you give me a little update on this project in terms of schedule, etc. It would be helpful to have a copy of the public brochure too. Apparently whoever the citizen spoke to at the meeting did not know archeological consideration had been done. Let me know when you are there and I can come up and chat. Thanks, April

---

**From:** B Cole [mailto:BCole@mdp.state.md.us]  
**Sent:** Tuesday, September 27, 2011 2:21 PM  
**To:** wmdasm@yahoo.com  
**Cc:** April Fehr; C Hall  
**Subject:** FW: US 220 Planning Study

Hi Roy,

Charlie Hall forwarded me your email inquiry regarding the US 220 Tier One planning project.

I can't speak to what information was provided (or not provided) at the recent public meetings. But I can assure you that cultural resources are an integral part of project planning efforts for the US 220 corridor. The Tier One study is the first phase of what will likely be a very lengthy and involved process to consider possible alignments for US 220 in the study corridor. This project is a cooperative venture between WV Dept. of Highways and MD State Highway Administration (SHA), with WV being the lead agency. So far, WV has conducted a background research study to assess the archeological potential of the various areas under consideration. That effort was conducted by the cultural resources firm Skelly and Loy – and included research on inventoried sites in the area, past survey efforts, and other environmental and historical factors. SHA sent us a draft report on the study in 2007 titled "Archeological Predictive Study", prepared by Skelly and Loy, for review and comment. It is our understanding that detailed Phase I archeological

investigations would occur during the Tier Two stage of the project, which may be years away. Our project files do not contain any subsequent consultation with SHA since 2008. .

For further details on the current project status and schedule, I suggest that you contact April Fehr at MD SHA, as she is the one handling the archeological review of the project for SHA [410-545-8848 / [afehr@sha.state.md.us](mailto:afehr@sha.state.md.us)]. Thank you for your advocacy on behalf of Maryland's archeological heritage.

Beth

Beth Cole  
Administrator, Project Review & Compliance  
Maryland Historical Trust  
100 Community Place  
Crownsville, MD 21032  
410-514-7631  
410-987-4071 (fax)  
[bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us)  
<http://mht.maryland.gov>

Please consider the environment before printing.

---

**From:** C Hall  
**Sent:** Monday, September 19, 2011 10:59 AM  
**To:** B Cole  
**Subject:** FW: US 220 Planning Study

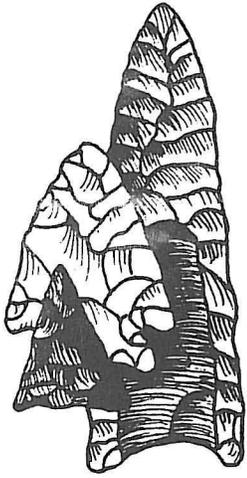
Hi Beth –  
See Roy Brown's email below. Are you aware of this planning study at SHA? I'll be happy to respond to Roy, or would be equally happy to be an observer of your response to him!  
Thanks,  
Charlie

---

**From:** W.MD.Chapt.-Archeological.Soc. [mailto:wmdasm@yahoo.com]  
**Sent:** Monday, September 19, 2011 10:57 AM  
**To:** C Hall  
**Subject:** US 220 Planning Study

Hi Charlie,  
Your office needs to talk to the people at SHA. Last week they held public meetings in Allegany and Mineral Counties to present the US 220 Tier One Planning Study for I-68 to Corridor H. They have their Corridor C running right through the Barton site. When asked about it, they didn't know there were *any* archeological sites located there! How is that?  
I know this is just preliminary work, but someone hasn't been doing their research very well. There is ample space between Dan's Mountain and Rt 220 for the highway with much less mitigation involved. Please look into this matter.  
Thanks,  
Roy

**Western Maryland Chapter - Archeological Society of Maryland, Inc.**  
**Web Site:** <http://sites.google.com/site/wmdasm/>



# WESTERN MARYLAND CHAPTER

ARCHEOLOGICAL SOCIETY  
OF MARYLAND, INC.

4 OPPE '11 OCT 20 PM 1:2

Office of Planning and Preliminary Engineering  
MD State Highway Administration  
707 N. Calvert Street Ms C-301  
Baltimore, MD 21298-6521

October 14, 2011

We of the WMD Chapter of ASM are concerned about the routing of Corridor B of US 220 Tier One Planning Study through the Barton Site, a multi-component prehistoric archaeological preserve.

The Barton Site, 18AG3, is located on 33 acres, bounded on the north by Rt 956, on the east by the Potomac River, on the south by a small tributary of the Potomac and on the west by the CSX Railroad right away. The site was purchased by The Archaeological Conservancy of Albuquerque, NM in 2000 to be protected from development and for the continuing investigation of the area's former residents.

Robert D. Wall Ph.D. of Towson University has been conducting annual excavations at the Barton Site since 1992. His work has documented a multi-component occupation of the site dating from the early 1700's back to the Paleo-indian Period of 10,000 BCE. In 2009 a magnetometry survey of the entire 33 acres revealed five palisaded Late Woodland villages, which has been confirmed by Dr. Wall's excavations during the past 2 years. Numerous human burials have been recorded, with many more yet to be found.

It is our opinion that a highway passing through the Barton Site would be an irresponsible act by the State of Maryland, destroying priceless Native American cultural features and ending future investigations of this archaeologically rich floodplain. The relocation of Corridor B west of present Rt 220 along the base of Dan's Mountain makes far more sense.

Respectfully,

Roy H. Brown  
President WMD Chapter ASM  
713 Haddon Ave.  
Cumberland, MD 21502  
301-724-7769 wmdasm@yahoo.

**From:** W.MD.Chapt.-Archeological.Soc. [mailto:wmdasm@yahoo.com]

**Sent:** Monday, September 19, 2011 10:57 AM

**To:** C Hall

**Subject:** US 220 Planning Study

Hi Charlie,

Your office needs to talk to the people at SHA. Last week they held public meetings in Allegany and Mineral Counties to present the US 220 Tier One Planning Study for I-68 to Corridor H. They have their Corridor C running right through the Barton site. When asked about it, they didn't know there were *any* archeological sites located there! How is that?

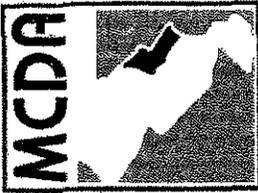
I know this is just preliminary work, but someone hasn't been doing their research very well. There is ample space between Dan's Mountain and Rt 220 for the highway with much less mitigation involved. Please look into this matter.

Thanks,

Roy

**Western Maryland Chapter - Archeological Society of Maryland, Inc.**

**Web Site:** <http://sites.google.com/site/wmdasm/>



# Mineral County Development Authority

**Grand Central  
Business Center**

Suite 3011  
1 E. Piedmont Street  
Keyser, WV 26726  
Phone: 304-788-2233  
Fax: 304-788-2998  
info@wv-mcda.com

**Board of  
Directors**

Rick Linthicum  
*President*

Janice LaRue  
*Vice President*

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Anne Palmer  
*Treasurer*

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Annette Barbe

Tom Braithwaite

Debi Cruse

Randy Amtower

Lester Clifford

Joseph Gratto

Ward Hill

Marti Moreland

James Twigg

Mark Yoder

October 13, 2011

Gregory L. Bailey  
Director, Engineering Division  
West Virginia Division of Highways  
State Capitol Complex, Building 5  
1900 Kanawha Boulevard East  
Charleston, WV 25305-0430

Dear Mr. Bailey:

Please find enclosed the comments of the Mineral County Development Authority relating to the US Route 220 Tier One Draft Environmental Impact Statement in Mineral County.

With the unanimous support of our board of directors, the Mineral County Development Authority urges that the Division of Highways take into consideration that Corridor B would offer the most benefit and be least disruptive to the communities of both Mineral County in West Virginia and Allegany County in Maryland.

This route has the best potential for future economic development within the region. Corridors C and D have significant negatives. In the case of C, the communities along the Knobley Mountain Ridge, including Wiley Ford, Short Gap and Fort Ashby would sustain considerable inconvenience as well as create additional cost to West Virginia. This is a primarily agricultural region and the road would be a detriment to farmland. The expense to select Corridor D would almost double and would do little to expand economic development in Mineral County.

Thank you for considering our comments and suggestions.

Sincerely,

Mona Ridder  
Executive Director

RECEIVED

OCT 14 2011

ENGINEERING DIVISION  
WV DCH

DATE: Oct 12, 2011

Mr. Gregory L. Bailey, P.E.  
Director, Engineering Division  
West Virginia Division of Highways  
State Capitol Complex, Building 5  
1900 Kanawha Boulevard East  
Charleston, West Virginia 25305-0430

**SUBJECT: INFORMATIONAL WORKSHOP PUBLIC MEETING**  
**PROJECT: US 220 - Tier One Draft Environmental Impact Statement**  
**Mineral County**

**COMMENTS DUE BY: October 14, 2011**

Please consider the following comments:

The Mineral County Development Authority  
wishes to go on record in support Corridor B  
for the upgrade to U.S. Route 220 from  
Interstate 68 to connect with Corridor H.  
This appears to be the shortest and most  
economical in terms of construction as  
well as the potential economic development  
for the region as a whole.

(Please print the following information)

NAME: Mona Ridder

ADDRESS: Grand Central Park, Suite 3011, Keyser, WV 26726

ORGANIZATION (IF ANY): Mineral County Development Authority

DATE: 10-12-11

RECEIVED  
OCT 14 2011  
ENGINEERING DIVISION  
WV DOH

Mr. Gregory L. Bailey, P.E.  
Director, Engineering Division  
West Virginia Division of Highways  
State Capitol Complex, Building 5  
1900 Kanawha Boulevard East  
Charleston, West Virginia 25305-0430

DATE: Tuesday, September 13, 2011  
LOCATION: Keyser Primary Middle School

SUBJECT: INFORMATIONAL WORKSHOP PUBLIC MEETING  
PROJECT: US 220- Tier One Draft Environmental Impact Statement  
Mineral County

COMMENTS DUE BY October 14, 2011

Please consider the following comments:

The Chamber of Commerce  
endorses Corridor B routing and  
request DOT continue studies toward  
construction

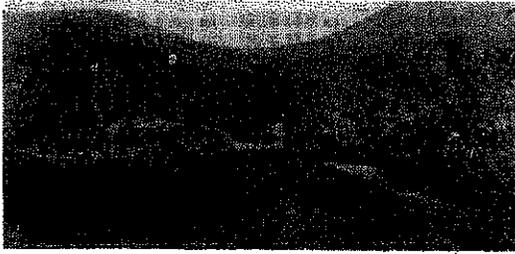
(Please print the following information)

NAME: David G. Vanscoy President

ADDRESS:

ORGANIZATION (IF ANY): Chamber of Commerce

How did you hear about the Informational Workshop Public Meeting?



BEHIND THE SADDLE IS THE BIRTHPLACE OF NANCY HANKS,  
MOTHER OF ABRAHAM LINCOLN

# County Commission of Mineral County

150 Armstrong Street  
Keyser, West Virginia 26726

MICHAEL C. BLAND, COUNTY COORDINATOR

PHONE: (304) 788-5921  
(301) 777-0602  
FAX: (304) 788-0768  
TDD: (304) 788-0568

October 12, 2011

THE COMMISSIONERS

CYNTHIA L. PYLES, PRESIDENT  
Keyser, West Virginia

JANICE LARUE  
Piedmont, West Virginia

RICHARD A. LECHLITER, DVM  
Ridgeley, West Virginia

Mr. Gregory L. Bailey, P.E.  
Director, Engineering Division  
WV Division of Highways  
State Capitol Complex, Building 5  
1900 Kanawha Boulevard East  
Charleston, WV 25305-0430

Re: US 220-Tier One Draft Environmental  
Impact Statement

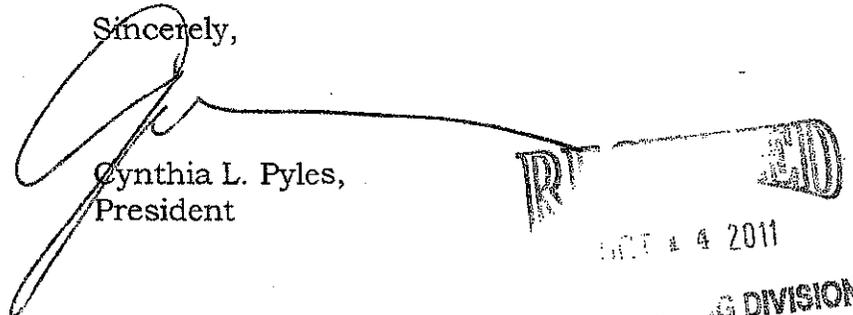
Dear Mr. Bailey:

Please be advised that the Mineral County Commission has reviewed the information related to the US 220-Tier One Draft Environmental Impact Statement and has voted to support the development of Corridor B. This decision is based upon the positive economic impact of the proposed route and its lower development cost, being the shortest route between I-68 and Corridor H.

It should be noted that there has been strong public opposition to Corridor C in Mineral County. This opposition has been due to the perceived negative impact on existing development and the groundwater resource in Knobley Mountain.

Thank you for your time and attention in this matter.

Sincerely,

  
Cynthia L. Pyles,  
President

CLP/rlb

OCT 14 2011

ENGINEERING DIVISION  
WV DOH



**HOUSE OF DELEGATES  
WEST VIRGINIA LEGISLATURE**

BUILDING 1, ROOM #4-R  
1900 KANAWHA BLVD., EAST  
CHARLESTON, WV 25305-0470  
PHONE (304) 340-3191  
EMAIL: GARY.HOWELL@WVHOUSE.GOV

GARY G. HOWELL  
P. O. BOX 39  
KEYSER, WV 26726-0039  
PHONE: (304) 790-9022 (DISTRICT OFFICE)

*RECEIVED*  
OCT 21 2011  
ENGINEERING DIVISION  
VJ/DOH

Committees:  
Government Organization  
Veteran's Affairs &  
Homeland Security  
Roads & Transportation  
Senior Citizen Issues

October 19th, 2011

Gregory L. Bailey P.E.  
Director, Engineering Division  
West Virginia Division of Highways  
State Capitol Complex, Building 5  
1900 Kanawha Blvd East  
Charleston, WV 25305-0430

Engineer Bailey,

Please find the attached letters regarding the North-South US 220 Corridor Project.

Thank you,

Delegate Gary G. Howell  
49<sup>th</sup> District  
Member Roads & Transportation Committee



**HOUSE OF DELEGATES  
WEST VIRGINIA LEGISLATURE**

BUILDING 1, ROOM 201-E  
1900 KANAWHA BLVD., EAST  
CHARLESTON, WV 25305-0470  
PHONE (304) 340-3197

MARGARET ANNE STAGGERS, Vice-Chair  
COMMITTEE ON ROADS & TRANSPORTATION  
36 BARRINGTON HILL ROAD  
FAYETTEVILLE, WV 25840  
PHONE: (304) 574-1787  
EMAIL: [margaret.staggers@wvhouse.gov](mailto:margaret.staggers@wvhouse.gov)  
[margaretstaggers@gmail.com](mailto:margaretstaggers@gmail.com)

January 12, 2012

Committees:  
Government Organization  
Health & Human Resources  
Veterans Affairs & Homeland Security

Secretary Paul A. Mattox, Jr., P.E.  
WV Department of Transportation  
Building 5  
1900 Kanawha Blvd. E.  
Charleston, WV 25305

Dear Paul Mattox:

I am in agreement to the petition concerning Option C to the Route 220 Corridor. I was a resident of the area for many years and know the topography well. I sincerely believe that having Option C invade the Knobley Road area would greatly disturb the quiet country community that lies within the surrounding area of the road.

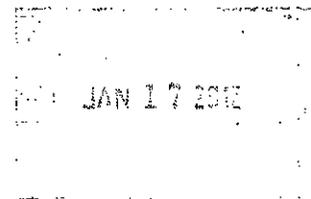
I truly believe that the Options that position the road in the Potomac and New Creek Valleys would better serve the citizens of the area. The additional Options create scenarios that allow the peaceful country atmosphere to remain intact.

Thank you for your cooperation in this manner.

Sincerely,

Delegate Margaret Staggars  
Chairwoman of the Committee on Roads and Transportation

cc: Delegate Gary Howell





# FEDERAL REGISTER

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Vol. 78

Wednesday,

No. 191

October 2, 2013

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Part III

## Department of the Interior

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Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List the Eastern Small-Footed Bat and the Northern Long-Eared Bat as Endangered or Threatened Species; Listing the Northern Long-Eared Bat as an Endangered Species; Proposed Rule

## DEPARTMENT OF THE INTERIOR

## Fish and Wildlife Service

## 50 CFR Part 17

[Docket No. FWS-R5-ES-2011-0024;  
4500030113]

RIN 1018-AY98

**Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List the Eastern Small-Footed Bat and the Northern Long-Eared Bat as Endangered or Threatened Species; Listing the Northern Long-Eared Bat as an Endangered Species**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Proposed rule; 12-month finding.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list the eastern small-footed bat (*Myotis leibii*) and the northern long-eared bat (*Myotis septentrionalis*) as endangered or threatened under the Endangered Species Act of 1973, as amended (Act) and to designate critical habitat. After review of the best available scientific and commercial information, we find that listing the eastern small-footed bat is not warranted but listing the northern long-eared bat is warranted. Accordingly, we propose to list the northern long-eared bat as an endangered species throughout its range under the Act. We also determine that critical habitat for the northern long-eared bat is not determinable at this time. This proposed rule, if finalized, would extend the Act's protections to the northern long-eared bat. The Service seeks data and comments from the public on this proposed listing rule for the northern long-eared bat.

**DATES:** We will consider comments received or postmarked on or before December 2, 2013. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES** section, below) must be received by 11:59 p.m. Eastern Time on the closing date. We must receive requests for a public hearing, in writing, at the address shown in the **FOR FURTHER INFORMATION CONTACT** section by November 18, 2013.

**ADDRESSES:** You may submit comments by one of the following methods:

(1) In the Search box, enter Docket No. FWS-R5-ES-2011-0024, which is the docket number for this rulemaking. Then, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed

Rules link to locate this document. You may submit a comment by clicking on "Comment Now!" If your comments will fit in the provided comment box, please use this feature of <http://www.regulations.gov>, as it is most compatible with our comment review procedures. If you attach your comments as a separate document, our preferred file format is Microsoft Word. If you attach multiple comments (such as form letters), our preferred format is a spreadsheet in Microsoft Excel.

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS-R5-ES-2011-0024; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042-PDM; Arlington, VA 22203.

We request that you send comments only by the methods described above. We will post all information received on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the Information Requested section below for more details).

**FOR FURTHER INFORMATION CONTACT:**

Peter Fasbender, Field Supervisor, U.S. Fish and Wildlife Service, Green Bay Ecological Services Office, 2661 Scott Tower Dr., New Franken, Wisconsin, 54229; by telephone (920) 866-3650 or by facsimile (920) 866-1710. *mailto:* If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800-877-8339.

**SUPPLEMENTARY INFORMATION:**

**Executive Summary**

*Why we need to publish a rule.* Under the Act, if a species is determined to be an endangered or threatened species throughout all or a significant portion of its range, we are required to promptly publish a proposal in the **Federal Register** and make a determination on our proposal within one year. Listing a species as an endangered or threatened species can only be completed by issuing a rule.

*This document consists of:*

- Our status review and finding that listing is warranted for the northern long-eared bat and not warranted for the eastern small-footed bat.
- A proposed rule to list the northern long-eared bat as an endangered species. This rule assesses best available information regarding the status of and threats to the northern long-eared bat.

*The basis for our action.* Under the Act, we can determine that a species is an endangered or threatened species based on any of five factors: (A) The present or threatened destruction,

modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that the northern long-eared bat is in danger of extinction, predominantly due to the threat of white-nose syndrome (Factor C). However, other threats (Factors A, B, E) when combined with white-nose syndrome heighten the level of risk to the species.

*We will seek peer review.* We are seeking comments from knowledgeable individuals with scientific expertise to review our analysis of the best available science and application of that science and to provide any additional scientific information to improve this proposed rule. Because we will consider all comments and information we receive during the comment period, our final determination may differ from this proposal.

**Information Requested**

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other concerned Federal and State agencies, the scientific community, or any other interested party concerning this proposed rule. We particularly seek comments regarding the northern long-eared bat concerning:

- (1) The species' biology, range, and population trends, including:
  - (a) Habitat requirements for feeding, breeding, and sheltering;
  - (b) Genetics and taxonomy;
  - (c) Historical and current range, including distribution patterns;
  - (d) Historical and current population levels, and current and projected trends; and
  - (e) Past and ongoing conservation measures for the species, its habitat, or both.
- (2) Any information on the biological or ecological requirements of the species, and ongoing conservation measures for the species and its habitat.
- (3) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to this species and regulations that may be addressing those threats.

(4) Current or planned activities in the areas occupied by the species and possible impacts of these activities on this species.

(5) Additional information regarding the threats to the species under the five listing factors, which are:

- (a) The present or threatened destruction, modification, or curtailment of its habitat or range;
  - (b) Overutilization for commercial, recreational, scientific, or educational purposes;
  - (c) Disease or predation;
  - (d) The inadequacy of existing regulatory mechanisms; and
  - (e) Other natural or manmade factors affecting its continued existence.
- (6) The reasons why areas should or should not be designated as critical habitat as provided by section 4 of the Act (16 U.S.C. 1531 *et seq.*), including the possible risks or benefits of designating critical habitat, including risks associated with publication of maps designating any area on which this species may be located, now or in the future, as critical habitat.

(7) The following specific information on:

- (a) The amount and distribution of habitat for northern long-eared bat;
- (b) What areas, that are currently occupied and that contain the physical and biological features essential to the conservation of this species, should be included in a critical habitat designation and why;
- (c) Special management considerations or protection that may be needed for the essential features in potential critical habitat areas, including managing for the potential effects of climate change;
- (d) What areas not occupied at the time of listing are essential for the conservation of this species and why;
- (e) The amount of forest removal occurring within known summer habitat for this species;
- (f) Information on summer roost habitat requirements that are essential for the conservation of the species and why; and
- (g) Information on species winter habitat (hibernacula) features and requirements for the species.

(8) Information on the projected and reasonably likely impacts of changing environmental conditions resulting from climate change on the species and its habitat.

Please note that submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or threatened species must be made “solely on the basis of the best scientific and commercial data available.”

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in the **ADDRESSES** section. If you submit information via <http://www.regulations.gov>, your entire submission—including any personal identifying information—will be posted on the Web site. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on <http://www.regulations.gov>. Please include sufficient information with your comments to allow us to verify any scientific or commercial information you include.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on <http://www.regulations.gov>, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Green Bay, Wisconsin Field Office (see **FOR FURTHER INFORMATION CONTACT**).

#### Background

Section 4(b)(3)(B) of the Act requires that, for any petition to revise the Federal Lists of Threatened and Endangered Wildlife and Plants that contains substantial scientific or commercial information that listing a species may be warranted, we make a finding within 12 months of the date of receipt of the petition on whether the petitioned action is: (a) Not warranted; (b) warranted; or (3) warranted, but the immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether any species is endangered or threatened, and expeditious progress is being made to add or remove qualified species from the Federal Lists of Endangered and Threatened Wildlife and Plants. In this document, we have determined that the petitioned action to list the eastern small-footed bat is not warranted, but listing the northern long-eared bat is warranted and; therefore, we are publishing a proposed rule to list the northern long-eared bat.

#### Previous Federal Actions

On September 18, 1985 (50 FR 37958), November 21, 1991 (56 FR 58804), and November 15, 1994 (59 FR 58982), the Service issued notices of review identifying the eastern small-footed bat

as a “category-2 candidate” for listing under the Act. However, on December 5, 1996 (50 FR 64481), the Service discontinued the practice of maintaining a list of species regarded as “category-2 candidates,” that is, taxa for which the Service had insufficient information to support issuance of a proposed listing rule.

On January 21, 2010, we received a petition from the Center for Biological Diversity, requesting that the eastern small-footed bat and northern long-eared bat be listed as endangered or threatened and that critical habitat be designated under the Act. The petition clearly identified itself as such and included the requisite identification information for the petitioner, as required by 50 CFR 424.14(a). In a February 19, 2010, letter to the petitioner, we acknowledged receipt of the petition and stated that we would review the petitioned request for listing and inform the petitioner of our determination upon completion of our review. On June 23, 2010, we received a notice of intent to sue (NOI) from the petitioner for failing to make a timely 90-day finding. In a letter dated July 20, 2010, we responded to the NOI, stating that we had assigned lead for the two bat species to the Services’ Midwest and Northeast Regions, and that although completing the 90-day finding within the 90 days following our receipt of the petition was not practicable, the Regions were recently allocated funding to work on the findings and had begun review of the petition. On June 29, 2011, we published in the **Federal Register** (76 FR 38095) our finding that the petition to list the eastern small-footed bat and northern long-eared bat presented substantial information indicating that the requested action may be warranted, and we initiated a status review of the species. On July 12, 2011, the Service filed a proposed settlement agreement with the Center for Biological Diversity in a consolidated case in the U.S. District Court for the District of Columbia. The settlement agreement was approved by the court on September 9, 2011. As part of this settlement agreement, the Service agreed to complete a status review for the eastern small-footed bat and northern long-eared bat by September 30, 2013, and if warranted for listing, publish a proposed listing rule also by that date.

#### Species Information

Eastern Small-Footed Bat

Taxonomy and Species Description

The eastern small-footed bat (*Myotis leibii*) belongs to the Order Chiroptera,

Suborder Microchiroptera, and Family Vespertilionidae (Best and Jennings 1997, p. 1). The eastern small-footed bat is considered monotypic, whereby no subspecies has been recognized (van Zyll de Jong 1984, p. 2525). This species has been identified by different scientific names: *Vespertilio leibii* (Audubon and Bachman 1842, p. 284) and *Myotis subulatus* (Miller and Allen 1928, p. 164). This species also has been identified by different common names: Leib's bat (Audubon and Bachman 1842, p. 284), least brown bat (Mohr 1936, p. 62), and Leib's masked bat or least bat (Hitchcock 1949, p. 47). The Service agrees with the treatment in Best and Jennings (1997, p. 1) regarding the scientific and common names and will refer to this species as eastern small-footed bat and recognizes it as a listable entity under the Act.

The eastern small-footed bat is one of the smallest North American bats, weighing from 3 to 8 grams (g) (0.1 to 0.3 ounces (oz)) (Merritt 1987, p. 94). Total body length is from 73 to 85 millimeters (mm) (2.9 to 3.4 inches (in)), tail length is from 31 to 34 mm (1.2 to 1.3 in), forearm length is from 30 to 36 mm (1.2 to 1.4 in), and wingspan is from 212 to 248 mm (8.4 to 9.8 in) (Barbour and Davis 1969, p. 103; Merritt 1987, p. 94; Erdle and Hobson 2001, p. 6; Amelon and Burhans 2006, p. 57). Eastern small-footed bats are recognized by their short hind feet (less than 8 mm (0.3 in)), short ears (less than 15 mm (0.6 in)), black facial mask, black ears, keeled calcar (a spur of cartilage that helps spread the wing membrane), and small flattened skull (Barbour and Davis 1969, p. 103; Best and Jennings 1997, p. 1). The wings and interfemoral membrane (the wing membrane between the tail and hind legs) are black. The dorsal fur is black at the roots and tipped with light brown, giving it a dark yellowish-brown appearance. The ventral fur is gray at the roots and tipped with yellowish-white (Audubon and Bachman 1842, pp. 284–285).

#### Distribution and Abundance

The eastern small-footed bat occurs from eastern Canada and New England south to Alabama and Georgia and west to Oklahoma. The species' range includes 26 states and 2 Canadian provinces, including Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, Ontario, and Quebec. Relative to other

species of bats in its range, eastern small-footed bats are considered uncommon (Best and Jennings 1997, p. 3). They historically have been considered rare because of their patchy distribution and generally low population numbers (Mohr 1932, p. 160). In areas with abundant summer habitat, however, they have been found to be relatively common (Brack *et al.*, unpublished manuscript). Johnson *et al.* (2011, p. 99) observed that capture success decreased as the distance increased from suitable roosting habitat. Eastern small-footed bats have also been noted for their ability to detect and avoid mist nets, which are typically relied upon for summer bat surveys (Barbour and Davis 1974, p. 84), suggesting their numbers could be underrepresented (Tyburec 2012).

Eastern small-footed bats have most often been detected during winter hibernacula (the areas where the bats hibernate during winter; primarily caves and mines) surveys (Barbour and Davis 1969, p. 103). Two-hundred eighty-nine hibernacula (includes cave and abandoned mine features only) have been identified across the species' range, though most contain just a few individuals. The majority of known hibernacula occur in Pennsylvania (n=55), New York (n=53), West Virginia (n=50), Virginia (n=33), Kentucky (n=26), and North Carolina (n=25), but hibernacula are also known from Tennessee (approximately 12), Arkansas (n=9), Maryland (n=7), Vermont (n=6), Missouri (n=3), Maine (n=2), Massachusetts (n=2), New Hampshire (n=2), New Jersey (n=2), Indiana (n=1), and Oklahoma (n=1). In Vermont, eastern small-footed bats were consistently found in very small numbers and often not detected at all during periodic surveys of hibernacula (Trombulak *et al.* 2001, pp. 53–57). Their propensity for hibernating in cracks and crevices in cave and mine floors and ceilings may also mean they are more often overlooked than other cave-hibernating bat species. The largest number of hibernating individuals ever reported for the species was 2,383, which were found in a mine in Essex County, New York (Herzog 2013, pers. comm.).

In Pennsylvania, eastern small-footed bats were observed at 55 of 480 (12 percent) hibernacula from 1984 to 2011, accounting for only 0.1 percent of the total bats observed during winter hibernacula surveys. The number of eastern small-footed bats observed per site fluctuates annually and ranges from 1 to 46 (mean = 4, median = 1). Summer mist-net surveys also confirm that eastern small-footed bats are observed

less frequently than other bat species. From 1995 to 2011, of the 7,007 bat mist-net surveys conducted in Pennsylvania, only 104 surveys (2 percent) include eastern small-footed bat captures, representing only 0.3 percent of the total bats captured (Butchkoski 2011, unpublished data). Of the other states within the species' range, seven states (Alabama, Connecticut, Delaware, Indiana, Massachusetts, Mississippi, and Rhode Island) have no summer records, and of those States with summer records, the most have fewer than 20 capture locations (Service, unpublished data).

Illustrating the potential for underrepresentation of the species during hibernacula surveys, the following is an example from one state. From 1939 to 1944, over 100 caves were surveyed in Pennsylvania (and a portion of West Virginia), and out of these, eastern small-footed bats were observed at only 7 sites, totaling 363 individuals. In 1978 and 1979, the same seven caves were surveyed again, and no eastern small-footed bats were observed (Felbaum *et al.* 1995, p. 24). However, surveys conducted from 1980 to 1988, found eastern small-footed bats inhabiting 21 hibernacula from an 8-county area in Pennsylvania (Dunn and Hall 1989, p. 169), and by 2011, surveys had confirmed presence at 55 sites in a 14-county area (Pennsylvania Game Commission, unpublished data). This example is typical of the species' potential for fluctuation throughout its range.

#### Habitat

##### Winter Habitat

Eastern small-footed bats have been observed most often overwintering in hibernacula that include caves and abandoned mines (e.g., limestone, coal, iron). Because they tolerate colder temperatures more so than other *Myotis* bats, they are most often encountered close to cave or mine entrances where humidity is low and temperature fluctuations may be high relative to more interior areas (Hitchcock 1949, p. 53; Barbour and Davis 1969, p. 104; Best and Jennings 1997, pp. 2–3; Veilleux 2007, p. 502). On occasion, however, they have been observed hibernating deep within cave interiors (Hitchcock 1965, p. 9; Gunier and Elder 1973, p. 490). In Pennsylvania, caves containing wintering populations of eastern small-footed bats have been found in hemlock-dominated forests in the foothills of mountains that rise to 610 meters (m) (2000 feet (ft)) (Mohr 1936, p. 63). Dunn and Hall (1989, p. 169) noted that 52 percent of Pennsylvania hibernacula

used by eastern small-footed bats were small caves of less than 150 m (500 ft) in length. Before it was commercialized, the cave in Fourth Chute, Ontario was home to a relatively large number of hibernating eastern small-footed bats ( $n = 434$ ) and is described in Hitchcock (1949, pp. 47–54) as follows: “the cave is in a limestone outcropping on the north bank of the Bonnechere River, at an elevation of 425 ft (130 m). Sinkholes and large openings to passages make this cave conspicuous. Most of the land immediately surrounding the cave area is open field or pasture, with wooded hills beyond. The part utilized by bats for hibernation lies farthest from the river, and is entered from one of the large, outside passageways through a narrow opening; the main passages are well ventilated by a through draft; the forests near Fourth Chute are mixed, with spruce and white cedar predominating among the conifers.” Eastern small-footed bats were found in cold, dry, drafty locations at Fourth Chute, usually in narrow cracks in the cave wall or roof (Hitchcock 1949, p. 53).

Winter habitat used by eastern small-footed bats may also include non-cave or non-mine features, such as rock outcrops and stone highway culverts. In Pennsylvania, eastern small-footed bats were observed hibernating multiple years during the months of January and March in a rock outcrop located high above the Juniata River. The bats were found in small cracks and crevices at the back of a 4.6-m (15-ft) depression in the rock outcrop. Big brown bats (*Eptesicus fuscus*) were also present. Temperatures within the cracks where bats were hibernating ranged from 1.7 to 8.3 °C (35 to 47 °F). Observers noted that it seemed a cold, unstable site for hibernating bats (Pennsylvania Game Commission, unpublished data). In West Virginia, an eastern small-footed bat was observed in a crack in a rock outcrop about 1.5 to 1.8 m (5 to 6 ft) above the ground in February (Stihler 2012, pers. comm.). Sasse *et al.* (in press) reported a single female eastern small-footed bat hibernating inside a stone highway culvert underneath a highway in Arkansas. Mohr (1936, p. 64) noted fluctuations in the number of eastern small-footed bats observed at hibernacula during winter surveys conducted 2 to 3 weeks apart, suggesting bats left caves and mines during warmer winter periods only to return when it became colder. Consequently, eastern small-footed bats may be utilizing non-cave or non-mine rock features during mild or milder portions of winters, but to what extent

they may be doing so is largely unknown.

#### Summer Habitat

In the summer, eastern small-footed bats are dependent on emergent rock habitats for roosting and on the immediately surrounding forests for foraging (Johnson *et al.* 2009, p. 5). Eastern small-footed bats have been observed roosting singly or in small maternity colonies in talus fields and slopes, rock-outcrops, rocky ridges, sandstone boulders, shale rock piles, limestone spoil piles, rocky terrain of strip mine areas, and cliff crevices, but have also been found on humanmade structures such as buildings and expansion joints of bridges (Barbour and Davis 1969, p. 103; McDaniel *et al.* 1982, p. 93; Merritt 1987, p. 95; MacGregor and Kiser 1998, p. 175; Roble 2004, p. 43; Amelon and Burhans 2006, p. 58; Chenger 2008a, p. 10; Chenger 2008b, p. 6; Johnson *et al.* 2011, p. 100; Johnson and Gates 2008, p. 456; Hauser and Chenger 2010; Sanders 2010; Mumma and Capouillez 2011, p. 24; Thomson and O’Keefe 2011; Brack *et al.*, unpublished manuscript). Other humanmade features exploited by eastern small-footed bats include rocky dams, road cuts, rocky mine lands, mines, and rock fields within transmission-line and pipeline clearings (Sanders 2011, pers. comm.; Johnson *et al.* 2011, p. 99; Thomson and O’Keefe 2011). Roost sites are most often located in areas with full solar exposure, but have also been found in areas with moderate to extensive canopy cover (Johnson *et al.* 2011, p. 100; Brack *et al.* unpublished manuscript, pp. 9–15; Thomson and O’Keefe 2012). In New Hampshire, eastern small-footed bats have been observed roosting between boulder crevices along the southern outflow of the Surry Mountain Reservoir (Veilleux and Reynolds 2006, p. 330). In Vermont, one summer colony, containing approximately 30 eastern small-footed bats, was located in a slate roof of a house (Darling and Smith 2011, p. 4). Tuttle (1964, p. 149) reported two individuals found in April in Tennessee under a large flat rock at the edge of a quarry surrounded by woods and cow pastures (elevation 549 m (1,800 ft)). In Ontario, a colony of approximately 12 bats was found in July behind a shed door (Hitchcock 1955, p. 31). In addition, small numbers of adult and juvenile eastern small-footed bats have been observed using caves and mines as roosting habitat during the summer months in Maryland, Pennsylvania, Kentucky, Arkansas, West Virginia, and Virginia (Davis *et al.* 1965, p. 683; Krutzsch 1966, p. 121; Hall and Brenner

1968, p. 779; McDaniel *et al.* 1982, p. 93; Agosta *et al.* 2005, p. 1213; Reynolds, pers. comm.).

Summer foraging habitat used by eastern small-footed bats includes rivers, streams, riparian forests, upland forests, clearings, strip mines, and ridgetops (Chenger 2003, pp. 14–23; Chenger 2008a, pp. 10 and 69–71; Chenger 2008b, p. 6; Hauser and Chenger 2010; Johnson *et al.* 2009, p. 3; Mumma and Capouillez 2011, p. 24; Brack *et al.*, unpublished manuscript).

#### Biology

##### Hibernation

Eastern small-footed bats hibernate during the winter months to conserve energy from increased thermoregulatory demands and reduced food resources. To increase energy savings, individuals enter a state of torpor where internal body temperatures approach ambient temperature, metabolic rates are significantly lowered, and immune function declines (Thomas *et al.* 1990, p. 475; Thomas and Geiser 1997, p. 585; Bouma *et al.* 2010, p. 623). Periodic arousal from torpor naturally occurs in all hibernating mammals (Lyman *et al.* 1982, p. 92), although arousals remain among the least understood of hibernation phenomena (Thomas and Geiser 1997, p. 585). Numerous factors (*e.g.*, reduction of metabolic waste, body temperature theories, and water balance theory) have been proposed to account for the occurrence and frequency of arousals (Thomas and Geiser 1997, p. 585). Each time a bat arouses from torpor, it uses a significant amount of energy to warm its body and increase its metabolic rate. The cost and number of arousals are the two key factors that determine energy expenditures of hibernating bats in winter (Thomas *et al.* 1990, p. 475). For example, little brown bats (*Myotis lucifugus*) used as much fat during a typical arousal from hibernation as would be used during 68 days of torpor, and arousals and subsequent activity may constitute 84 percent of the total energy used by hibernating bats during the winter (Thomas *et al.* 1990, pp. 477–478).

Of all hibernating bats, eastern small-footed bats are among the last to enter hibernacula and the first to emerge in the spring (Barbour and Davis 1969, p. 104). Hibernation is approximately mid-November to March (Barbour and Davis 1969, p. 104; Dalton 1987, p. 373); however, there are indications that eastern small-footed bats are active during mild winter weather (Mohr 1936, p. 64; Fenton 1972, p. 5). Fenton (1972, p. 5) observed that when temperatures at hibernation sites rose above 4°

Celsius (C) (39.2 °F (F)), eastern small-footed bats, along with big brown bats, aroused and departed from caves and mines. Whether these bats departed to take advantage of prey availability during mild winter spells or seek out other hibernation sites was never determined. Frequent oscillations in microclimate near cave or mine entrances may contribute to frequent arousals from torpor by eastern small-footed bats (Hitchcock 1965, p. 8). Frequent arousals may deplete energy reserves at a faster rate than would more continuous torpor characteristic of other cave-hibernating bats, contributing to a lower survival rate compared to other *Myotis* bats (Hitchcock *et al.* 1984, p. 129). Eastern small-footed bats lose up to 16 percent of their body weights during hibernation (Fenton 1972, p. 5).

Eastern small-footed bats often hibernate solitarily or in small groups and have been found hibernating in the open, in small cracks in cave walls and ceilings, in rock crevices in cave or mine floors, and beneath rocks (Hitchcock 1949, p. 53; Davis 1955, p. 130; Martin *et al.* 1966, p. 349; Barbour and Davis 1969, p. 104; Banfield 1974, p. 52; Dalton 1987, p. 373). Martin *et al.* (1966, p. 349) observed up to 30 eastern small-footed bats hanging from the ceilings of two mines in New York. From one small fissure, Hitchcock (1949, p. 53) extracted 35 eastern small-footed bats that were packed so tightly that it appeared almost impossible for those farthest in to get air. This propensity for hibernating in narrow cracks and crevices may mean they are sometimes overlooked by surveyors. In Maryland, for example, far fewer eastern small-footed bats were observed by surveyors during internal hibernacula surveys than were caught in traps during spring emergence (Maryland Department of Natural Resources 2011, unpublished data).

Eastern small-footed bats have been observed hibernating in caves that also contain little brown bats, big brown bats, northern long-eared bats (*Myotis septentrionalis*), Indiana bats (*Myotis sodalis*), tri-colored bats (*Perimyotis subflavus*), Virginia big-eared bats (*Corynorhinus townsendii virginianus*), gray bats (*Myotis grisescens*), and Rafinesque's big-eared bats (*Corynorhinus rafinesquii rafinesquii*), and approximately equal numbers of males and females occupy the same areas and cluster together indiscriminately (Hitchcock 1949, pp. 48–49; Hitchcock 1965, pp. 6–8; Fenton 1972, p. 3; Best and Jennings 1997, p. 3; Hemberger 2011, unpublished data; Graeter 2011, unpublished data; Graham 2011, unpublished data). Fenton (1972,

p. 5) commonly observed eastern small-footed bats hibernating in physical contact with big brown bats, usually in small clusters of fewer than five bats, but never close to or in contact with little brown or Indiana bats. Eastern small-footed bats often hibernate in a horizontal position, tucked between cracks and crevices, unlike most *Myotis* bats, which hang in the open (Merritt 1987, p. 95). When suspended, however, the position of the forearm is unique in that, instead of hanging parallel to the body, as in other *Myotis* bats, the forearms are somewhat extended (Banfield 1974, p. 52). Like most bat species, eastern small-footed bats exhibit high site fidelity to hibernacula, with individuals returning to the same site year after year (Gates *et al.* 1984, p. 166).

#### Migration and Homing

Eastern small-footed bats have been observed migrating up to 19 kilometers (km) (12 miles (mi)) (Hitchcock 1955, p. 31) and as little as 0.1 km (0.06 mi) from winter hibernacula to summer roost sites (Johnson and Gates 2008, p. 456). The distance traveled is probably influenced by the availability of hibernacula and roosting sites across the landscape (Johnson and Gates 2008, p. 457). But in general, data suggest that this species hibernates in proximity to its summer range (van Zyll de Jong 1985, p. 119; Divoll *et al.* 2011). Eastern small-footed bats show a definite homing ability (Best and Jennings 1997, p. 4). Marked bats were present in the same cave in consecutive winters, and when moved to a different cave during the winter, they returned to the original cave the following winter (Mohr 1936, p. 64). In the Mammoth Cave region of Kentucky, eastern small-footed bats are fairly common in late summer in the groups of migrating bats, although the whereabouts of these bats at other seasons is unknown (Barbour and Davis 1969, p. 104).

#### Summer Roosts

Both males and females change summer roost sites often, even daily, although they typically are moving short distances within a general area (Chenger 2003, pp. 14–23; Johnson *et al.* 2011, p. 100; Brack *et al.*, unpublished manuscript). Chenger (2009, p. 7) suggests that eastern small-footed bats roost in low numbers over a wide area, such as talus fields, as a predator-avoidance strategy (Chenger 2009, p. 7). Frequent roost-switching may be another means of avoiding potential predators. Johnson *et al.* 2011 (pp. 98–101) radiotracked five lactating female bats and five nonreproductive males

and observed that females and males switched roosts on average every 1.1 days. Males traveled an average of 41 m (135 ft) between consecutive roosts. Females traveled an average of 67 m (218 ft) between consecutive roosts, and roosts were closer to ephemeral water sources than those used by males.

Johnson *et al.* 2011 (p. 103) hypothesized that roost selection is based on either avoiding detection by predators or minimizing energy expenditures. They observed that roosts were located within 15 m (50 ft) from vegetation or forest edge and in areas with low canopy cover, which consequently provided a short distance to protective cover and high solar exposure. It appears eastern small-footed bats exhibit fidelity to their summer roosting areas, as demonstrated by the recapture of banded bats in successive years at the Surry Mountain Reservoir and Acadia National Park (Divoll *et al.* 2013; Veilleux and Moosman, unpublished data).

#### Reproduction

Available data regarding the eastern small-footed bat suggest that females of this species form small summer colonies, with males roosting singly or in small groups (Erdle and Hobson 2001, p. 10; Johnson *et al.* 2011, p. 100). Small maternity colonies of 12 to 20 individuals occurring in buildings have been reported (Merritt 1987, p. 95). Eastern small-footed bats are thought to be similar to sympatric *Myotis* that breed in the fall; spermatozoa are stored in the uterus of hibernating females until spring ovulation, and a single pup is born in May or June (Barbour and Davis 1969, p. 104; Amelon and Burhans 2006, p. 58). Brack *et al.* (unpublished manuscript) captured two female eastern small-footed bats in the fall that appeared to have recently mated as noted by fluids around the vagina. Two female eastern small-footed bats caught on June 20 and 24 were pregnant, and 16 female bats caught from June 23 to July 15 were lactating (Brack *et al.*, unpublished manuscript).

Adult longevity is estimated to be up to 12 years in the wild (Hitchcock 1965, p. 11). Estimated mean annual survival is low compared to other *Myotis*, and survival rates are significantly lower for females than for males, 42 and 75 percent, respectively (Hitchcock *et al.* 1984, p. 128). The lower rate of survival of females may be a result of a combination of factors: The greater demands of reproduction on females; the higher metabolic rates and less frequent torpor; and the greater exposure to possible disease-carrying parasites in maternity colonies

(Hitchcock *et al.* 1984, p. 127). Low survivorship in combination with low reproductive potential (*i.e.*, one offspring produced per year) (Best and Jennings 1997, p. 2) may explain why eastern small-footed bats are generally uncommon (Hitchcock *et al.* 1984, p. 129).

#### Foraging Behavior and Home Range

Eastern small-footed bats have low wing loading and high, frequency-modulated echolocation calls, making them capable of foraging efficiently in cluttered forest interiors (Johnson *et al.* 2009, p. 5). Although some accounts state that this species emerges early in the evening (van Zyll de Jong 1985, p. 119), Brack *et al.* (unpublished manuscript) found that activity peaked well after dark, and low post-midnight activities point to the possibility of a bimodal activity period. Most observations indicate that eastern small-footed bats fly slow and close to the ground, usually at heights from 0.6 to 3.5 m (2 to 11.5 ft) (Davis *et al.* 1965, p. 683; Brack *et al.*, unpublished manuscript).

Using ridgelines, streams, and forested roads as travel corridors, eastern small-footed bats have been observed travelling from 0.8 to 13.2 km (0.5 to 8.2 mi) between daytime roost sites and foraging areas (Chenger 2003, pp. 14–23; Chenger 2008b, p. 6; Johnson *et al.* 2009, p. 3; Mumma and Capouillez 2011, p. 24). Considerable declines in eastern small-footed bat capture rates have been observed with increasing distance from available rock habitat; and short distances between roosts and capture sites suggest these bats have small home ranges (Johnson *et al.* 2011, p. 104). Observed home range varies from 10.2 to 1,405 hectares (ha) (25 to 3,472 acres (ac)) (Johnson *et al.* 2009, p. 3; Mumma and Capouillez 2011, p. 25), although core habitat for three male and two female eastern small-footed bats ranged from 4 to 75 ha (10 to 185 ac) (50 percent fixed kernel utilization distribution) (Mumma and Capouillez 2011, p. 25).

Food habits of eastern small-footed bats are those of a generalist, although moths (Lepidoptera), true flies (Diptera), and beetles (Coleoptera) compose most of their diet (Johnson and Gates 2007, p. 319; Moosman *et al.* 2007, p. 355; Brack *et al.*, unpublished manuscript). Presence of spiders (Araneae) and crickets (Gryllidae) in the diet suggest eastern small-footed bats capture some prey via gleaning (Moosman *et al.* 2007, p. 358). Gleaning behavior is characterized by catching prey on surfaces via echolocation; calls are generally short in duration, high

frequency, and of low intensity, characteristics that are difficult for some invertebrate prey to detect (Faure *et al.* 1993, p. 174).

#### Species Information

##### Northern Long-Eared Bat

##### Taxonomy and Species Description

The northern long-eared bat belongs to the order Chiroptera, suborder Microchiroptera, family Vespertilionidae, subfamily Vesperilioninae, genus *Myotis*, subgenus *Myotis* (Caceres and Barclay 2000, p. 1). The northern long-eared bat was considered a subspecies of Keen's long-eared *Myotis* (*Myotis keenii*) (Fitch and Schump 1979, p. 1), but was recognized as a distinct species by van Zyll de Jong in 1979 (1979, p. 993) based on geographic separation and difference in morphology (as cited in Caceres and Pybus 1997 p. 1; Caceres and Barclay 2000, p. 1; Nagorsen and Brigham 1993, p. 87; Whitaker and Hamilton 1998, p. 99; Whitaker and Mumford 2009, p. 207; Simmons 2005, p. 516). No subspecies have been described for this species (Nagorsen and Brigham 1993, p. 90; Whitaker and Mumford 2009, p. 214; van Zyll de Jong 1985, p. 94). This species has been recognized by different common names, such as: Keen's bat (Whitaker and Hamilton 1998, p. 99), northern myotis bat (Nagorsen and Brigham 1993, p. 87; Whitaker and Mumford 2009, p. 207), and the northern bat (Foster and Kurta 1999, p. 660). For the purposes of this finding, we refer to this species as the northern long-eared bat, and recognize it as a listable entity under the Act.

A medium-sized bat species, the northern long-eared bat adult body weight averages 5 to 8 g (0.2 to 0.3 ounces), with females tending to be slightly larger than males (Caceres and Pybus 1997, p. 3). Average body length ranges from 77 to 95 mm (3.0 to 3.7 in), tail length between 35 and 42 mm (1.3 to 1.6 in), forearm length between 34 and 38 mm (1.3 to 1.5 in), and wingspread between 228 and 258 mm (8.9 to 10.2 in) (Caceres and Barclay 2000, p. 1; Barbour and Davis 1969, p. 76). Pelage (fur) colors include medium to dark brown on its back, dark brown, but not black, ears and wing membranes, and tawny to pale-brown fur on the ventral side (Nagorsen and Brigham 1993, p. 87; Whitaker and Mumford 2009, p. 207). As indicated by its common name, the northern long-eared bat is distinguished from other *Myotis* species by its long ears (average 17 mm (0.7 in), Whitaker and Mumford 2009, p. 207) that, when laid forward, extend beyond the nose but less than 5

mm (0.2 in) beyond the muzzle (Caceres and Barclay 2000, p. 1). The tragus (projection of skin in front of the external ear) is long (average 9 mm (0.4 in); Whitaker and Mumford 2009, p. 207), pointed, and symmetrical (Nagorsen and Brigham 1993, p. 87; Whitaker and Mumford 2009, p. 207). Within its range, the northern long-eared bat can be confused with the little brown bat or the western long-eared myotis (*Myotis evotis*). The northern long-eared bat can be distinguished from the little brown bat by its longer ears, tragus, slightly longer tail, and less glossy pelage (Caceres and Barclay 2000, p. 1). The northern long-eared bat can be distinguished from the western long-eared myotis by its darker pelage and paler membranes (Caceres and Barclay 2000, p. 1).

#### Distribution and Abundance

The northern long-eared bat ranges across much of the eastern and north central United States, and all Canadian provinces west to the southern Yukon Territory and eastern British Columbia (Nagorsen and Brigham 1993, p. 89; Caceres and Pybus 1997, p. 1; Environment Yukon 2011, p. 10). In the United States, the species' range reaches from Maine west to Montana, south to eastern Kansas, eastern Oklahoma, Arkansas, and east to the Florida panhandle (Whitaker and Hamilton 1998, p. 99; Caceres and Barclay 2000, p. 2; Wilson and Reeder 2005, p. 516; Amelon and Burhans 2006, pp. 71–72). The species' range includes the following 39 States (including the District of Columbia, which we count as one of the "States"): Alabama, Arkansas, Connecticut, Delaware, the District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming. Historically, the species has been most frequently observed in the northeastern United States and in Canadian Provinces, Quebec and Ontario, with sightings increasing during swarming and hibernation (Caceres and Barclay 2000, p. 2). However, throughout the majority of the species' range it is patchily distributed, and historically was less common in the southern and western portions of the range than in the northern portion of the range (Amelon and Burhans 2006, p. 71).

Although they are typically found in low numbers in inconspicuous roosts, most records of northern long-eared bats are from winter hibernacula surveys (Caceres and Pybus 1997, p. 2) (for more information on use of hibernacula, see *Biology* below). More than 780 hibernacula have been identified throughout the species' range in the United States, although many hibernacula contain only a few (1 to 3) individuals (Whitaker and Hamilton 1998, p. 100). Known hibernacula (sites with one or more winter records) include: Arkansas (n=20), Connecticut (n=5), Georgia (n=1), Illinois (n=36), Indiana (n=25), Kentucky (n=90), Maine (n=3), Maryland (n=11), Massachusetts (n=7), Michigan (n=94), Minnesota (n=11), Missouri (n=>111), Nebraska (n=2), New Hampshire (n=9), New Jersey (n=8), New York (n=58), North Carolina (n=20), Oklahoma (n=4), Ohio (n=3), Pennsylvania (n=112), South Carolina (n=2), South Dakota (n=7), Tennessee (n=11), Vermont (n=13 (23 historical)), Virginia (n=8), West Virginia (n=104), and Wisconsin (n=45). Other states within the species' range have no known hibernacula (due to no suitable hibernacula present or lack of survey effort). They are typically found roosting in small crevices or cracks on cave or mine walls or ceilings, thus are easily overlooked during surveys and usually observed in small numbers (Griffin 1940, pp. 181–182; Barbour and Davis 1969, p. 77; Caire *et al.* 1979, p. 405; Van Zyll de Jong 1985, p. 9; Caceres and Pybus 1997, p. 2; Whitaker and Mumford 2009, pp. 209–210).

The U.S. portion of the northern long-eared bat's range can be described in four parts, as discussed below: the eastern population, Midwestern population, the southern population, and the western population.

#### *Eastern Population*

Historically, the northern long-eared bat was most abundant in the eastern portion its range (Caceres and Barclay 2000, p. 2). Northern long-eared bats have been consistently caught during summer mist nets surveys and detected during acoustic surveys in eastern populations. Large numbers of northern long-eared bats have been found in larger hibernacula in Pennsylvania (*e.g.*, an estimated 881 individuals in a mine in Bucks County, Pennsylvania in 2004). Fall swarm trapping conducted in September–October 1988–1989, 1990–1991, and 1999–2000 at two hibernacula with large historical numbers of northern long-eared bats had total captures ranging from 6 to 30 bats per hour, which demonstrated that the species was abundant at these

hibernacula (Pennsylvania Game Commission, unpublished data, 2012).

In Delaware, the species is rare and no hibernacula are documented within the State; however, there is a historical record from Newcastle County in 1970 (Niederriter 2012, pers. comm.). In Connecticut, the northern long-eared bat was historically one of the most commonly encountered bats in the State and had been documented statewide (Dickson 2011, pers. comm.). In Maine, 3 hibernacula are known (all on private land), and the species has also been found in the summer in Acadia National Park (DePue 2012, unpublished data) where northern long-eared bats were found to be fairly common in 2009–2010 (242 northern long-eared bats captured comprising 27 percent of the total captures for the areas surveyed) (NPS 2010).

In Maryland, three of seven known hibernacula for the species are railroad tunnels, and no summer mist net or acoustic surveys have been conducted for the species (Feller 2011, unpublished data). In Massachusetts, there are 7 known hibernacula, 42 percent of which are privately owned. In New Hampshire, northern long-eared bats are known to inhabit at least nine mines and two World War II bunkers and have been found in summer surveys, including at Surry Mountain Dam (Brunkhurst 2012, unpublished data). In the White Mountain National Forest in New Hampshire in 1993–1994, northern long-eared was one of the most common species captured (27 percent) (Sasse and Pekins 1996, pp. 93–95). In New Jersey, one of the seven known hibernacula is a cave, and the remainder are mines (Markuson 2011, unpublished data). Northern long-eared bats consisted of 6 to 14 percent of total number of captures at Wallkill River National Wildlife Refuge in New Jersey from 2006–2010 (Kitchell and Wight 2011).

In Vermont, prior to 2009, the species was found in 23 hibernacula, totaling an estimated 595 animals, which was thought to be an under-estimate due to the species' preference for hibernating in hibernacula cracks and crevices. Summer capture data (2001–2007) indicated that northern long-eared bats comprised 19 percent of bats captured; it was considered the second most common bat species in the State (Smith 2011, unpublished data). In Virginia, they were historically considered “fairly common” during summer mist net surveys; however, they are considered “uncommon” during winter hibernacula surveys (Reynolds 2012, unpublished data).

In West Virginia, northern long-eared bats are found regularly in hibernacula surveys, but typically in small numbers (less than 20 individuals) in caves (Stihler 2012, unpublished data). The species has also been found in 41 abandoned coal mines in winter surveys conducted from 2002 to 2011 in the New River Gorge National River and Gauley River National Recreation Area, both managed by the National Park Service (NPS); the largest number observed was 157 in one of the NPS mines (NPS 2011, unpublished data). Northern long-eared bats are considered common in summer surveys in West Virginia; in summer records from 2006–2011 northern long-eared bat captures comprised 46 to 49 percent of all bat captures (Stihler 2012, pers. comm.).

Northern long-eared bats have been observed in 58 hibernacula in abandoned mines, caves, and tunnels in New York. They have also been observed in summer mist net and acoustic surveys. Summer mist-net surveys in New York from 2003–2008 resulted in a range of 0.21–0.47 bats/net night and declined to 0.012 bats/net night in 2011 (Herzog 2012, unpublished data). They have also been observed on Fort Drum in New York, where acoustic surveys (2003–2010) and mist net surveys (1999, 2007) have monitored the summer population (Dobony 2011, unpublished data). There are no known hibernacula in Rhode Island; however, there were 6 records from 2011 mist-net surveys in Washington County (Brown 2012, unpublished data).

#### *Midwest Population*

The northern long-eared bat is commonly encountered in summer mist-net surveys throughout the majority of the Midwest and is considered fairly common throughout much of the region. However, the species is often found infrequently and in small numbers in hibernacula surveys throughout most of the Midwest. In Missouri, northern long-eared bats were listed as a State species of conservation concern until 2007, after which it was decided the species was more common than previously thought because they were commonly captured in mist net surveys (Elliot 2013, pers. comm.). Historically, the northern long-eared bat was considered quite common throughout much of Indiana, and was the fourth or fifth most abundant bat species in the State in 2009. The species has been captured in at least 51 counties, is often captured in mist-nets along streams, and is the most common bat taken by trapping at mine entrances (Whitaker and Mumford 2009, pp. 207–

208). The abundance of northern long-eared bats appears to vary within Indiana during the summer. For example, during 3 summers (1990–1992) of mist-netting surveys in the northern half of Indiana, 37 northern long-eared bats were captured at 22 of 127 survey sites, which represented 4 percent of all bats captured (King 1993, p. 10). In contrast, northern long-eared bats were the most commonly captured bat species (38 percent of all bats captured) during three summers (2006–2008) of mist netting on two State forests in south-central Indiana (Sheets *et al.* 2013, p. 193). Indiana has 25 hibernacula with winter records of one or more northern long-eared bats. However, it is very difficult to find individuals in caves and mines during hibernation in large numbers in Indiana hibernacula (Whitaker and Mumford 2009, p. 208).

In Michigan, the northern long-eared bat is known from 25 counties and is not commonly encountered in the State except in parts of the northern Lower Peninsula and portions of the Upper Peninsula (Kurta 1982, p. 301; Kurta 2013, pers. comm.). The majority of hibernacula in Michigan are in the far northern and western Upper Peninsula; therefore, there are very few cave-hibernating bats in general in the southern half of the Lower Peninsula during the summer because the distance to hibernacula is too great (Kurta 2013, pers. comm.). It is thought that the few bats that do spend the summer in the southern half of the Lower Peninsula may hibernate in caves or mines in neighboring states, such as Indiana (Kurta 1982, pp. 301–302; Kurta 2013, pers. comm.).

In Wisconsin, the species is reported to be uncommon (Amelon and Burhans 2006, pp. 71–72). “Although the northern long-eared bat can be found in many parts of Wisconsin, it is clearly not abundant in any one location. The department has determined that the Northern long-eared bat is one of the least abundant bats in Wisconsin through cave and mine hibernacula counts, acoustic surveys, mist-netting in summer foraging areas and harp trap captures during the fall swarming period” (Redell 2011, pers. comm.). Northern long-eared bats are regularly caught in mist-net surveys in the Shawnee National Forest in southern Illinois (Kath 2013, pers. comm.). Further, the average number of northern long-eared bats caught during surveys between 1999 and 2011 at Oakwood Bottoms in the Shawnee National Forest has been fairly consistent (Carter 2012, pers. comm.). In Iowa, there are only summer mist net records for the species;

in 2011 there were eight records (including three lactating females) from west-central Iowa (Howell 2011, unpublished data). In Minnesota, one mine in St. Louis County may contain a large number of individuals, possibly over 3,000; however, this is a very rough estimate since the majority of the mine cannot be safely accessed for surveys (Nordquist 2012, pers. comm.). In Ohio, there are three known hibernacula and the largest population in Preble County has had more than 300 bats. In general, northern long-eared bats are also regularly collected as incidental catches in mist-net surveys for Indiana bats in Ohio (Boyer 2012, pers. comm.).

#### *Southern Population*

The northern long-eared bat is less common in the southern portion of its range than in the northern portion of the range (Amelon and Burhans 2006, p. 71) and, in the South, is considered more common in states such as Kentucky and Tennessee, and more rare in the southern extremes of the range (*e.g.*, Alabama, Georgia, South Carolina). In Alabama, the northern long-eared bat is rare, while in Tennessee it is uncommon (Amelon and Burhans 2006, pp. 71–72). In Tennessee, northern long-eared bats were found in summer mist-net surveys conducted through summer of 2010 in addition to hibernacula censuses. Northern long-eared bats were found in 11 caves surveyed in 2011 in Tennessee (Pelren 2011, pers. comm.). In 2000, during sampling of bat populations in the Kisatchie National Forest, Louisiana, three northern long-eared bat specimens were collected; these were the first official records of the species from Louisiana (Crnkovic 2003, p. 715). In Georgia, northern long-eared bats have been found at 1 of 5 known hibernacula in the State and 24 summer records were found between 2007 and 2011. Mist-net surveys were conducted in the Chattahoochee National Forest in 2001–2002 and 2006–2007, with 51 total records for the species (Morris 2012, unpublished data). Northern long-eared bats have been found in 20 hibernacula within North Carolina (Graeter 2011, unpublished data). In the summer of 2007, (Morris *et al.* 2009, p. 356) six northern long-eared bats were captured in Washington County, North Carolina. Both adults and juveniles were captured, suggesting that there is a reproducing resident population (Morris *et al.* 2009, p. 359). In Kentucky, although typically found in small numbers, northern long-eared bats were historically found in the majority of hibernacula in Kentucky and have been a commonly captured species during

summer surveys (Hemberger 2012, pers. comm.). The northern long-eared bat can be found throughout the majority of Kentucky, with historical records in 91 of its 120 counties. Eighty-five counties have summer records, and 68 of those include reproductive records (*i.e.*, captures of juveniles or pregnant, lactating, or post-lactating adult females) (Hemberger 2012, pers. comm.). In South Carolina, there are two known hibernacula: one is a cave that had 26 bats present in 1995, but has not been surveyed since, and the other is a tunnel where only one bat was found in 2011 (Bunch 2011, unpublished data). Northern long-eared bats are known from 20 hibernacula in Arkansas, although they are typically found in very low numbers (Sasse 2012, unpublished data). Surveys in the Ouachita Mountains of central Arkansas from 2000–2005 tracked 17 males and 23 females to 43 and 49 day roosts, respectively (Perry and Thill 2007, pp. 221–222). The northern long-eared bat is known to occur in seven counties along the eastern edge of Oklahoma, (Stevenson 1986, p. 41). The species has been recorded in 21 caves (7 of which occur on the Ozark Plateau National Wildlife Refuge) during the summer. The species has regularly been captured in summer mist-net surveys at cave entrances in Adair, Cherokee, Sequoyah, Delaware, and LeFlore counties, and are often one of the most common bats captured during mist-net surveys at cave entrances in the Ozarks of northeastern Oklahoma (Stark 2013, pers. comm.). Small numbers of northern long-eared bats (typical range of 1–17 individuals) also have been captured during mist-net surveys along creeks and riparian zones in eastern Oklahoma.

#### *Western Population*

The northern long-eared bat is generally less common in the western portion of its range than in the northern portion of the range (Amelon and Burhans 2006, p. 71) and is considered common in only small portions of the western part of its range (*e.g.*, Black Hills of South Dakota) and uncommon or rare in the western extremes of the range (*e.g.*, Wyoming, Kansas, Nebraska) (Caceres and Barclay 2000, p. 2). The northern long-eared bat has been observed hibernating and residing during the summer and is considered abundant in the Black Hills National Forest in South Dakota. Capture and banding data for survey efforts in the Black Hills of South Dakota and Wyoming showed northern long-eared bats to be the second most common bat banded (159 of 878 total bats) during 3 years of survey effort (Tigner and Aney

1994, p. 4). South Dakota contains seven known hibernacula, five of which are abandoned mines. The largest number of individuals was found in a hibernaculum near Hill City, South Dakota; 40 individuals were found in this mine in the winter of 2002–2003 (Tigner and Stukel 2003, pp. 27–28). A summer population was found on the habitats in Dakota Prairie National Grassland and Custer National Forest in 2005 (Lausen undated, unpublished data). Also, northern long-eared bats have been captured during the summer along the Missouri River in South Dakota (Swier 2006, p. 5; Kiesow and Kiesow 2010, pp. 65–66). Summer surveys in North Dakota (2009–2011) documented the species in the Turtle Mountains, the Missouri River Valley, and in the Badlands (Gillam and Barnhart 2011, pp. 10–12). No hibernacula are known within North Dakota; however, there has been very limited survey effort in the State (Riddle 2012, pers. comm.).

Northern long-eared bats have been observed at two quarries located in east-central Nebraska, but there is no survey data for either of these sites (Geluso 2011, unpublished data). They are also known to summer in the northwestern parts of Nebraska, specifically Pine Ridge in Sheridan County (only males have been documented), and a reproducing population has been documented north of Valentine in Cherry County (Benedict *et al.* 2000, pp. 60–61). During an acoustic survey conducted during the summer of 2012 the species was common in Cass County (east-central Nebraska), but was uncommon or absent from extreme southeastern Nebraska (White *et al.* 2012, p. 2). The occurrence of this species in Cass County, Nebraska is likely attributable to limestone quarries in the region that are used as hibernacula by this species and others (White *et al.* 2012, p. 3).

During acoustic and mist net surveys conducted throughout Wyoming in the summers of 2008–2011, 27 separate observations of northern long-eared bats were made in the northeast part of the State and breeding was confirmed (Wyoming Game and Fish Department 2012, unpublished data). To date, there are no known hibernacula in Wyoming and it is unclear if there are existing hibernacula, although the majority of potential hibernacula (abandoned mines) within the State occur outside of the northern long-eared bat's range (Tigner and Stukel 2003, p. 27; Wyoming Game and Fish Department 2012). Montana has only one known record: a male collected in an abandoned coal mine in 1978 in

Richland County (Montana Fish, Wildlife, and Parks 2012). In Kansas, the northern long-eared bat was first found in summer mist-net surveys in 1994 and 1995 in Osborne and Russell counties, before which the species was thought to only migrate through parts of the State (Sparks and Choate 1995, p. 190).

#### Canada Population

The northern long-eared bat occurs throughout the majority of the forested regions of Canada, although it is found in higher abundance in eastern Canada than in western Canada, similar to in the United States (Caceres Pybus 1997, p. 6). However, the scarcity of records in the western parts of Canada may be due to more limited survey efforts. It has been estimated that approximately 40 percent of the northern long-eared bat's global range is in Canada; however, due to the species being relatively common and widespread, limited effort has been made to determine overall population size within Canada (COSEWIC 2012, p. 9). The range of the northern long-eared bat in Canada includes Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Prince Edward Island, Ontario, Quebec, Saskatchewan, and Yukon (COSEWIC 2012, p. 4). There are no records of the species overwintering in Yukon and Northwest Territories (COSEWIC 2012, p. 9).

#### Habitat

##### Winter Habitat

Northern long-eared bats predominantly overwinter in hibernacula that include caves and abandoned mines. Hibernacula used by northern long-eared bats are typically large, with large passages and entrances (Raesly and Gates 1987, p. 118), relatively constant, cooler temperatures (0 to 9 °C (32 to 48 °F)) (Raesly and Gates 1987, p. 18; Caceres and Pybus 1997, p. 2; Brack 2007, p. 744), and with high humidity and no air currents (Fitch and Shump 1979, p. 2; Van Zyll de Jong 1985, p. 94; Raesly and Gates 1987 p. 118; Caceres and Pybus 1997, p. 2). The sites favored by northern long-eared bats are often in very high humidity areas, to such a large degree that droplets of water are often observed on their fur (Hitchcock 1949, p. 52; Barbour and Davis 1969, p. 77). Northern long-eared bats typically prefer cooler and more humid conditions than little brown bats, similar to the eastern small-footed bat and big brown bat, although the latter two species tolerate lower humidity than northern long-eared bats (Hitchcock 1949, p. 52–53; Barbour and

Davis 1969, p. 77; Caceres and Pybus 1997, p. 2). Northern long-eared bats are typically found roosting in small crevices or cracks in cave or mine walls or ceilings, often with only the nose and ears visible, thus are easily overlooked during surveys (Griffin 1940, pp. 181–182; Barbour and Davis 1969 p.77; Caire *et al.* 1979, p. 405; Van Zyll de Jong 1985, p.9; Caceres and Pybus 1997, p. 2; Whitaker and Mumford 2009, pp. 209–210). Caire *et al.* (1979, p. 405) and Whitaker and Mumford (2009, p. 208) commonly observed individuals exiting caves with mud and clay on their fur, also suggesting the bats were roosting in tighter recesses of hibernacula. They are also found hanging in the open, although not as frequently as in cracks and crevices (Barbour and Davis 1969, p.77, Whitaker and Mumford 2009, pp. 209–210). In 1968, Whitaker and Mumford (2009, pp. 209–210) observed three northern long-eared bats roosting in the hollow core of stalactites in a small cave in Jennings County, Indiana.

To a lesser extent, northern long-eared bats have been found overwintering in other types of habitat that resemble cave or mine hibernacula, including abandoned railroad tunnels, more frequently in the northeast portion of the range. Also, in 1952 three northern long-eared bats were found hibernating near the entrance of a storm sewer in central Minnesota (Goehring 1954, p. 435). Kurta and Teramino (1994, pp. 410–411) found northern long-eared bats hibernating in a hydro-electric dam facility in Michigan. In Massachusetts, northern long-eared bats have been found hibernating in the Sudbury Aqueduct, a structure created in the late 1800s to transfer water, but that is rarely used for this purpose today (French 2012, unpublished data). Griffin (1945, p. 22) found northern long-eared bats in December in Massachusetts in a dry well, and commented that these bats may regularly hibernate in “unsuspected retreats” in areas where caves or mines are not present.

##### Summer Habitat

During the summer, northern long-eared bats typically roost singly or in colonies underneath bark or in cavities or crevices of both live trees and snags (Sasse and Perkins 1996, p. 95; Foster and Kurta 1999, p. 662; Owen *et al.* 2002, p. 2; Carter and Feldhamer 2005, p. 262; Perry and Thill 2007, p. 222; Timpone *et al.* 2010, p. 119). Males and non-reproductive females' summer roost sites may also include cooler locations, including caves and mines (Barbour and Davis 1969, p. 77; Amelon and Burhans 2006, p. 72). Northern long-eared bats have also been observed roosting in

colonies in humanmade structures, such as buildings, barns, a park pavilion, sheds, cabins, under eaves of buildings, behind window shutters, and in bat houses (Mumford and Cope 1964, p. 72; Barbour and Davis 1969, p. 77; Cope and Humphrey 1972, p. 9; Amelon and Burhans 2006, p. 72; Whitaker and Mumford 2009, p. 209; Timpone *et al.* 2010, p. 119; Joe Kath 2013, pers. comm.).

The northern long-eared bat appears to be somewhat opportunistic in tree roost selection, selecting varying roost tree species and types of roosts throughout its range, including tree species such as black oak (*Quercus velutina*), northern red oak (*Quercus rubra*), silver maple (*Acer saccharinum*), black locust (*Robinia pseudoacacia*), American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), sourwood (*Oxydendrum arboreum*), and shortleaf pine (*Pinus echinata*) (e.g., Mumford and Cope 1964, p. 72; Clark *et al.* 1987, p. 89; Sasse and Pekins 1996, p. 95; Foster and Kurta 1999, p. 662; Lacki and Schwierjohann 2001, p. 484; Owen *et al.* 2002, p. 2; Carter and Feldhamer 2005, p. 262; Perry and Thill 2007, p. 224; Timpone *et al.* 2010, p. 119). Northern long-eared bats most likely are not dependent on a certain species of trees for roosts throughout their range; rather, certain tree species will form suitable cavities or retain bark and the bats will use them opportunistically (Foster and Kurta 1999, p. 668). Carter and Feldhamer (2005, p. 265) speculated that structural complexity of habitat or available roosting resources are more important factors than the actual tree species.

Many studies have documented the northern long-eared bat's selection of live trees and snags, with a range of 10 to 53 percent selection of live roosts found (Sasse and Perkins 1996, p. 95; Foster and Kurta 1999, p. 668; Lacki and Schwierjohann 2001, p. 484; Menzel *et al.* 2002, p. 107; Carter and Feldhamer 2005, p. 262; Perry and Thill 2007, p. 224; Timpone *et al.* 2010, p. 118). Foster and Kurta (1999, p. 663) found 53 percent of roosts in Michigan were in living trees, whereas in New Hampshire, 34 percent of roosts were in snags (Sasse and Pekins 1996, p. 95). The use of live trees versus snags may reflect the availability of such structures in study areas (Perry and Thill 2007, p. 224) and the flexibility in roost selection when there is a sympatric bat species present (e.g., Indiana bat) (Timpone *et al.* 2010, p. 120). In tree roosts, northern long-eared bats are typically found beneath loose bark or within cavities and have been found to use both exfoliating bark and crevices to a similar degree for

summer roosting habitat (Foster and Kurta 1999, p. 662; Lacki and Schwierjohann 2001, p. 484; Menzel *et al.* 2002, p. 110; Owen *et al.* 2002, p. 2; Perry and Thill 2007, p. 222; Timpone *et al.* 2010, p. 119).

Canopy coverage at northern long-eared bat roosts has ranged from 56 percent in Missouri (Timpone *et al.* 2010, p. 118), 66 percent in Arkansas (Perry and Thill 2007, p. 223), greater than 75 percent in New Hampshire (Sasse and Pekins 1996, p. 95), to greater than 84 percent in Kentucky (Lacki and Schwierjohann 2001, p. 487). Studies in New Hampshire and British Columbia have found that canopy coverage around roosts is lower than in available stands (Caceres 1998; Sasse and Pekins 1996, p. 95). Females tend to roost in more open areas than males, likely due to the increased solar radiation, which aids pup development (Perry and Thill 2007, p. 224). Fewer trees surrounding maternity roosts may also benefit juvenile bats that are starting to learn to fly (Perry and Thill 2007, p. 224). However, in southern Illinois, northern long-eared bats were observed roosting in areas with greater canopy cover than in random plots (Carter and Feldhamer 2005, p. 263). Roosts are also largely selected below the canopy, which could be due to the species' ability to exploit roosts in cluttered environments; their gleaning behavior suggests an ability to easily maneuver around obstacles (Foster and Kurta 1999, p. 669; Menzel *et al.* 2002, p. 112).

Female northern long-eared bats typically roost in tall, large-diameter trees (Sasse and Pekins 1996, p. 95). Studies have found that the diameter-at-breast height (dbh) of northern long-eared bat roost trees was greater than random trees (Lacki and Schwierjohann 2001, p. 485) and others have found both dbh and height of selected roost trees to be greater than random trees (Sasse and Pekins 1996, p. 97; Owen *et al.* 2002, p. 2). However, other studies have found that roost tree mean dbh and height did not differ from random trees (Menzel *et al.* 2002, p. 111; Carter and Feldhamer 2005, p. 266). Lacki and Schwierjohann (2001, p. 486) have also found that northern long-eared bats roost more often on upper and middle slopes than lower slopes, which suggests a preference for higher elevations due to increased solar heating.

#### Biology

##### Hibernation

Similar to the eastern small-footed bat description above, the northern long-eared bats hibernate during the winter

months to conserve energy from increased thermoregulatory demands and reduced food resources. In general, northern long-eared bats arrive at hibernacula in August or September, enter hibernation in October and November, and leave the hibernacula in March or April (Caire *et al.* 1979, p. 405; Whitaker and Hamilton 1998, p. 100; Amelon and Burhans 2006, p. 72). However, hibernation may begin as early as August (Whitaker and Rissler 1992, p. 56). In Copperhead Cave in west-central Indiana, the majority of bats enter hibernation during October, and spring emergence occurs mainly from about the second week of March to mid-April (Whitaker and Mumford 2009, p. 210). In Indiana, northern long-eared bats become more active and start feeding outside the hibernaculum in mid-March, evidenced by stomach and intestine contents. This species also showed spring activity earlier than little brown bats and tri-colored bat (Whitaker and Rissler 1992, pp. 56–57). In northern latitudes, such as in upper Michigan's copper-mining district, hibernation for northern long-eared bats and other *myotis* species may begin as early as late August and may last for 8 to 9 months (Stones and Fritz, 1969, p. 81; Fitch and Shump 1979, p. 2). Northern long-eared bats have shown a high degree of philopatry (using the same site multiple years) for a hibernaculum (Pearson 1962, p. 30), although they may not return to the same hibernaculum in successive seasons (Caceres and Barclay 2000, p. 2).

Typically, northern long-eared bats are not abundant and compose a small proportion of the total number of bats hibernating in a hibernaculum (Barbour and Davis 1969, p. 77; Mills 1971, p. 625; Caire *et al.* 1979, p. 405; Caceres and Barclay 2000, pp. 2–3). Although usually found in small numbers, the species typically inhabits the same hibernacula with large numbers of other bat species, and occasionally are found in clusters with these other bat species. Other species that commonly occupy the same habitat include: little brown bat, big brown bat, eastern small-footed bat, tri-colored bat, and Indiana bat (Swanson and Evans 1936, p. 39; Griffin 1940, p. 181; Hitchcock 1949, pp. 47–58; Stones and Fritz 1969, p. 79; Fitch and Shump 1979, p. 2). Whitaker and Mumford (2009, pp. 209–210), however, infrequently found northern long-eared bats hibernating beside little brown bats, Indiana bats, or tri-colored bats, since they found few hanging on side walls or ceilings of cave passages. Barbour and Davis (1969, p. 77) found that the

species is never abundant and rarely recorded in concentrations of over 100 in a single hibernaculum.

Northern long-eared bats often move between hibernacula throughout the winter, which may further decrease population estimates (Griffin 1940, p. 185; Whitaker and Rissler 1992b, p. 131; Caceres and Barclay 2000 pp. 2–3). Whitaker and Mumford (2009, p. 210) found that this species flies in and out of some of the mines and caves in southern Indiana throughout the winter. In particular, the bats were active at Copperhead Cave periodically all winter, with northern long-eared bats being more active than other species (such as little brown bat and tri-colored bat) hibernating in the cave. Though northern long-eared bats fly outside of the hibernacula during the winter, they do not feed; hence the function of this behavior is not well understood (Whitaker and Hamilton 1998, p. 101). However, it has been suggested that bat activity during winter could be due in part to disturbance by researchers (Whitaker and Mumford 2009, pp. 210–211).

Northern long-eared bats exhibited significant weight loss during hibernation. In southern Illinois, weight loss during hibernation was found in male northern long-eared bats, with individuals weighing an average of 6.6 g (0.2 ounces) prior to 10 January, and those collected after that date weighing an average of 5.3 g (0.2 ounces) (Pearson 1962, p. 30). Whitaker and Hamilton (1998, p. 101) reported a weight loss of 41–43 percent over the hibernation period for northern long-eared bats in Indiana. In eastern Missouri, male northern long-eared bats lost an average of 3 g (0.1 ounces) during the hibernation period (late October through March), and females lost an average of 2.7 g (0.1 ounces) (Caire *et al.* 1979, p. 406).

#### Migration and Homing

While the northern long-eared bat is not considered a long-distance migratory species, short migratory movements between summer roost and winter hibernacula between 56 km (35 mi) and 89 km (55 mi) have been documented (Nagorsen and Brigham 1993 p. 88; Griffith 1945, p. 53). However, movements from hibernacula to summer colonies may range from 8 to 270 km (5 to 168 mi) (Griffin 1945, p. 22).

Several studies show a strong homing ability of northern long-eared bats in terms of return rates to a specific hibernaculum, although bats may not return to the same hibernaculum in successive winters (Caceres and Barclay

2000, p. 2). Banding studies in Ohio, Missouri, and Connecticut show return rates to hibernacula of 5.0 percent (Mills 1971, p. 625), 4.6 percent (Caire *et al.* 1979, p. 404), and 36 percent (Griffin 1940, p. 185), respectively. An experiment showed an individual bat returned to its home cave up to 32 km (20 mi) away after being removed 3 days prior (Stones and Branick 1969, p. 158). Individuals have been known to travel between 56 and 97 km (35 and 60 mi) between caves during the spring (Caire *et al.* 1979, p. 404; Griffin 1945, p. 20).

#### Summer Roosts

Northern long-eared bats switch roosts often (Sasse and Perkins 1996, p. 95), typically every 2–3 days (Foster and Kurta 1999, p. 665; Owen *et al.* 2002, p. 2; Carter and Feldhamer 2005, p. 261; Timpone *et al.* 2010, p. 119). In Missouri, the longest time spent roosting in one tree was 3 nights; however, the up to 11 nights spent roosting in a humanmade structure has been documented (Timpone *et al.* 2010, p. 118). Similarly, Carter and Feldhamer (2005, p. 261) found that the longest a northern long-eared bat used the same tree was 3 days; in West Virginia, the average time spent at one roost was 5.3 days (Menzel *et al.* 2002, p. 110). Bats switch roosts for a variety of reasons, including, temperature, precipitation, predation, parasitism, and ephemeral roost sites (Carter and Feldhamer 2005, p. 264). Ephemeral roost sites, with the need to proactively investigate new potential roost trees prior to their current roost tree becoming uninhabitable (*e.g.*, tree falls over), may be the most likely scenario (Kurta *et al.* 2002, p. 127; Carter and Feldhamer 2005, p. 264; Timpone *et al.* 2010, p. 119). In Missouri, Timpone *et al.* (2010, p. 118) radiotracked 13 northern long-eared bats to 39 roosts and found the mean distance between the location where captured and roost tree was 1.7 km (1.1 mi) (range 0.07–4.8 km (0.04–3.0 mi), and the mean distance traveled between roost trees was 0.67 km (0.42 mi) (range 0.05–3.9 km (0.03–2.4 mi)). In Michigan, the longest distance the same bat moved between roosts was 2 km (1.2 mi) and the shortest was 6 m (20 ft) (Foster and Kurta 1999, p. 665). In New Hampshire, the mean distance between foraging areas and roost trees was 602 m (1975 ft) (Sasse and Pekins 1996, p. 95). In the Ouachita Mountains of Arkansas, Perry and Thill (2007, p. 22) found that individuals moved among snags that were within less than 2 ha (5 ac).

Some studies have found tree roost selection to differ slightly between male and female northern long-eared bats.

Male northern long-eared bats have been found to more readily use smaller diameter trees for roosting than females, suggesting males are more flexible in roost selection than females (Lacki and Schwierjohann 2001, p. 487; Broders and Forbes 2004, p. 606; Perry and Thill 2007, p. 224). In the Ouachita Mountains of Arkansas, both sexes primarily roosted in snags, although females roosted in snags surrounded by fewer midstory trees than did males (Perry and Thill 2007, p. 224). In New Brunswick, Canada, Broders and Forbes (2004, pp. 606–607) found that there was spatial segregation between male and female roosts, with female maternity colonies typically occupying more mature, shade-tolerant deciduous tree stands and males occupying more conifer-dominated stands. In northeastern Kentucky, males do not use colony roosting sites and are typically found occupying cavities in live hardwood trees, while females form colonies more often in both hardwood and softwood snags (Lacki and Schwierjohann 2001, p. 486).

The northern long-eared bat is comparable to the Indiana bat in terms of summer roost selection, but appears to be more opportunistic (Carter and Feldhamer 2005, pp. 265–266; Timpone *et al.* 2010, p. 120–121). In southern Michigan, northern long-eared bats used cavities within roost trees, living trees, and roosts with greater canopy cover more often than does the Indiana bat, which occurred in the same area (Foster and Kurta 1999, p. 670). Similarly, in northeastern Missouri, Indiana bats typically roosted in snags with exfoliating bark and low canopy cover, whereas northern long-eared bats used the same habitat in addition to live trees, shorter trees, and trees with higher canopy cover (Timpone *et al.* 2010 pp. 118–120). Although northern long-eared bats are more opportunistic than Indiana bats, there may be a small amount of roost selection overlap between the two species (Foster and Kurta 1999, p. 670; Timpone *et al.* 2010, pp. 120–121).

#### Reproduction

Breeding occurs from late July in northern regions to early October in southern regions and commences when males begin to swarm hibernacula and initiate copulation activity (Whitaker and Hamilton 1998, p. 101; Whitaker and Mumford 2009, p. 210; Caceres and Barclay 2000, p. 2; Amelon and Burhans 2006, p. 69). Copulation occasionally occurs again in the spring (Racey 1982, p. 73). Hibernating females store sperm until spring, exhibiting a delayed fertilization strategy (Racey 1979, p.

392; Caceres and Pybus 1997, p. 4). Ovulation takes place at the time of emergence from the hibernaculum, followed by fertilization of a single egg, resulting in a single embryo (Cope and Humphrey 1972, p. 9; Caceres and Pybus 1997, p. 4; Caceres and Barclay 2000, p. 2); gestation is approximately 60 days (Kurta 1994, p. 71). Males are reproductively inactive until late July, with testes descending in most males during August and September (Caire *et al.* 1979, p. 407; Amelon and Burhans 2006, p. 69).

Maternity colonies, consisting of females and young, are generally small, numbering from about 30 (Whitaker and Mumford 2009, p. 212) to 60 individuals (Caceres and Barclay 2000, p. 3); however, one group of 100 adult females was observed in Vermilion County, Indiana (Whitaker and Mumford 2009, p. 212). In West Virginia, maternity colonies in two studies had a range of 7–88 individuals (Owen *et al.* 2002, p. 2) and 11–65 individuals, with a mean size of 31 (Menzel *et al.* 2002, p. 110). Lacki and Schwierjohann (2001, p. 485) found that the population size of colony roosts declined as the summer progressed with pregnant females using the largest colonies (mean=26) and post-lactating females using the smallest colonies (mean=4), with the largest overall reported colony size of 65 bats. Other studies have also found that the number of individuals within a maternity colony typically decreases from pregnancy to post-lactation (Foster and Kurta 1999, p. 667; Lacki and Schwierjohann 2001, p. 485; Garroway and Broders 2007, p. 962; Perry and Thill 2007, p. 224; Johnson *et al.* 2012, p. 227). Female roost site selection, in terms of canopy cover and tree height, changes depending on reproductive stage; relative to pre- and post-lactation periods, lactating northern long-eared bats have been shown to roost higher in tall trees situated in areas of relatively less canopy cover and tree density (Garroway and Broders 2008, p. 91).

Adult females give birth to a single pup (Barbour and Davis 1969). Birthing within the colony tends to be synchronous, with the majority of births occurring around the same time (Krochmal and Sparks 2007, p. 654). Parturition (birth) likely occurs in late May or early June (Caire *et al.* 1979, p. 406; Easterla 1968, p. 770; Whitaker and Mumford 2009, p. 213), but may occur as late as July (Whitaker and Mumford 2009, p. 213). Broders *et al.* (2006, p. 1177) estimated a parturition date of July 20 in New Brunswick. Lactating and post-lactating females were observed in mid-June in Missouri (Caire *et al.* 1979, p. 407), July in New

Hampshire and Indiana (Sasse and Pekins 1996, p. 95; Whitaker and Mumford 2009, p. 213), and August in Nebraska (Benedict 2004, p. 235). Juvenile volancy (flight) occurs by 21 days after parturition (Krochmal and Sparks 2007, p. 651, Kunz 1971, p. 480) and as early as 18 days after parturition (Krochmal and Sparks 2007, p. 651). Subadults were captured in late June in Missouri (Caire *et al.* 1979, p. 407), early July in Iowa (Sasse and Pekins 1996, p. 95), and early August in Ohio (Mills 1971, p. 625).

Adult longevity is estimated to be up to 18.5 years (Hall 1957, p. 407), with the greatest recorded age of 19 years (Kurta 1995, p. 71). Most mortality for northern long-eared and many other species of bats occurs during the juvenile stage (Caceres and Pybus 1997, p. 4).

#### Foraging Behavior and Home Range

The northern long-eared bat has a diverse diet including moths, flies, leafhoppers, caddisflies, and beetles (Nagorsen and Brigham 1993, p. 88; Brack and Whitaker 2001, p. 207; Griffith and Gates 1985, p. 452), with diet composition differing geographically and seasonally (Brack and Whitaker 2001, p. 208). Feldhamer *et al.* (2009, p. 49) noted close similarities of all *Myotis* diets in southern Illinois, while Griffith and Gates (1985, p. 454) found significant differences in the diets of northern long-eared bat and little brown bat. The most common insects found in the diets of northern long-eared bats are lepidopterans (moths) and coleopterans (beetles) (Feldhamer *et al.* 2009, p. 45; Brack and Whitaker 2001, p. 207) with arachnids (spiders) also being a common prey item (Feldhamer *et al.* 2009, p. 45).

Foraging techniques include hawking (catching insects in flight) and gleaning in conjunction with passive acoustic cues (Nagorsen and Brigham 1993, p. 88; Ratcliffe and Dawson 2003, p. 851). Observations of northern long-eared bats foraging on arachnids (Feldhamer *et al.* 2009, p. 49), presence of green plant material in their feces (Griffith and Gates 1985, p. 456), and non-flying prey in their stomach contents (Brack and Whitaker 2001, p. 207) suggest considerable gleaning behavior. Northern long-eared bats have the highest frequency call of any bat species in the Great Lakes area (Kurta 1995, p. 71). Gleaning allows this species to gain a foraging advantage for preying upon moths because moths are less able to detect these high frequency echolocation calls (Faure *et al.* 1993, p. 185). Emerging at dusk, most hunting

occurs above the understory, 1 to 3 m (3 to 10 ft) above the ground, but under the canopy (Nagorsen and Brigham 1993, p. 88) on forested hillsides and ridges, rather than along riparian areas (Brack and Whitaker 2001, p. 207; LaVal *et al.* 1977, p. 594). This coincides with data indicating that mature forests are an important habitat type for foraging northern long-eared bats (Caceres and Pybus 1998, p. 2). Occasional foraging also takes place over forest clearings and water, and along roads (Van Zyll de Jong 1985, p. 94). Foraging patterns indicate a peak activity period within 5 hours after sunset followed by a secondary peak within 8 hours after sunset (Kunz 1973, p. 18–19). Brack and Whitaker (2001, p. 207) did not find significant differences in the overall diet of northern long-eared bats between morning (3 a.m. to dawn) and evening (dusk to midnight) feedings; however there were some differences in the consumption of particular prey orders between morning and evening feedings. Additionally, no significant differences existed in dietary diversity values between age classes or sex groups (Brack and Whitaker 2001, p. 208).

Female home range size may range from 19 to 172 ha (47–425 acres) (Lacki *et al.* 2009, p. 5). Owen *et al.* (2003, p. 353) estimated average maternal home range size to be 65 ha (161 ac). Home range size of northern long-eared bats in this study site was small relative to other bat species, but this may be due to the study's timing (during the maternity period) and the small body size of *M. septentrionalis* (Owen *et al.* 2003, pp. 354–355). The mean distance between roost trees and foraging areas of radio-tagged individuals in New Hampshire was 620 m (2034 ft) (Sasse and Pekins 1996, p. 95).

#### Summary of Factors Affecting the Species

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations at 50 CFR part 424, set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, we may list a species based on any of the following five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; and (E) other natural or manmade factors affecting its continued existence. Listing actions may be warranted based on any of the above threat factors, singly or in

combination. Each of these factors is discussed below.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the eastern small-footed and northern long-eared bats. Effects to both the eastern small-footed bat and northern long-eared bat from these factors are discussed together where the species are affected similarly.

There are several factors presented below that affect both the eastern small-footed and the northern long-eared bats to a greater or lesser degree; however, we have found that no other threat is as severe and immediate to the northern long-eared bat's persistence as the disease, white-nose syndrome (WNS), discussed below in Factor C. WNS is currently the predominant threat to the species, and if WNS had not emerged or was not affecting the northern long-eared bat populations to the level that it has, we presume the species' would not be experiencing the dramatic declines that it has since WNS emerged. Therefore, although we have included brief discussions of other factors affecting both species, the focus of the discussion below is on WNS.

#### *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range*

##### Hibernation Habitat

Modifications to bat hibernacula by erecting physical barriers (*e.g.*, doors, gates) to control cave access and mining can affect the thermal regime of the habitat, and thus the ability of the cave or mine to support hibernating bats, including the northern long-eared and, in some cases, the eastern small-footed bat. For example, the Service's Indiana Bat Draft Recovery Plan (2007, pp. 71–74) presents a discussion of well-documented examples of these type of effects to cave-hibernating species that are also applicable to our discussion here. Modifications to cave and mine entrances, such as the addition of gates or other structures intended to exclude humans, not only restricts flight and movement (Hemberger 2011, unpublished data), but also changes airflow and alters internal microclimates of the caves and mines and eliminating their utility as hibernacula. For example, Richter *et al.* (1993, p. 409) attributed the decline in the number of Indiana bats at Wyandotte Cave, Indiana (which harbors one of the largest known population of hibernating Indiana bats), to an increase in the cave's temperature resulting from restricted airflow caused by a stone wall erected at the cave's

entrance. After the wall was removed, the number of Indiana bats increased markedly over the next 14 years (Richter *et al.* 1993, p. 412; Brack *et al.* 2003, p. 67). In an eastern small-footed bat example, the construction associated with commercializing the Fourth Chute Cave in Ontario, Canada, eliminated the circulation of cold air in one of the unvisited passages where a relatively large number of eastern small-footed bats hibernated. These bats were completely displaced as a result of the warmer microclimate produced (Mohr 1972, p. 36). Correctly installed gates, however, at other locations (*e.g.*, Aitkin Cave, Pennsylvania) have led to increases in eastern small-footed bat populations (Butchkoski 2012, pers. comm.). An example of northern long-eared bats likely being affected occurred when John Friend Cave in Maryland was filled with large rocks in 1981, which closed the only known entrance to the cave (Gates *et al.* 1984, p. 166).

In addition to the direct access modifications to caves discussed above, debris buildup at entrances or on cave gates can also significantly modify the cave or mine site characteristics through restricting airflow, altering the temperature of hibernacula, and restricting water flow. Water flow restriction could lead to flooding, thus drowning hibernating bats (Amelon and Burhans 2006, p. 72; Hemberger 2011, unpublished data). In Minnesota, 5 of 11 known northern long-eared bat hibernacula are known to flood, presenting a threat to hibernating bats (Nordquist 2012, pers. comm.). In Massachusetts, one of the known hibernacula for northern long-eared bats is a now unused aqueduct that on very rare occasions may fill up with water and make the hibernaculum unusable (French 2012, unpublished data). Flooding has been noted in hibernacula in other States within the range of the northern long-eared bat, but to a lesser degree. Although modifications to hibernacula can lead to mortality of both species, it has not had population-level effects.

Mining operations, mine passage collapse (subsidence), and mine reclamation activities can also affect bats and their hibernacula. Internal and external collapse of abandoned coal mines was identified as one of the primary threats to eastern small-footed and northern long-eared bat hibernacula at sites located within the New River Gorge National River and Gauley River National Recreation Area in West Virginia (Graham 2011, unpublished data). Collapse of hibernacula entrances or areas within the hibernacula, as well as quarry and mining operations that

may alter known hibernacula, are considered threats to northern long-eared bats within Kentucky (Hemberger 2011, unpublished data). In States surveyed for effects to northern long-eared bats by hibernacula collapse, responses varied, with the following number of hibernacula in each State reported as susceptible to collapse: 1 (of 7) in Maryland, 3 (of 11) in Minnesota, 1 (of 5) in New Hampshire, 4 (of 15) in North Carolina, 1 (of 2) in South Carolina, and 1 (of 13) in Vermont (Service 2011, unpublished data).

Before current cave protection laws, there were several reported instances where mines were closed while bats were hibernating and entombing entire colonies (Tuttle and Taylor 1998, p. 8). Several caves were historically sealed or mined in Maryland prior to cave protection laws, although bat populations were undocumented (Feller 2011, unpublished data). For both the eastern small-footed and northern long-eared bats, loss of potential winter habitat through mine closures has been noted as a concern in Virginia, although visual inspections of openings are typically conducted to determine whether gating is warranted (Reynolds 2011, unpublished data). In Nebraska, closing quarries, and specifically sealing quarries in Cass and Sapry Counties, is considered a potential threat to northern long-eared bats (Geluso 2011, unpublished data).

In general, threats to the integrity of bat hibernacula have decreased since the Indiana bat was listed as endangered in 1967, and since the implementation of Federal and State cave protection laws. Increasing awareness about the importance of cave and mine microclimates to hibernating bats and regulation under the Act have helped to alleviate the destruction or modification of hibernation habitat, at least where the Indiana bat is present (Service 2007, p. 74). The eastern small-footed bat and northern long-eared bat have likely benefitted from the protections given to the Indiana bat and its winter habitat, as both species' ranges overlap significantly with the Indiana bat's range.

##### Disturbance of Hibernating Bats

Human disturbance of hibernating bats has long been considered a threat to cave-hibernating bat species like the eastern small-footed and northern long-eared bats, and is discussed in detail in the Service's Indiana Bat Draft Recovery Plan (2007, pp. 80–85). The primary forms of human disturbance to hibernating bats result from cave commercialization (cave tours and other commercial uses of caves), recreational

caving, vandalism, and research-related activities (Service 2007, p. 80). Arousal during hibernation causes the greatest amount of energy depletion in hibernating bats (Thomas *et al.* 1990, p. 477). Human disturbance at hibernacula, specifically non-tactile disturbance such as changes in light and sound, can cause bats to arouse more frequently, causing premature energy store depletion and starvation, as well as increased tactile disturbance of bats to other individuals (Thomas *et al.* 1995, p. 944; Speakman *et al.* 1991, p. 1103), leading to marked reductions in bat populations (Tuttle 1979, p. 3). Prior to the outbreak of WNS, Amelon and Burhans (2006, p. 73) indicated that “the widespread recreational use of caves and indirect or direct disturbance by humans during the hibernation period pose the greatest known threat to this species (northern long-eared bat).” Olson *et al.* (2011, p. 228), hypothesized that decreased visits by recreational users and researchers were related to an increase in the hibernating bat population (including northern long-eared bats) at Cadomin Cave in Alberta, Canada. Disturbance during hibernation could cause movements within or between caves (Beer 1955, p. 244).

Human disturbance is a potential threat at approximately half of the known eastern small-footed bat hibernacula in the States of Kentucky, Maryland, North Carolina, Vermont, and West Virginia (Service, unpublished data). Of the States in the northern long-eared bat's range that assessed the possibility of human disturbance at bat hibernacula, 93 percent (13 of 14) identified potential effects from human disturbance for at least 1 of the known hibernacula for this species in their state (Service, unpublished data). Eight of these 14 States (Arkansas, Kentucky, Maine, Minnesota, New Hampshire, North Carolina, South Carolina, and Vermont) indicated the potential for human disturbance at over 50 percent of the known hibernacula in that State. Nearly all States without WNS identified human disturbance as the primary threat to hibernating bats, and all others (including WNS-positive States) noted human disturbance as a secondary threat (WNS was predominantly the primary threat in these States) or of significant concern (Service, unpublished data).

The threat of commercial use of caves and mines during the hibernation period has decreased at many sites known to harbor Indiana bats, and we believe that this also applies to eastern small-footed and northern long-eared bats. However, effects from recreational caving are more difficult to assess. In

addition to unintended effects of commercial and recreational caving, intentional killing of bats in caves by shooting, burning, and clubbing has been documented, although there are no data suggesting that eastern small-footed bats have been killed by these activities (Tuttle 1979, pp. 4, 8). Intentional killing of northern long-eared bats has been documented at a small percentage of hibernacula (*e.g.*, several cases of vandalism at hibernacula in Kentucky, one case of shooting disturbance in Maryland, one case of bat torching in Massachusetts where approximately 100 bats (northern long-eared bats and other species) were killed) (Service, unpublished data), but we do not have evidence that this is happening on a large enough scale to have population-level effects.

In summary, while there are isolated incidents of previous disturbance to both bat species due to recreational use of caves in both species, we conclude that there is no evidence suggesting that this threat in itself has led to population declines in either species.

#### Summer Habitat

Eastern small-footed bats roost in a variety of natural and manmade rock features, whereas northern long-eared bats roost predominantly in trees and to a lesser extent in manmade structures, as discussed in detail in the *Species Information* section above. We know of only one documented account where vandals were responsible for destroying a portion of an eastern small-footed bat roost located in Maryland (Feller 2011, unpublished data). More commonly, roost habitat for both the eastern small-footed bat and northern long-eared bat is at risk of modification or destruction. In Pennsylvania, for example, highway construction, commercial development, and several wind-energy projects may remove eastern small-footed bat roosting habitat (Librandi-Mumma 2011, pers. comm.). Some of the highest rates of development in the conterminous United States are occurring within the range of eastern small-footed and northern long-eared bats (Brown *et al.* 2005, p. 1856) and contribute to loss of forest habitat.

Wind-energy development is rapidly increasing throughout the eastern small-footed bat and northern long-eared bats' ranges, particularly in the States of New Hampshire, New York, Pennsylvania, and Massachusetts. As well, Iowa, Illinois, Minnesota, Oklahoma, and North Dakota are within the top 10 States for wind power capacity (in megawatts) (installed projects) in the United States (American Wind Energy Association 2012, p. 6). If projects are

sited in forested habitats, effects from wind-energy development may include forest-clearings associated with turbine placement, road construction, turbine lay-down areas, transmission lines, and substations. In Maryland, wind power development has been proposed in areas with documented eastern small-footed bat and northern long-eared bat summer habitat (Feller 2011, unpublished data). In Pennsylvania, the majority of wind-energy projects are located in habitats characterized as mountain ridge-top, cliffs, steep slopes, or isolated hills with steep, often vertical sides (Mumma and Capouillez 2011, pp. 11–12). Eastern small-footed bats were confirmed through bat mist-net surveys at 7 of 34 proposed wind-energy project sites in Pennsylvania, and northern long-eared bats were confirmed at all 34 proposed wind project sites (Mumma and Capouillez 2011, pp. 62–63). See *Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence* for a discussion on effects to bats from the operation of wind turbines.

Another activity that may modify or destroy eastern small-footed bat roosting habitat is mined-land reclamation, whereby rock habitats (*e.g.*, rock piles, cliffs, spoil piles) are removed from previously mined lands. The Office of Surface Mining Reclamation and Enforcement and its partners are responsible for reclaiming and restoring lands degraded by mining operations. Mining sites eligible for restoration are numerous in the States of Pennsylvania, Ohio, West Virginia, and Kentucky. Reclaiming these sites often involves the removal of exposed rock habitats that may be used as eastern small-footed bat roost habitat (Sanders 2011, pers. comm.). The number of potential roost sites that have been destroyed or that may be destroyed in the future and the potential effect of this destruction on eastern small-footed bat populations are largely unknown. Despite the potential negative effects of this activity, there are no data available suggesting a decrease in the number of eastern small-footed bats from mined-land reclamation activities. Since northern long-eared bats are not known to use exposed rock habitat for roost sites, mined-land reclamation does not affect this species.

Surface coal mining is also common in the central Appalachian region, which includes portions of Pennsylvania, West Virginia, Virginia, Kentucky, and Tennessee, and is one of the major drivers of land cover change in the region (Sayler 2008, unpaginated). Surface coal mining also may destroy forest habitat in parts of the Illinois Basin in southwest Indiana, western Kentucky, and Illinois (King

2013, pers. comm.). One major form of surface mining is mountaintop mining, which is widespread throughout eastern Kentucky, West Virginia, and southwestern Virginia (Palmer *et al.* 2010, p. 148). Mountaintop mining involves the clearing of upper elevation forests, stripping of topsoil, and use of explosives to break up rocks to access buried coal. The excess rock is sometimes pushed into adjacent valleys, where it buries existing streams (Palmer *et al.* 2010, p. 148). Hartman *et al.* (2005, p. 96) reported significant reductions in insect densities in streams affected with fill material, including lower densities of coleopterans, a primary food source of eastern small-footed and northern long-eared bats (Griffith and Gates 1985, p. 452; Johnson and Gates 2007, p. 319; Moosman *et al.* 2007, p. 355; Feldhamer *et al.* 2009, p. 45). The effect of mountaintop mining on eastern small-footed bat and northern long-eared bat populations is largely unknown.

The effect of forest removal related to the eastern small-footed bat is poorly understood. Forest management can influence the availability and characteristics of non-tree roost sites, such as those used by eastern small-footed bats, although the resulting effects on bats and bat populations are poorly known (Hayes and Loeb 2007, p. 215). Since eastern small-footed bats often forage in forests immediately surrounding roost sites, forest management may affect the quality of foraging habitat (Johnson *et al.* 2009, p. 5). Scientific evidence and anecdotal observations support the hypotheses that bats respond to prey availability, that prey availability is influenced by forest management, and that influences of forest management on prey populations affect bat populations (Hayes and Loeb 2007, p. 219). In addition, forest management activities that influence tree density directly alter the amount of vegetative clutter (*e.g.*, tree density) in an area. As a result, forest management can directly influence habitat suitability for bats through changes in the amount of vegetative clutter (Hayes and Loeb 2007, p. 217). Eastern small-footed bats are capable of foraging in cluttered forest interiors, but as discussed in the *Species Information* section above, they have also been found foraging in clearings, in strip mine areas, and over water. Johnson and Gates (2008, p. 459) suggest that a better understanding of the required spatial extent and structure of forest cover along ridgelines and rock outcrops, as well as additional foraging activity requirements, is needed to aid

conservation efforts for the eastern small-footed bat.

Although there is still much to learn about the effects of forest removal on northern long-eared bats and their associated summer habitat, studies to date have found that the northern long-eared bat shows a varied degree of sensitivity to timber harvesting practices. Several studies (as discussed in the *Species Information* section above) have found that the species uses a wide range of tree species for roosting, suggesting that forest succession may play a larger role in roost selection (than tree species) (Silvis *et al.* 2012, p. 6). Studies have found that female bat roosts are more often (*i.e.*, greater than what would be expected from random chance) located in areas with partial harvesting than in random sites, which may be due to trees located in more open habitat receiving greater solar radiation and therefore speeding development of young (Menzel *et al.* 2002, p. 112; Perry and Thill 2007, pp. 224–225). In the Appalachians of West Virginia, diameter-limit harvests (70–90 year-old stands, with 30–40 percent of the basal area removed in the past 10 years) rather than intact forest was the habitat type most selected by northern long-eared bats (Owen *et al.* 2003, p. 356). Cryan *et al.* (2001, p. 49) found several northern long-eared bat roost areas in recently harvested (less than 5 years) stands in the Black Hills of South Dakota, although the largest colony (n=41) was found in a mature forest stand that had not been harvested in over 50 years. In intensively managed forests in the central Appalachians, Owen *et al.* (2002, p. 4) found roost availability was not a limiting factor for the northern long-eared bat, since bats often chose black locust and black cherry as roost trees, which were quite abundant since these trees often regenerate quickly after disturbance (*e.g.*, timber harvest).

It is possible that this flexibility in roosting habits allows northern long-eared bats to be adaptable in managed forests, which allows them to avoid competition for roosting habitat with more specialized species, such as the Indiana bat (Timpone *et al.* 2010, p. 121). However, the northern long-eared bat has shown a preference for contiguous tracts of forest cover for foraging (Owen *et al.* 2003, p. 356; Yates and Muzika 2006, p. 1245). Jung *et al.* (2004, p. 333) found that it is important to retain snags and provide for recruitment of roost trees during selective harvesting in forest stands that harbor bats. If roost networks are disturbed through timber harvesting, there may be more dispersal and fewer

shared roost trees, which may lead to less communication between bats in addition to less disease transmission (Johnson *et al.* 2012, p. 230). In the Appalachians, Ford *et al.* (2006, p. 20) assessed that northern long-eared bats may be a suitable management indicator species for assessing mature forest ecosystem integrity, since they found male bats using roosts in mature forest stands of mostly second growth or regenerated forests.

There is conflicting information on sensitivities of male versus female northern long-eared bats to forestry practices and resulting fragmentation. In Arkansas, Perry and Thill (2007, p. 225) found that male northern long-eared bats seem to prefer more dense stands for summer roosting, with 67 percent of male roosts occurring in unharvested sites versus 45 percent of female roosts. The greater tendency of females to roost in more open forested areas than males may be due to greater solar radiation experienced in these openings, which could speed growth of young in maternity colonies (Perry and Thill 2007, p. 224). Lacki and Schwierjohann (2001, p. 487) stated that silvicultural practices could meet both male and female roosting requirements by maintaining large-diameter snags, while allowing for regeneration of forests. However, Broders and Forbes (2004, p. 608) found that timber harvest may have negative effects on female bats since they use forest interiors at small scales (less than 2 km (1.2 mi) from roost sites). They also found that males are not as limited in roost selection and they do not have the energetic cost of raising young; therefore males may be less affected than females (Broders and Forbes 2004, p. 608). Henderson *et al.* (2008, p. 1825) also found that forest fragmentation effects northern long-eared bats at different scales based on sex; females require a larger unfragmented area with a large number of suitable roost trees to support a colony, whereas males are able to use smaller areas (more fragmented). Henderson and Broders (2008, pp. 959–960) examined how female northern long-eared bats use the forest-agricultural landscape on Prince Edward Island, Canada, and found that bats were limited in their mobility and activities are constrained where suitable forest is limited. However, they also found that bats in relatively fragmented areas used a building for colony roosting, which suggests an alternative for a colony to persist in an area with fewer available roost trees. Although we are still learning about the effect of forest removal on northern long-eared

bats and their associated summer habitat, studies to date have found that the northern long-eared bat shows a varied degree of sensitivity to timber harvesting practices and the amount of forest removal occurring varies by State.

Natural gas development from shale is expanding across the United States, particularly throughout the range of the northern long-eared and eastern small-footed bat. Natural gas extraction involves fracturing rock formations and uses highly pressurized fluids consisting of water and various chemicals to do so (Hein 2012, p. 1). Natural gas extraction, particularly across the Marcellus Shale region, which includes large portions of New York, Pennsylvania, Ohio, and West Virginia, is expected to expand over the coming years. In Pennsylvania, for example, nearly 2,000 Marcellus natural gas wells have already been drilled or permitted, and as many as 60,000 more could be built by 2030, if development trends continue (Johnson 2010, pp. 8, 13). Habitat loss and degradation due to this practice could occur in the form of forest clearing for well pads and associated infrastructure (e.g., roads, pipelines, and water impoundments), which would decrease the amount of suitable interior forest habitat available to northern long-eared and eastern small-footed bats for establishing maternity colonies and for foraging, in addition to further isolating populations and, therefore, potentially decreasing genetic diversity (Johnson 2010, p. 10; Hein 2012, p. 6). Since northern long-eared bats and eastern small-footed bats have philopatric tendencies, loss or alteration of forest habitat for natural gas development may also put additional stress on females when returning to summer roost or foraging areas after hibernation if females were forced to find new roosting or foraging areas (expending additional energy) (Hein 2012, pp. 11–12).

#### Conservation Efforts To Reduce Habitat Destruction, Modification, or Curtailment of Its Range

Although there are various forms of habitat destruction and disturbance that present potential adverse effects to the northern long-eared bat, this is not considered the predominant threat to the species. Even if all habitat-related stressors were eliminated or minimized, the significant effects of WNS on the northern long-eared bat would still be present. Therefore, below we present a few examples, but not a comprehensive list, of conservation efforts that have been undertaken to lessen effects from habitat destruction or disturbance to northern long-eared and eastern small-

footed bats. One of the threats to bats in Michigan is the closure of unsafe mines in such a way that bats are trapped within or excluded; however, there have been efforts by the Michigan Department of Natural Resources and others to work with landowners who have open mines to encourage them to install bat-friendly gates to close mines to humans, but allow access to bats (Hoving 2011, unpublished data). The NPS has proactively taken efforts to minimize effects to bat habitat resulting from vandalism, recreational activities, and abandoned mine closures (Plumb and Budde 2011, unpublished data). In addition, the NPS is properly gating, using a “bat-friendly design, abandoned coal mine entrances as funding permits (Graham 2011, unpublished data). All known hibernacula within national grasslands and forestlands of the Rocky Mountain Region of the U.S. Forest Service are closed during the winter hibernation period, primarily due to the threat of white-nose syndrome, although this will reduce disturbance to bats in general inhabiting these hibernacula (U.S. Forest Service 2013, unpaginated). Concern over the importance of bat roosts, including hibernacula, fueled efforts by the American Society of Mammalogists to develop guidelines for protection of roosts, many of which have been adopted by government agencies and special interest groups (Sheffield *et al.* 1992, p. 707).

#### Summary of the Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

We have identified several activities, such as constructing physical barriers at cave accesses, mining, flooding, vandalism, development, and timber harvest, that may modify or destroy habitat for the eastern small-footed bat and northern long-eared bat. Although such activities occur, these activities alone do not have significant, population-level effects on either species.

#### Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

There are very few records of either species being collected specifically for commercial, recreational, scientific, or educational purposes, and thus we do not consider such collection activities to pose a threat to either species. Disturbance of hibernating bats as a result of recreational use and scientific research activities in hibernacula is discussed under Factor A.

#### Factor C. Disease or Predation

##### Disease

##### White-Nose Syndrome

White-nose syndrome is an emerging infectious disease responsible for unprecedented mortality in some hibernating insectivorous bats of the northeastern United States (Bleher *et al.* 2009, p. 227), and poses a considerable threat to several hibernating bat species throughout North America (Service 2010, p. 1). Since its first documented appearance in New York in 2006, WNS has spread rapidly throughout the Northeast and is expanding through the Midwest. As of August 2013, WNS has been confirmed in 22 States (Alabama, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Vermont, Virginia, and West Virginia) and 5 Canadian provinces (New Brunswick, Nova Scotia, Ontario, Prince Edward Island, and Quebec). Four additional States (Arkansas, Iowa, Minnesota, and Oklahoma) are considered suspect for WNS based on the detection of the causative fungus on bats within those States, but with no associated disease to date. Service biologists and partners estimate that at least 5.7 million to 6.7 million bats of several species have now died from WNS (Service 2012, p. 1). Dzal *et al.* (2011, p. 393) documented a 78-percent decline in the summer activity of little brown bats in New York State, coinciding with the arrival and spread of WNS, suggesting large-scale population effects. Turner *et al.* (2011, p. 22) reported an 88-percent decline in the number of hibernating bats at 42 sites from the States of New York, Pennsylvania, Vermont, Virginia, and West Virginia. Furthermore, Frick *et al.* (2010, p. 681) predicted that the little brown bat, formerly the most common bat in the northeastern United States, will likely become extinct in the region by 2026 (potential loss of some 6.5 million bats) if current trends continue. Similarly, Thogmartin *et al.* (2013, p. 171) predicted that WNS is likely to extirpate the federally endangered Indiana bat over large parts of its range. These predicted trends in little brown bats and Indiana bats may or may not also be indicative of population trends in other bat species like the eastern small-footed and northern long-eared bats.

The first evidence of WNS was documented in a photograph taken from Howes Cavern, 52 km (32 mi) west of

Albany, New York, on February 16, 2006 (Blehert *et al.* 2009, p. 227). Prior to the arrival of WNS, surveys of six species of hibernating bats in New York State revealed that populations had been stable or increasing in recent decades (Service 2010, p. 1). Decreases in some species of bats at WNS-infected hibernacula have ranged from 30 to 99 percent (Frick *et al.* 2010, p. 680).

The pattern of spread has generally followed predictable trajectories along recognized migratory pathways and overlapping summer ranges of hibernating bat species. Therefore, Kunz and Reichard (2010, p. 12) assert that WNS is spread mainly through bat-to-bat contact; however, evidence suggests that fungal spores can be transmitted by humans (United States Geologic Survey (USGS) National Wildlife Health Center, Wildlife Health Bulletin 2011–05), and bats can also become infected by coming into contact with contaminated cave substrate (Darling 2012, pers. comm.). Six North American hibernating bat species (little brown bat, Indiana bat, northern long-eared bat, eastern small-footed bat, big brown bat, and tri-colored bat), are known to be affected by WNS; however, the effect of WNS varies by species. The fungus that causes WNS has been detected on three additional species; the southeastern bat (*Myotis austroriparius*), and gray bat (*Myotis grisescens*), and cave bat (*Myotis velifer*). White-nose syndrome is caused by the recently described psychrophilic (cold-loving) fungus, currently known as *Geomyces destructans*. *Geomyces destructans* may be nonnative to North America, and only recently arrived on the continent (Puechmaille *et al.* 2011, p. 8). The fungus grows on and within exposed tissues of hibernating bats (Lorch *et al.* 2011, p. 376; Gargas *et al.* 2009, pp. 147–154), and the diagnostic feature is the white fungal growth on muzzles, ears, or wing membranes of affected bats, along with epidermal (skin) erosions that are filled with fungal hyphae (branching, filamentous structures of fungi) (Blehert *et al.* 2009, p. 227; Meteyer 2009, p. 412). *Geomyces destructans* grows optimally at temperatures from 5 to 10 °C (41 to 50 °F), the same temperatures at which bats typically hibernate (Blehert *et al.* 2009, p. 227). Temperatures in WNS-affected hibernacula seasonally range from 2 to 14 °C (36 to 57 °F), permitting year-round growth, and may act as a reservoir maintaining the fungus (Blehert *et al.* 2009, p. 227). Growth is slow, and no growth occurs at temperatures above 24 °C (75 °F) (Gargas *et al.* 2009, p. 152). Bats that are found in more humid regions of hibernacula

may be more susceptible to WNS, but further research is needed to confirm this hypothesis. Declines in Indiana bats have been greater under more humid conditions, suggesting that growth of the fungus and either intensity or prevalence of infections are higher in more humid conditions (Langwig *et al.* 2012a, p. 1055). Although *G. destructans* has been isolated from five bat species from Europe, research suggests that bat species in Europe may be immunologically or behaviorally resistant, having coevolved with the fungus (Wibbelt *et al.* 2010, p. 1241). Pikula *et al.* (2012, p. 210), however, confirmed that bats found dead in the Czech Republic exhibited lesions consistent with WNS infection.

In addition to the presence of the white fungus, initial observations showed that bats affected by WNS were characterized by some or all of the following: (1) Depleted fat reserves by mid-winter; (2) a general unresponsiveness to human disturbance; (3) an apparent lack of immune response during hibernation; (4) ulcerated, necrotic, and scarred wing membranes; and (5) aberrant behaviors, including shifts of large numbers of bats in hibernacula to roosts near the entrances or unusually cold areas, large numbers of bats dispersing during the day from hibernacula during mid-winter, and large numbers of fatalities, either inside the hibernacula, near the entrance, or in the immediate vicinity of the entrance (WNS Science Strategy Report 2008, p. 2; Service 2010, p. 2). Although the exact process by which WNS leads to death remains undetermined, it is likely that the immune function during torpor compromises the ability of hibernating bats to combat the infection (Bouma *et al.* 2010, p. 623; Moore *et al.* 2011, p. 10).

Early hypotheses suggested that WNS may affect bats before the hibernation season begins, causing bats to arrive at hibernacula with insufficient fat to survive the winter. Alternatively, a second hypothesis suggests that bats arrive at hibernacula unaffected and enter hibernation with sufficient fat stores, but then become affected and use fat stores too quickly as a result of disruption to hibernation physiology (WNS Science Strategy Group 2008, p. 7). More recent observations, however, suggest that bats are arriving to hibernacula with sufficient or only slightly lower fat stores (Turner 2011, pers. comm.), and that although body weights of WNS-infected bats were consistently at the lower end of the normal range, in one study 12 of 14 bats (10 little brown bats, 1 big-brown bat,

and 1 tri-colored bat) had an appreciable degree of fat stores (Courtin *et al.* 2010, p. 4).

Boyles and Willis (2010, pp. 92–98) hypothesized that infection by *Geomyces destructans* alters the normal arousal cycles of hibernating bats, particularly by increasing arousal frequency, duration, or both. In fact, Reeder *et al.* (2012, p. 5) and Warnecke *et al.* (2012, p. 2) did observe an increase in arousal frequency in laboratory studies of hibernating bats infected with *G. destructans*. A disruption of this torpor-arousal cycle could easily cause bats to metabolize fat reserves too quickly, thereby leading to starvation. For example, skin irritation from the fungus might cause bats to remain out of torpor for longer than normal to groom, thereby exhausting their fat reserves prematurely (Boyles and Willis 2010, p. 93).

Due to the unique physiological importance of wings to hibernating bats in relation to the damage caused by *Geomyces destructans*, Cryan *et al.* (2010, pp. 1–8) suggests that mortality may be caused by catastrophic disruption of wing-dependent physiological functions. The authors hypothesize that *G. destructans* may cause unsustainable dehydration in water-dependent bats, trigger thirst-associated arousals, cause significant circulatory and thermoregulatory disturbance, disrupt respiratory gas exchange, and destroy wing structures necessary for flight control (Cryan *et al.* 2010, p. 7). The wings of winter-collected WNS-affected bats often reveal signs of infection, whereby the degree of damage observed suggests functional impairment. Emaciation is a common finding in bats that have died from WNS (Cryan *et al.* 2010, p. 3). Cryan *et al.* (2010, p. 3) hypothesized that disruption of physiological homeostasis, potentially caused by *G. destructans* infection, may be sufficient to result in emaciation and mortality. The authors hypothesized that wing damage caused by *G. destructans* infections could sufficiently disrupt water balance to trigger frequent thirst-associated arousals with excessive winter flight, and subsequent premature depletion of fat stores. In related research, Cryan *et al.* (2013, p. 398) found, after analyzing blood from hibernating bats infected with WNS, that electrolytes, sodium and chloride, tended to decrease as wing damage increased in severity. Proper concentrations of electrolytes are necessary for maintaining physiologic homeostasis, and any imbalance could be life-threatening (Cryan *et al.* 2013, p. 398). Although the exact mechanism by which WNS affects bats is still in

question, the effect it has on many hibernating bat species is well documented as well as the high levels of mortality it causes in some susceptible bat species.

#### Effects of White-Nose Syndrome on the Eastern Small-Footed Bat

Eastern small-footed bats are known to be susceptible to WNS. As of 2011, of the 283 documented eastern small-footed bat hibernacula, 86 (31 percent) were WNS-positive (Service 2011, unpublished data). Only three eastern small-footed bats have been collected, tested, and confirmed positive for WNS by histology: One bat collected and euthanized from New York in 2009, one bat found dead in Pennsylvania in 2011, and one bat found dead from South Carolina in 2013 (Ballmann 2011, pers. comm.; Last 2013a, pers. comm.). An additional eastern small-footed bat collected in winter 2011–2012 from the Mammoth Cave Visitor Center in Kentucky, was submitted to the Southeastern Cooperative Wildlife Disease Study; however, this bat tested negative for WNS. Biologists also observed approximately five dead eastern small-footed bats with obvious signs of fungal infection in Virginia (Reynolds 2011, pers. comm.).

To determine whether WNS is causing a population-level effect to eastern small-footed bats, the Service began by reviewing winter hibernacula survey data. By comparing the most recent pre-WNS count to the most recent post-WNS count, Turner *et al.* (2011, p. 22) reported a 12-percent decline in the number of hibernating eastern small-footed bats at 25 hibernacula in New York, Pennsylvania, Vermont, Virginia, and West Virginia. Data analyzed in this study were limited to sites with confirmed WNS mortality for at least 2 years and sites with comparable survey effort across pre- and post-WNS years. Based on a review of pre-WNS hibernacula count data over multiple years at 12 of these sites, the number of eastern small-footed bats fluctuated between years.

When we compared the most recent post-WNS eastern small-footed bat count to pre-WNS observations, we found that post-WNS counts were within the normal observed range at nine sites (75 percent), higher at two sites (17 percent), and lower at only one site (8 percent). In addition, although Langwig *et al.* (2012a, p. 1052) reported a significantly lower population growth rate compared to pre-WNS population growth rates for eastern small-footed bat, they found that the species was not declining significantly at hibernacula in New York, Vermont, Connecticut, and

Massachusetts. Langwig *et al.* (2012b, p. 15) also observed lower prevalence of *Geomyces destructans* on eastern small-footed bat wing and muzzle tissue during late hibernation, compared to other bat species (*e.g.*, little brown bats). Lastly, biologists did not observe fungal growth (although the fungus may not be visible after the first couple of years) on eastern small-footed bats during 2013 hibernacula surveys in New York, Pennsylvania, and North Carolina, even though it was observed on other bat species (*e.g.*, little brown bats) within the same sites (although a few, not all, eastern small-footed bats viewed under ultraviolet light did show signs of mild infections), nor did they observe reduced numbers of eastern small-footed bats compared to pre-WNS years (Graeter 2013, pers. comm.; Herzog 2013, pers. comm.; Turner 2013, unpublished data). In fact, biologists in New York observed the largest number of hibernating eastern small-footed bats ever reported (2,383) during surveys conducted in 2013, up from 1,727 reported in 1993 using roughly comparable survey effort (Herzog 2013, pers. comm.). In summary, WNS does not appear to have caused a significant population decline in hibernating eastern small-footed bats.

Summer survey data are limited for the eastern small-footed bat. We know of only three studies that have attempted to quantify changes in the number of non-hibernating eastern small-footed bats since the spread of WNS (Francl *et al.* 2012; Nagel and Gates 2012; Moosman *et al.* in press). At one study location, Surry Mountain Reservoir, New Hampshire, bats were mist-netted over multiple years before and after the emergence of WNS (Moosman *et al.* in press). Researchers observed a significant decline in the relative abundance of eastern small-footed bats between 2005 and 2011, based on reductions in capture rates. However, they found that the probability of capturing greater than or equal to one eastern small-footed bat on any given visit during the 7 years of study was similar across years, although the probability of capturing other species (*e.g.*, northern long-eared and little brown bats) declined over time. Moosman *et al.* (unpublished data) also noted that the observed decline in relative abundance of eastern small-footed bats at their site should not be solely attributed to WNS because of the potential for bats to become trap-shy due to repeated sampling efforts.

Eastern small-footed bats are noted for their ability to detect and avoid mist-nets, perhaps more so than other bat species within their range (Tyburec

2012, unpaginated). In addition, Francl *et al.* (2012, p. 34) compared bat mist-net data collected from 31 counties in West Virginia prior to the detection of WNS (1997 to 2008) to 8 West Virginia and 1 extreme southwestern Pennsylvania counties surveyed in 2010. Researchers reported a 16-percent decline in the post-WNS capture rate for eastern small-footed bats, although they acknowledge the small sample size may have inherently higher variation and bias compared to more common species that showed consistently negative trends (*e.g.*, northern long-eared, little brown, and tri-colored bats) (Francl *et al.* 2012, p. 40). Lastly, during acoustic surveys for bats, Nagel and Gates (2012, p. 5) reported a 63-percent increase in the number of eastern small-footed bat passes during acoustic surveys from 2010 to 2012 in western Maryland, although large declines in bat passes were observed for other species (*e.g.*, northern long-eared, little brown/Indiana, and tri-colored bats).

Several factors may influence why eastern small-footed bats are potentially less susceptible to WNS than other *Myotis* bats. First, during mild winters, eastern small-footed bats may not enter caves and mines or, if they do, may leave during mild periods. Although there are few winter observations of this species outside of cave and mine habitat, it was first speculated in 1945 as a possibility. In trying to explain why so many bats banded in the summer were unaccounted for during winter hibernacula surveys, Griffin (1945, p. 22) suggested that bats may be using alternate hibernacula such as small, deep crevices in rocks, which he suggested would provide a bat with adequate protection from freezing. Neubaum *et al.* (2006, p. 476) observed many big brown bats choosing hibernation sites in rock crevices and speculated that this pattern of roost selection could be common for other species. Time spent outside of cave and mine habitat by eastern small-footed bats means less time for the fungus to grow because environmental conditions (*e.g.*, temperature and humidity) are suboptimal for fungus growth.

A second factor that may influence lower susceptibility of eastern small-footed bats to WNS is that this bat species tends to enter cave or mine habitat later (mid-November) and leave earlier (mid-March) compared to other *Myotis* bats, again providing less time for the fungus to grow, and less energy expenditure than other species that hibernate longer. Third, when eastern small-footed bats are present at caves and mines, they are most frequently observed at the entrances, where

humidity is low and temperature fluctuations are high, which consequently does not provide ideal environmental conditions for fungal growth. Cryan *et al.* (2010, p. 4) suggest that eastern small-footed bats may be less susceptible to evaporative water loss, since they often select drier areas of hibernacula, and therefore may be less susceptible to succumbing to WNS. Big brown bats also tend to select drier, more ventilated areas for hibernation, and consequently, Blehert *et al.* (2009, p. 227) and Courtin *et al.* (2010, p. 4) did not observe the fungus in big brown bat specimens. Lastly, unlike some other gregarious bats (*e.g.*, little brown bats), eastern small-footed bats frequently roost solitarily or deep within cracks, possibly further reducing their exposure to the fungus.

Fenton (1972, p. 5) never observed eastern small-footed bats close to or in contact with little brown or Indiana bats, both highly gregarious species experiencing severe population declines. Solitary hibernating habits have also been suggested as one of the reasons why big brown bats appear to have been only moderately affected by WNS (Ford *et al.* 2011, p. 130). Laboratory studies conducted by Blehert *et al.* (2011) further support this hypothesis. In their study, only healthy bats that came into direct contact with infected bats or were inoculated with pure cultures of *Geomyces destructans* developed lesions consistent with WNS. Healthy bats housed with infected bats in such a way as to prohibit animal-to-animal contact but still allow for potential aerosols to be transmitted from sick bats did not develop any detectable signs of WNS.

In conclusion, there are several factors that may explain why eastern small-footed bats appear to be less susceptible to WNS than other cave bat species. These factors include hibernacula selection (cave versus non-cave), total time spent hibernating in hibernacula, location within the hibernacula (areas with lower humidity and higher temperature fluctuation), and solitary roosting behavior.

#### Effects of White-Nose Syndrome on the Northern Long-Eared Bat

The northern long-eared bat is known to be susceptible to WNS, and mortalities due to the disease have been confirmed. The USGS National Wildlife Health Center in Madison, Wisconsin, received 79 northern long-eared bat submissions since 2007, of which 65 were tested for WNS. Twenty-eight of the 65 northern long-eared bats tested were confirmed as positive for WNS by histopathology and another 10 were

suspect (Ballmann 2013, pers. comm.). In addition, 9 of 14 northern long-eared bats in 2012–2013 were positive, and 1 was suspect (Last 2013b, pers. comm.); all the WNS-positive submissions were from Tennessee, Kentucky, and Ohio. The New York Department of Environmental Conservation has confirmed 29 northern long-eared bats submitted with signs of WNS, at minimum (there are still bat carcasses that have not been analyzed yet), since 2007 in New York (Okonieski 2012, pers. comm.).

Due to WNS, the northern long-eared bat has experienced a sharp decline in the northeastern part of its range, as evidenced in hibernacula surveys. The northeastern United States is very close to saturation (WNS found in majority of hibernacula) for the disease, with the northern long-eared bat being one of the species most severely affected by the disease (Herzog and Reynolds 2012, p. 10). Turner *et al.* (2011, p. 22) compared the most recent pre-WNS count to the most recent post-WNS count for 6 cave bat species; they reported a 98-percent decline between pre- and post-WNS in the number of hibernating northern long-eared bats at 30 hibernacula in New York, Pennsylvania, Vermont, Virginia, and West Virginia. Data analyzed in this study were limited to sites with confirmed WNS mortality for at least 2 years and sites with comparable survey effort across pre and post-WNS years. In addition to the Turner *et al.* (2011) data, the Service conducted an additional analysis that included data from Connecticut (n=3), Massachusetts (n=4), and New Hampshire (n=4), and added one additional site to the previous Vermont data. We used a similar protocol for analyses as used in Turner *et al.* (2011); our analysis was limited to sites where WNS has been present for at least 2 years. The combined overall rate of decline seen in hibernacula count data for the 8 States is approximately 99 percent.

In hibernacula surveys in New York, Vermont, Connecticut, and Massachusetts, hibernacula with larger populations of northern long-eared bats experienced greater declines, suggesting a density-dependent decline due to WNS (Langwig *et al.* 2012a, p. 1053). Also, although some species' populations (*e.g.*, tri-colored bat, Indiana bat) stabilized at drastically reduced levels compared to pre-WNS, each of the 14 populations of northern long-eared bats became locally extinct within 2 years due to disease, and no population was remaining 5 years post-WNS (Langwig *et al.* 2012, p. 1054). During 2013 hibernacula surveys at 34

sites where northern long-eared bats were also observed prior to WNS in Pennsylvania, researchers found a 99-percent decline (from 637 to 5 bats) (Turner 2013, unpublished data).

Due to favoring small cracks or crevices in cave ceilings, making them more challenging to locate during hibernacula surveys, data in some States (particularly those with a greater number of caves with more cracks or crevices) may not give an entirely clear picture of the level of decline the species is experiencing (Turner *et al.* 2011, p. 21). When dramatic declines due to WNS occur, the overall rate of decline appears to vary by site; some sites experience the progression from the detection of a few bats with visible fungus to widespread mortality after a few weeks, while at other sites this may take a year or more (Turner *et al.* 2011, pp. 20–21). For example, in Massachusetts, WNS was first confirmed in February of 2008, and by 2009, “the population (northern long-eared bat) was knocked down, and the second year the population was finished” (French 2012, pers. comm.). Further, in Virginia, Reynolds (2012, pers. comm.) reported that “not all sites are on the same ‘WNS time frame,’ but it appears the effects will be similar, suggesting that all hibernacula in the mountains of Virginia will succumb to WNS at one time or another.” We have not yet seen the same level of decline in the Midwestern and southern parts of the species' range, although we expect similar rates of decline once the disease arrives or becomes more established.

Although the disease has not yet spread throughout the species' entire range (WNS is currently found in 22 of 39 States where the northern long-eared bat occurs), it continues to spread, and we have no reason not to expect that where it spreads, it will have the same impact to the affected species (Coleman 2013, pers. comm.). The current rate of spread has been rapid, spreading from the first documented occurrence in New York in February 2006, to 22 states and 5 Canadian provinces by July 2013. There is some uncertainty as to the timeframe when the disease will spread throughout the species' range and when resulting mortalities as witnessed in the currently affected area will occur in the rest of the range. Researchers have suggested that there may be a ‘slow down’ in the spread of the disease in the Great Plains (Frick and Kilpatrick 2013, pers. comm.); however, this is on the western edge of the northern long-eared bat's range where the species is naturally less common and, therefore, offers little respite to the species. A few models have attempted to project the

spread of *Geomyces destructans* and WNS, and although they have differed in the timing of the disease spreading throughout the continental United States, all were in agreement that WNS will indeed spread throughout the United States (Hallam *et al.* 2011, p. 8; Maher *et al.* 2012, pp. 4–5). One of these models suggests that there may be a temperature-dependent boundary in southern latitudes that may offer refuge to WNS-susceptible bats. However, this would likely provide little relief to the northern long-eared bat, since the species' range only slightly enters these southern states (Hallam *et al.* 2011, pp. 9–11). In addition, human transmission could introduce the spread of the fungus to new locations that are far removed from the current known locations (e.g., spread the fungus farther than an infected bat could transmit it within their natural movement patterns) (Coleman 2013, pers. comm.).

Long-term (including pre- and post-WNS) summer data for the northern long-eared bat are somewhat limited; however, the available data parallel the population decline exhibited in hibernacula surveys. Summer data can corroborate and confirm the decline to the species seen in hibernacula data. Summer surveys from 2005–2011 near Surry Mountain Lake in New Hampshire showed a 99-percent decline in capture success of northern long-eared bats post-WNS, which is similar to the hibernacula data for the State (a 95-percent decline) (Brunkhurst 2012, unpublished data).

The northern long-eared bat is becoming less common on the Vermont landscape as well. Pre-WNS, the species was the second most common bat species in the State; however, it is now one of the least likely to be encountered, with the change in effort to capture one bat increasing by nearly 13 times, and approximately a 94-percent overall reduction in captures in mist-net surveys (Darling and Smith 2011, unpublished data). In eastern New York, captures of northern long-eared bats have declined dramatically, approximately 93 percent, for the species from pre-WNS (Herzog 2012, unpublished data). Prior to discovery of WNS in West Virginia, northern long-eared bat mist-net captures comprised 41 percent of all captures and 24 percent post-WNS (2010) and at a rate of 23 percent of historical rates (Francl *et al.* 2012, pp. 35–36). In addition, pregnancy peaked more than 2 weeks earlier post-WNS than pre-WNS (May 20 versus June 7, respectively) and the proportion of juveniles declined by more than half in mid-August; it is unclear if this change will have

population-level effects on the species at this time (Francl *et al.* 2012, p. 36). Ford *et al.* (2011, p. 127) conducted summer acoustic surveys on Fort Drum, New York, from 2003–2010, including pre-WNS (2003–2008) and post-WNS (2008–2010). Although activity still rose from early summer to late summer for northern long-eared bats, the overall activity levels for the species declined from pre- to post-WNS (Ford *et al.* 2011, pp. 129–130). Similarly, Nagel and Gates (2012, p. 5) reported a 78-percent decrease in northern long-eared bat passes (as compared to a 63-percent increase in the number of eastern small-footed bats mentioned above) during acoustic surveys between 2010 and 2012 in western Maryland. “Due to the greatest recorded decline in regional hibernacula counts (Turner *et al.* 2011), the northern long-eared bat is of particular concern (to researchers in Pennsylvania)” (Turner 2013, unpublished data). Therefore, researchers in Pennsylvania selected two sites to study in 2010 and 2011, where pre-WNS swarm trapping had previously been conducted. The capture rates at the first site declined by 95 percent and at the second site by 97 percent, which corroborates documented interior hibernacula declines (Turner 2013 unpublished data; Turner *et al.* 2011, p. 18).

Although northern long-eared bats are known to awaken from a state of torpor sporadically throughout the winter and move between hibernacula (Griffin 1940, p. 185; Whitaker and Rissler 1992b, p. 131; Caceres and Barclay 2000 pp. 2–3), they have not been observed roosting regularly outside of caves and mines during the winter, as species that are less susceptible to WNS (e.g., big brown bat) have. Northern long-eared bats may be more susceptible to evaporative water loss (and therefore more susceptible to WNS) due to their propensity to roost in the most humid parts of the hibernacula (Cryan *et al.* 2010, p. 4). As described in the *Hibernation* section above, northern long-eared bats roost in areas within hibernacula that have higher humidity, possibly leading to higher rates of infection, as Langwig *et al.* (2012a, p. 1055) found with Indiana bats. Also, northern long-eared bats prefer cooler temperatures within hibernacula: 0 to 9 °C (32 to 48 °F) (Raesly and Gates 1987, p. 18; Caceres and Pybus 1997, p. 2; Brack 2007, p. 744), which are within the optimal growth limits of *Geomyces destructans* (5 to 10 °C (41 to 50 °F)) (Blehert *et al.* 2009, p. 227).

The northern long-eared bat may also spend more time in hibernacula than other species that are less susceptible

(e.g., eastern small-footed bat (see *Effects of White-nose Syndrome on the Eastern Small-footed Bat* section, above)), which allows more time for the fungus to infect bats and grow; northern long-eared bats enter the cave or mine in October or November (although they may enter as early as August) and leave the hibernaculum in March or April (Caire *et al.* 1979, p. 405; Whitaker and Hamilton 1998, p. 100; Amelon and Burhans 2006, p. 72). Furthermore, the northern long-eared bat occasionally roosts in clusters or in the same hibernacula as other bat species that are also susceptible to WNS (see *Hibernation* section, above); therefore, northern long-eared bats may have increased susceptibility to bat-to-bat transmission of WNS.

Given the observed dramatic population declines attributed to WNS, as described above, we are greatly concerned about this species' persistence where WNS has already spread. The area currently affected by WNS constitutes the core of the northern long-eared bat's range, where the species was most common prior to WNS; the species is less common in the southern and western parts of its range and is considered to be rare in the northwestern part of its range (Caceres and Barclay 2000, p. 2; Harvey 1992, p. 35), the areas where WNS has not yet been detected. Furthermore, the rate at which WNS has spread has been rapid; it was first detected in New York in 2006, and has spread west at least as far as Illinois and Missouri, south as far as Georgia and South Carolina, and north as far as southern Quebec and Ontario as of 2013. Although this spread rate may slow or have reduced effects in the more southern and western parts of the species' range (Frick and Kilpatrick 2013, pers. comm.), general agreement is that WNS will indeed spread throughout the United States (Hallam *et al.* 2011, p. 8; Maher *et al.* 2012, pp. 4–5). WNS has already had a substantial effect on northern long-eared bats in the core of its range and is likely to spread throughout the species' entire range within a short time; thus we consider it to be the predominant threat to the species rangewide.

#### Other Diseases

Infectious diseases observed in North American bat populations include rabies, histoplasmosis, St. Louis encephalitis, and Venezuelan equine encephalitis (Burek 2001, p. 519; Rupprecht *et al.* 2001, p. 14; Yuill and Seymour 2001, pp. 100, 108). Rabies is the most studied disease of bats, and can lead to mortality, although antibody evidence suggests that some bats may

recover from the disease (Messenger *et al.* 2003, p. 645) and retain immunological memory to respond to subsequent exposures (Turmelle *et al.* 2010, p. 2364). Bats are hosts of rabies in North America (Rupprecht *et al.* 2001, p. 14), accounting for 24 percent of all wild animal cases reported during 2009 (Centers for Disease Control and Prevention 2011). Although rabies is detected in up to 25 percent of bats submitted to diagnostic labs for testing, less than 1 percent of bats sampled randomly from wild populations test positive for the virus (Messenger *et al.* 2002, p. 741). Eastern small-footed and northern long-eared bats are among the species reported positive for rabies virus infection (Constantine 1979, p. 347; Burnett 1989, p. 12; Main 1979, p. 458); however, rabies is not known to have appreciable effects to either species.

Histoplasmosis has not been associated with eastern small-footed bats or northern long-eared bats and may be limited in these species compared to other bats that form larger aggregations with greater exposure to guano-rich substrate (Hoff and Bigler 1981, p. 192). St. Louis encephalitis antibody and high concentrations of Venezuelan equine encephalitis virus have been observed in big brown bats and little brown bats (Yuill and Seymour 2001, pp. 100, 108), although data are lacking on the prevalence of these viruses in eastern small-footed bats. Eastern equine encephalitis has been detected in northern long-eared bats (Main 1979, p. 459), although no known population declines have been found due to presence of the virus. Northern long-eared bats are also known to carry a variety of pests including chiggers, mites, bat bugs, and internal helminths (Caceres and Barclay 2000, p. 3). None of these diseases or pests, however, has caused the record level of bat mortality like that observed since the emergence of WNS.

#### Predation

Typically, animals such as owls, hawks, raccoons, skunks, and snakes prey upon bats, although a limited number of animals consume bats as a regular part of their diet (Harvey *et al.* 1999, p. 13). Eastern small-footed and northern long-eared bats experience a very small amount of predation; therefore, predation does not appear to be a major cause of mortality (Caceres and Pybus 1997, p. 4; Whitaker and Hamilton 1998, p. 101).

Predation has been observed at a limited number of hibernacula within the range of the northern long-eared and eastern small-footed bats. Of the State and Federal agency responses received

pertaining to eastern small-footed bat hibernacula and the threat of predation, only 8 out of 80 responses (10 percent) reported hibernacula as being prone to predation. For northern long-eared bats, 1 hibernacula in Maine, 3 in Maryland (2 of which were due to feral cats), 1 in Minnesota, and 10 in Vermont were reported as being prone to predation. In one instance, domestic cats were observed killing bats at a hibernaculum used by northern long-eared bat and eastern small-footed bat in Maryland, although the species of bat killed was not identified (Feller 2011, unpublished data). Turner (1999, personal observation) observed a snake (species unknown) capture an emerging Virginia big-eared bat (*Corynorhinus townsendii virginianus*) in West Virginia. The bat was captured in flight while the snake was perched along the top of a bat gate at the cave's entrance. Tuttle (1979, p. 11) observed (eastern) screech owls (*Otus asio*) capturing emerging gray bats.

Northern long-eared bats are known to be affected to a small degree by predators at summer roosts. Avian predators, such as owls and magpies, are known to successfully take individual bats as they roost in more open sites, although this most likely does not have an effect on the overall population size (Caceres and Pybus 1997, p. 4). In addition, Perry and Thill (2007, p. 224) observed a black rat snake (*Elaphe obsoleta obsoleta*) descending from a known maternity colony snag in the Ouachita Mountains of Arkansas. In summary, since bats are not a primary prey source for any known natural predators, it is unlikely that predation has substantial effects on either species at this time.

#### Conservation Efforts To Reduce Disease or Predation

As mentioned above, WNS is a disease that is responsible for unprecedented mortality in some hibernating bats in the northeast, like the northern long-eared bat, and it continues to spread throughout the range of the northern long-eared bat and eastern small-footed bat. Although conservation efforts have been undertaken to help reduce the spread of the disease through human-aided transmission, these efforts have only been in place for a few years and it is too early to determine how effective they are in decreasing the rate of spread. In 2008, the Service, along with several other State and Federal agencies, initiated a national plan (A National Plan for Assisting States, Federal Agencies, and Tribes in Managing White-Nose Syndrome in Bats (WNS

National Plan, [http://static.whitenosesyndrome.org/sites/default/files/white-nose\\_syndrome\\_national\\_plan\\_may\\_2011.pdf](http://static.whitenosesyndrome.org/sites/default/files/white-nose_syndrome_national_plan_may_2011.pdf)) that details the elements critical to investigating and managing WNS, along with identifying actions and roles for agencies and entities involved with the effort (Service 2011, p. 1). In addition to bat-to-bat transmission of the disease, fungal spores can be transmitted by humans (USGS National Wildlife Health Center, Wildlife Health Bulletin 2011–05). Therefore, the WNS Decontamination Team (a sub-group under the WNS National Plan), created a decontamination protocol (Service 2012, p. 2) that provides specific procedures to ensure human transmission risk to bats is minimized.

The Service also issued an advisory calling for a voluntary moratorium on all caving activity in States known to have hibernacula affected by WNS, and all adjoining States, unless conducted as part of an agency-sanctioned research or monitoring project (Service 2009). The Western Bat Working Group has also developed a White-nose Syndrome Action Plan, a comprehensive strategy to prevent the spread of WNS, that covers States currently outside the range of WNS (Western Bat Working Group 2010, p. 1–11). Although the majority of State and Federal agencies and tribes within the northern long-eared bat's and eastern small-footed bat's ranges have adopted the recommendations and protocols in the WNS National Plan, these are not mandatory or required. For example, in Virginia, the decontamination procedures are recommended for cavers; however, although the Virginia Department of Game and Inland Fisheries currently has closed the caves on the agencies' properties, they are reviewing this policy in light of the extensive spread of WNS throughout the State.

The NPS is currently updating their cave management plans (for parks with caves) to include actions to minimize the risk of WNS spreading to uninfected caves. These actions include WNS education, screening visitors for disinfection, and closure of caves if necessary (NPS 2013, <http://www.nature.nps.gov/biology/WNS>). In April 2009, all caves and mines on U.S. Forest Service lands in the Eastern Region were closed on an emergency basis in response to the spread of WNS. Eight National Forests in the Eastern Region contain caves or mines that are used by bats; caves and mines on seven of these National Forests (Allegheny, Hoosier, Ottawa, Mark Twain, Monongahela, Shawnee, and Wayne) are currently closed, and no closure is

needed for the one mine on the eighth National Forest (Green Mountain) because it is already gated with a bat-friendly structure. Forest supervisors continue to evaluate the most recent information on WNS to inform decisions regarding extending cave and mine closures for the purpose of limiting the spread of WNS (U.S. Forest Service 2013, <http://www.fs.fed.us/r9/wildlife/wildlife/bats.php>). Caves and mines on U.S. Forest Service lands in the Rocky Mountain Region were closed on an emergency basis in 2010, in response to WNS, but since then have been reopened, with some exceptions (U.S. Forest Service 2013, <http://www.fs.usda.gov/detail/r2/home/?cid=stelprdb5319926>). In place of the emergency closures, the Rocky Mountain Region will implement an adaptive management strategy that will require registration to access an open cave, prohibit use of clothing or equipment used in areas where WNS is found, require decontamination procedures prior to entering any and all caves, and close all known cave hibernacula during the winter hibernation period. Although the above mentioned WNS-related conservation measures may help reduce or slow the spread of the disease, these efforts are not currently enough to ameliorate the population-level effect to the northern long-eared bat.

#### Summary of Disease and Predation

In summary, while populations of several species of hibernating bats (*e.g.*, little brown bat, Indiana bat, northern long-eared bat, tri-colored bat) have experienced mass mortality due to WNS, populations of the eastern small-footed bat appear to be stable, and if they are in decline, the level of impact is not discernible at this time. Summer monitoring data are scarce, and the little data we have are inconclusive. However, based on the best available scientific information, we conclude that disease does not have an appreciable effect on the eastern small-footed bat.

Unlike the eastern small-footed bat, the northern long-eared bat has experienced a sharp decline, estimated at approximately 99 percent (from hibernacula data), in the northeastern portion of its range, due to the emergence of WNS. Summer survey data have confirmed rates of decline observed in northern long-eared bat hibernacula data post-WNS. The species is highly susceptible to WNS where the disease currently occurs in the East, and there is no reason to expect that western populations will be resistant to the disease. Thus, we expect that similar declines as seen in the East will be

experienced in the future throughout the majority of the species' range. This is currently viewed as the predominant threat to the species, and if WNS had not emerged or was not affecting northern long-eared bat populations to the level that it has, we presume the species would not be declining to the degree observed.

As bats are not a primary prey source for any known natural predators, it is unlikely that predation is significantly affecting either species at this time.

#### Factor D. The Inadequacy of Existing Regulatory Mechanisms

Under this factor, we examine whether existing regulatory mechanisms are inadequate to address the threats to the species discussed under the other factors. Section 4(b)(1)(A) of the Act requires the Service to take into account "those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species. . . ." In relation to Factor D under the Act, we interpret this language to require the Service to consider relevant Federal, State, and tribal laws, regulations, and other such mechanisms that may minimize any of the threats we describe in threat analyses under the other four factors, or otherwise enhance conservation of the species. We give strongest weight to statutes and their implementing regulations and to management direction that stems from those laws and regulations. An example would be State governmental actions enforced under a State statute or constitution, or Federal action under statute.

Having evaluated the significance of the threat as mitigated by any such conservation efforts, we analyze under Factor D the extent to which existing regulatory mechanisms are inadequate to address the specific threats to the species. Regulatory mechanisms, if they exist, may reduce or eliminate the effects from one or more identified threats. In this section, we review existing State, Federal, and local regulatory mechanisms to determine whether they effectively reduce or remove threats to the eastern small-footed bat or northern long-eared bat.

No existing regulatory mechanisms have been designed to protect the species against WNS, the primary threat to the northern long-eared bat; thus, despite regulatory mechanisms that are currently in place, the species is still at risk. There are, however, some mechanisms in place to provide some protection from other factors that may act cumulatively with WNS. As such, the discussion below provides a few

examples of such existing regulatory mechanisms, but is not a comprehensive list.

#### Federal

Several laws and regulations help Federal agencies protect bats on their lands, such as the Federal Cave Resources Protection Act (16 U.S.C. 4301 *et seq.*) that protects caves on Federal lands and National Environmental Policy Act (42 U.S.C. 4321 *et seq.*) review, which serves to mitigate effects to bats due to construction activities on federally owned lands. The NPS has additional laws, policies, and regulations that protect bats on NPS units, including the NPS Organic Act of 1916 (16 U.S.C. 1 *et seq.*), NPS management policies (related to exotic species and protection of native species), and NPS policies related to caves and karst systems (provides guidance on placement of gates on caves not only to address human safety concerns but also for the preservation of sensitive bat habitat) (Plumb and Budde 2011, unpublished data). Even if a bat species is not listed under the Endangered Species Act, the NPS works to minimize effects to the species. In addition, the NPS Research Permitting and Reporting System tracks research permit applications and investigator annual reports, and NPS Management Policies require non-NPS studies conducted in parks to conform to NPS policies and guidelines regarding the collection of bat data (Plumb and Budde 2011, unpublished data).

The northern long-eared bat is considered a "sensitive species" throughout U.S. Forest Service's Eastern Region (USDA Forest Service 2012). As such, the northern long-eared bat must receive, "special management emphasis to ensure its viability and to preclude trends toward endangerment that would result in the need for Federal listing. There must be no effects to sensitive species without an analysis of the significance of adverse effects on the populations, its habitat, and on the viability of the species as a whole. It is essential to establish population viability objectives when making decisions that would significantly reduce sensitive species numbers" (Forest Service Manual (FSM) 2672.1).

#### State

The eastern small-footed bat is State-listed as endangered in Maryland and New Hampshire; State-listed as threatened in Kentucky, Pennsylvania, South Carolina, and Vermont; and considered as a species of special concern in Connecticut, Delaware,

Georgia, Indiana, Massachusetts, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Tennessee, Virginia, and West Virginia. The level of protection provided under these laws varies by State, but most prohibit take, possession, or transport of listed species. For example, in Maryland, a person may not take, possess, transport, export, process, sell, offer for sale, or ship nongame wildlife (MD Code, Natural Resources, sec. 10–2A–01–09); however, effects to summer roosting habitat and direct mortality from wind energy development projects under 70 Megawatts (MW) are currently exempted from protections offered to the eastern small-footed bat (Feller 2011, unpublished data). In Pennsylvania, however, a House Bill proposed in the General Assembly, if passed, would not allow any “commonwealth agency to take action to classify or consider wildlife, flora or fauna as threatened or endangered unless the wildlife, flora or fauna is protected under the Endangered Species Act of 1973” (General Assembly of Pennsylvania 2013, p. 2).

The northern long-eared bat is listed in very few of the States within the species’ range. The northern long-eared bat is listed as endangered under the Massachusetts endangered species act, under which all listed species are, “protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors.” In addition, listed animals are specifically protected from activities that disrupt nesting, breeding, feeding, or migration (Massachusetts Division of Fisheries and Wildlife 2012, unpublished document). In Wisconsin, all cave bats, including the northern long-eared bat, were listed as threatened in the State in 2011, due to previously existing threats and the impending threat of WNS (Redell 2011, pers. comm.). Certain development projects (e.g., wind energy), however, are excluded from regulations in place to protect the species in Wisconsin (Wisconsin Department of Natural Resources, unpublished document, 2011, p. 4). The northern long-eared bat is considered as some form of species of concern in 17 States: “Species of Greatest Concern” in Alabama and Rhode Island; “Species of Greatest Conservation Need” in Delaware, Iowa, and Vermont; “Species of Concern” in Ohio and Wyoming; “Rare Species of Concern” in South Carolina; “Imperiled” in Oklahoma; “Critically Imperiled” in Louisiana; and “Species of Special Concern” in

Indiana, Maine, Minnesota, New Hampshire, North Carolina, Pennsylvania, and South Carolina.

In the following States, there is either no State protection law or the northern long-eared bat is not protected under the existing law: Arkansas, Connecticut, Florida, Georgia, Illinois, Kansas, Kentucky, Maryland, Mississippi, Missouri, Montana, Nebraska, New Jersey, New York, North Dakota, Tennessee, Virginia, and West Virginia. In Kentucky, although the northern long-eared bat does not have a State listing status, it is considered protected from take under Kentucky State law; however, since greater than 95 percent of hibernacula in Kentucky are privately owned, cave closures are not often possible to enforce (Hemberger 2011, unpublished data).

Wind energy development regulation varies by State within the northern long-eared bat’s and eastern small-footed bat’s ranges. For example, in Virginia, although there are not currently any wind energy developments in the State, new legislation requires mitigation for bats with the objective of reducing fatalities. As part of the regulation, operators are required to “measure the efficacy” of mitigation (Reynolds 2011 unpublished data). In Vermont, all wind projects are required to conduct bat mortality surveys, and at least 2 of the 3 currently permitted projects in the State include application of operational adjustments (curtailment) to reduce bat fatalities (Smith 2011, unpublished data).

#### Summary of Inadequacy of Existing Regulatory Mechanisms

No existing regulatory mechanisms have been designed to protect the species against WNS, the primary threat to the northern long-eared bat. Therefore, despite regulatory mechanisms that are currently in place for the northern long-eared bat, the species is still at risk, primarily due to WNS, as discussed under *Factor C*.

#### *Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence*

##### Wind Energy Development

In general, bats are killed in significant numbers by utility-scale (greater than or equal to 0.66 megawatt (MW)) wind turbines along forested ridge tops in the eastern United States (Johnson 2005, p. 46; Arnett *et al.* 2008, p. 63). The majority of bats killed include migratory foliage-roosting species: the hoary bat (*Lasiurus cinereus*) and eastern red bat (*Lasiurus borealis*); migratory tree and cavity-

roosting silver-haired bats (*Lasionycteris noctivagans*); and tri-colored bats (Arnett *et al.* 2008, p. 64).

Three effects may explain proximate causes of bat fatalities at wind turbines: (1) Bats collide with turbine towers, (2) bats collide with moving blades, or (3) bats suffer internal injuries (barotrauma) after being exposed to rapid pressure changes near the trailing edges and tips of moving blades (Cryan and Barclay 2009, p. 1331). It appears that barotrauma may be responsible for some deaths observed at wind-energy development sites. For example, nearly half of the 1,033 bat carcasses discovered over a 2-year study by Klug and Baerwald (2010, p. 15) had no fatal external injuries, and over 90 percent of those necropsied had internal injuries consistent with barotrauma (Baerwald *et al.* 2008, pp. 695–696). However, another study found that bone fractures from direct collision with turbine blades contributed to 74 percent of bat deaths, and therefore suggest that skeletal damage from direct collision with turbine blades is a major cause of fatalities for bats killed by wind turbines (Grotsky *et al.* 2011, p. 920). The authors suggest that these injuries can lead to an underestimation of bat mortality at wind energy facilities due to delayed lethal effects (Grotsky *et al.* 2011, p. 924). Lastly, the authors also note that the surface and core pressure drops behind the spinning turbine blades are high enough (equivalent to sound levels that are 10,000 times higher in energy density than the threshold of pain in humans (Cmiel *et al.* 2004)) to cause significant ear damage to bats flying near wind turbines (Grotsky *et al.* 2011, p. 924). Bats crippled by ear damage would have a difficult time navigating and foraging, since both of these functions depend on the bats’ ability to echolocate (Grotsky *et al.* 2011, p. 924).

Wind projects have been constructed in areas within a large portion of the ranges of eastern small-footed bats and northern long-eared bats, suggesting these species may be exposed to the risk of turbine-related mortality. However, as of 2011, only two eastern small-footed bat and 13 northern long-eared bat fatalities were recorded from North American wind-energy facilities, representing less than 0.1 percent and 0.2 percent of the total bat mortality, respectively (American Wind Energy Association 2011, p. 18). Because eastern small-footed bats fly slowly and close to the ground (Davis *et al.* 1965, p. 683), they may be less susceptible to mortality caused by the operation of wind turbines.

The threat level posed by wind development to northern long-eared and eastern small-footed bats throughout their ranges varies. For example, in Illinois, wind energy development is viewed as a large threat to northern long-eared bats, especially during migration. Although the species is not considered a long-distance migrant, even limited migration distances between summer and winter habitats pose a risk to the northern long-eared bat in Illinois, due to the increasingly large line of wind farms across most of the central portion of the State (Kath 2012, pers. comm.). In 2012, 7 to 10 wind farms were in operation, and at least as many are planned. Further, northern long-eared bats have been found in pre-construction surveys for many of the wind farms (both planned and operational) (Kath 2012, pers. comm.). In Minnesota, wind energy development is moving at a rapid pace, and is one of the reasons State wildlife agency officials are concerned about the species' status in the State (Baker 2011, pers. comm.). In many States, such as Maryland, New Hampshire, South Carolina, and Vermont, wind energy projects have just recently been completed or are in the process of being installed; therefore, the level of mortality to northern long-eared bats and eastern small-footed bats has yet to be seen (Brunkhurst 2012, pers. comm.; Bunch 2011, unpublished data; Feller 2011, unpublished data; Smith 2011, unpublished data). Vermont currently has three permitted wind energy facilities in the State (the first of which is currently under construction), from which State officials see limited potential that northern long-eared bat fatalities will occur (Smith 2011, unpublished data), likely due to the current low population of the species in the State. We conclude that there may be adverse effects posed by wind energy development to northern long-eared bats and eastern small-footed bats; however, there is no evidence suggesting effects from wind energy development in itself have led to population declines in either species.

#### Climate Change

Our analyses under the Act include consideration of ongoing and projected changes in climate. The terms "climate" and "climate change" are defined by the Intergovernmental Panel on Climate Change (IPCC). The term "climate" refers to the mean and variability of different types of weather conditions over time, with 30 years being a typical period for such measurements, although shorter or longer periods also may be used (IPCC 2007a, p. 78). The term

"climate change" thus refers to a change in the mean or variability of one or more measures of climate (e.g., temperature or precipitation) that persists for an extended period, typically decades or longer, whether the change is due to natural variability, human activity, or both (IPCC 2007a, p. 78).

Scientific measurements spanning several decades demonstrate that changes in climate are occurring, and that the rate of change has been faster since the 1950s. Examples include warming of the global climate system, and substantial increases in precipitation in some regions of the world and decreases in other regions. (For these and other examples, see IPCC 2007a, p. 30; Solomon *et al.* 2007, pp. 35–54, 82–85). Results of scientific analyses presented by the IPCC show that most of the observed increase in global average temperature since the mid-20th century cannot be explained by natural variability in climate, and is "very likely" (defined by the IPCC as 90 percent or higher probability) due to the observed increase in greenhouse gas (GHG) concentrations in the atmosphere as a result of human activities, particularly carbon dioxide emissions from use of fossil fuels (IPCC 2007a, pp. 5–6 and figures SPM.3 and SPM.4; Solomon *et al.* 2007, pp. 21–35). Further confirmation of the role of GHGs comes from analyses by Huber and Knutti (2011, p. 4), who concluded it is extremely likely that approximately 75 percent of global warming since 1950 has been caused by human activities.

Scientists use a variety of climate models, which include consideration of natural processes and variability, as well as various scenarios of potential levels and timing of GHG emissions, to evaluate the causes of changes already observed and to project future changes in temperature and other climate conditions (e.g., Meehl *et al.* 2007, entire; Ganguly *et al.* 2009, pp. 11555, 15558; Prinn *et al.* 2011, pp. 527, 529). All combinations of models and emissions scenarios yield very similar projections of increases in the most common measure of climate change, average global surface temperature (commonly known as global warming), until about 2030. Although projections of the magnitude and rate of warming differ after about 2030, the overall trajectory of all the projections is one of increased global warming through the end of this century, even for the projections based on scenarios that assume that GHG emissions will stabilize or decline. Thus, there is strong scientific support for projections that warming will continue through the 21st century, and that the magnitude and

rate of change will be influenced substantially by the extent of GHG emissions (IPCC 2007a, pp. 44–45; Meehl *et al.* 2007, pp. 760–764 and 797–811; Ganguly *et al.* 2009, pp. 15555–15558; Prinn *et al.* 2011, pp. 527, 529). (See IPCC 2007b, p. 8, for a summary of other global projections of climate-related changes, such as frequency of heat waves and changes in precipitation. Also see IPCC 2011 (entire) for a summary of observations and projections of extreme climate events.)

Various changes in climate may have direct or indirect effects on species. These effects may be positive, neutral, or negative, and they may change over time, depending on the species and other relevant considerations, such as interactions of climate with other variables (e.g., habitat fragmentation) (IPCC 2007, pp. 8–14, 18–19). Identifying likely effects often involves aspects of climate change vulnerability analysis. Vulnerability refers to the degree to which a species (or system) is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the type, magnitude, and rate of climate change and variation to which a species is exposed, its sensitivity, and its adaptive capacity (IPCC 2007a, p. 89; see also Glick *et al.* 2011, pp. 19–22). There is no single method for conducting such analyses that applies to all situations (Glick *et al.* 2011, p. 3). We use our expert judgment and appropriate analytical approaches to weigh relevant information, including uncertainty, in our consideration of various aspects of climate change.

As is the case with all stressors that we assess, even if we conclude that a species is currently affected or is likely to be affected in a negative way by one or more climate-related effects, it does not necessarily follow that the species meets the definition of an "endangered species" or a "threatened species" under the Act. If a species is listed as endangered or threatened, knowledge regarding the vulnerability of the species to, and known or anticipated impacts from, climate-associated changes in environmental conditions can be used to help devise appropriate strategies for its recovery.

The unique natural history traits of bats and their susceptibility to local temperature, humidity, and precipitation patterns make them an early warning system for effects of climate change in regional ecosystems (Adams and Hayes 2008, p. 1120). Climate change is expected to alter seasonal ambient temperatures and

precipitation patterns across regions (Adams and Hayes 2008, p. 1115). The ability of successful reproductive effort in female insectivorous bats is related directly to roost temperatures and water availability (Adams and Hayes 2008, p. 1116). Adams and Hayes (2008, p. 1120) predict an overall decline in bat populations in the western United States from reduced regional water storage caused by climate warming. In comparison, the northeast United States is projected to see a steady increase in annual winter precipitation, although a much greater proportion is expected to fall as rain rather than as snow. Overall, little change in summer rainfall is expected, although projections are highly variable (Frumhoff *et al.* 2007, p. 8). Based on this model, water availability should not be a limiting factor to bats in the northeast United States.

Climate change may result in warmer winters, which could lead to a reduced period of hibernation, increased winter activity, and reduced reliance on the relatively stable temperatures of underground hibernation sites (Jones *et al.* 2009, p. 99). Hibernation sites chosen by eastern small-footed bats (*e.g.*, under rocks) may be even more susceptible to temperature fluctuations, which may lead to energy depletion that reduces winter survival (Rodenhouse *et al.* 2009, p. 251). An earlier spring would presumably result in a shorter hibernation period and the earlier appearance of foraging bats (Jones *et al.* 2009, p. 99). An earlier emergence from hibernation may have no detrimental effect on population size if sufficient food is available (Jones *et al.* 2009, p. 99); however, predicting future insect population dynamics and distributions is complex (Bale *et al.* 2002, p. 6). Alterations in precipitation, stream flow, and soil moisture could influence insect populations in such a way as to potentially alter food availability for bats (Rodenhouse *et al.* 2009, p. 250).

Warmer winter temperatures may also disrupt bat reproductive physiology. Both eastern small-footed bats and northern long-eared bats breed in the fall, and spermatozoa are stored in the uterus of hibernating females until spring ovulation. If bats experience warm conditions they may arouse from hibernation prematurely, ovulate, and become pregnant (Jones *et al.* 2009, p. 99). Given this dependence on external temperatures, climate change is likely to affect the timing of reproductive cycles (Jones *et al.* 2009, p. 99), but whether these effects would be to the detriment of the species is largely unknown. A shorter hibernation period and warmer winter temperatures may lead to less

exposure and slower spread of WNS or persistence of the fungus, which would likely benefit both species. However, the rapid rate at which WNS is affecting the species is on a much quicker time scale than are the changes associated with climate change. Thus, longer-term effects of climate change are unlikely to have an impact on the short-term effects of WNS. Although we do have information that suggests that climate change may impact both the northern long-eared bat and eastern small-footed bat and bats in general, we do not have any evidence suggesting that climate change in itself has led to population declines in either species.

#### Contaminants

Effects to bats from contaminant exposure have likely occurred and gone, for the most part, unnoticed among bat populations (Clark and Shore 2001, p. 204). Contaminants of concern to insectivorous bats like the eastern small-footed and northern long-eared bats include organochlorine pesticides, organophosphate, carbamate and neonicotinoid insecticides, polychlorinated biphenyls and polybrominated diphenyl ethers (PBDEs), pyrethroid insecticides, and inorganic contaminants such as mercury (Clark and Shore 2001, pp. 159–214).

Organochlorine pesticides (*e.g.*, DDT, chlordane) persist in the environment due to lipophilic (fat-loving) properties, and therefore readily accumulate within the fat tissue of bats. Because insectivorous bats have high metabolic rates, associated with flight and small size, their food intake increases the amount of organochlorines available for concentration in the fat (Clark and Shore 2001, p. 166). Because bats are long-lived, the potential for bioaccumulation is great, and effects on reproduction and populations have been documented (Clark and Shore 2001, pp. 181–190). In maternity colonies, young bats appear to be at the greatest risk of mortality. This is because organochlorines become concentrated in the fat of the mother's milk and these chemicals continually and rapidly accumulate in the young as they nurse (Clark 1988, pp. 410–411).

In addition to indirect effects of contaminants on bats via prey consumption, documented cases of population-level effects involve direct application of pesticides to bats or their roosts. For example, when a mixture of DDT and chlordane was applied to little brown bats and their roost site, mortality from exposure was observed (Kunz *et al.* 1977, p. 478). Most organochlorine pesticides have been banned in the United States and have

largely been replaced by organophosphate insecticides, which are generally short-lived in the environment and do not accumulate in food chains; however, risk of exposure is still possible from direct exposure from spraying or ingesting insects that have recently been sprayed but have not died, or both (Clark 1988, p. 411). Organophosphate and carbamate insecticides are acutely toxic to mammals. Also, some organophosphates may be stored in fat tissue and contribute to "organophosphate-induced delayed neuropathy" in humans (USEPA 2013, p. 44).

Bats are less sensitive to organophosphate insecticides than birds in regards to acute toxicity, but many bats lose their motor coordination from direct application and are unlikely to survive in the wild in an incapacitated state lasting over 24 hours (Plumb and Budde 2011, unpublished data). Bats may be exposed to organophosphate and carbamate insecticides in regions where methyl parathion is applied in cotton fields and where malathion is used for mosquito control (Plumb and Budde 2011, unpublished data). The organophosphate, chlorpyrifos, has high fat solubility and is commonly used on crops such as corn, soybeans (van Beelen 2000, p. 34 of Appendix 2; [http://water.usgs.gov/nawqa/pnsp/usage/maps/show\\_map.php?year=2009&map=CHLORPYRIFOS&hilo=L](http://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2009&map=CHLORPYRIFOS&hilo=L)).

The neonicotinoids have been found to cause oxidative stress, neurological damage and possible liver damage in rats and immune suppression in mice (<http://www.sciencedirect.com/science/article/pii/S0048357512001617> Badgujar *et al.* 2013, p. 408; Duzguner 2012, p. 58; Kimura-Kuroda *et al.* 2011, p. 381). Due to information indicating that there is a link between neonicotinoids used in agriculture and a decline in bee numbers, the European Union proposed a two year ban on the use of the neonicotinoids, thiamethoxam, imidacloprid and clothianidin on crops attractive to honeybees, beginning in December of 2013 (<http://www.lawbc.com/regulatory-developments/entry/proposal-for-restriction-of-neonicotinoid-products-in-the-eu/>).

The more recently developed "third generation" of pyrethroids have acute oral toxicities rivaling the toxicity of organophosphate, carbamate and organochlorine pesticides. These pyrethroids include esfenvalerate, deltamethrin, bifenthrin, tefluthrin, flucythrinate, cyhalothrin and fenpropathrin (Mueller-Beilschmidt 1990, p. 32). Pyrethroids are

increasingly used in the United States, and some of these compounds have very high fat solubility (e.g., bifenthrin, cypermethrin) (van Beelen 2000, p. 34 of Appendix 2).

Like the organochlorine pesticides, PCBs and PBDEs are highly lipophilic and therefore readily accumulate in insectivorous bats. Outside of laboratory experiments, there is no conclusive evidence that bats have been killed by PCBs, although effects on reproduction have been observed (Clark and Shore 2001, pp. 192–194).

In New Hampshire, to limit the amount of plant material growing on the rock slope of the Surry Mountain Reservoir, the U.S. Army Corps of Engineers spray the rock slope with herbicide; this site is an eastern small-footed bat summer roosting site (Veilleux and Reynolds 2006, p. 331). It is unknown whether the direct application of herbicide on the roost area reduces the roost quality or causes mortality of adult bats, young bats, or both.

Eastern small-footed bats and northern long-eared bats forage on emergent insects and can be characterized as occasionally foraging over water (Yates and Evers 2006, p. 5), and therefore are at risk of exposure to bioaccumulation of inorganic contaminants (e.g., cadmium, lead, mercury) from contaminated water bodies. Bats tend to accumulate inorganic contaminants due to their diet and slow means of elimination of these compounds (Plumb and Budde 2011, unpublished data). In Virginia, for example, the North Fork Holston River is a water body that was highly contaminated by a waterborne point source of mercury through contamination by a chlor-alkali plant. Based on findings from a pilot study for bats in 2005 (Yates and Evers 2006), there is sufficient information to conclude that bats from near-downstream areas of the North Fork Holston River have potentially harmful body burdens of mercury, although the effect on bats is unknown. Fur samples taken from eastern small-footed bats have also yielded detectable amounts of mercury and zinc (Hickey *et al.* 2001, p. 703). Hickey *et al.* (2001, p. 705) suggest that the concentrations of mercury reported may be sufficient to cause sublethal biological effects to bats. Divoll *et al.* (*in prep*) found that eastern small-footed bats and northern long-eared bats showed consistently higher mercury levels than little brown bats or eastern red bats sampled in Maine, which may be correlated with gleaning behavior and the consumption of spiders by these two bat species. Eastern

small-footed bats exhibited the highest mercury levels of all species. Bats recaptured during the study 1 or 2 years after their original capture maintained similar levels of mercury in fur year-to-year. Biologists suggest that individual bats accumulate body burdens of mercury that cannot be reduced once elevated to a certain threshold.

Exposure to holding ponds containing flow-back and produced water associated with hydraulic fracturing operations may also expose bats to toxins, radioactive material, and other contaminants (Hein 2012, p. 8). Cadmium, mercury, and lead are contaminants reported in hydraulic fracturing operations. Whether bats drink directly from holding ponds or contaminants are introduced from these operations into aquatic ecosystems, bats will presumably accumulate these substances and potentially suffer adverse effects (Hein 2012, p. 9). In summary, the best available data indicate that contaminant exposure can pose an adverse effect to individual northern long-eared and eastern small-footed bats, although it is not an immediate and significant risk in itself at a population level.

#### Prescribed Burning

Eastern forest-dwelling bat species, such as the eastern small-footed and northern long-eared bats, likely evolved with fire management of mixed-oak ecosystems (Perry 2012, p. 182). A recent review of prescribed fire and its effects on bats (U.S. Forest Service 2012, p. 182) generally found that fire had beneficial effects on bat habitat. Fire may create snags for roosting and creates more open forests conducive to foraging on flying insects (Perry 2012, pp. 177–179), although gleaners such as northern long-eared bats may readily use cluttered understories for foraging (Owen *et al.* 2003, p. 355). Cavity and bark roosting bats, such as the eastern small-footed and northern long-eared, use previously burned areas for both foraging and roosting (Johnson *et al.* 2009, p. 239; Johnson *et al.* 2010, p. 118). In Kentucky, the abundance of prey items for northern long-eared bats increased after burning (Lacki *et al.* 2009, p. 1170), and more roosts were found in post-burn areas (Lacki *et al.* 2009, p. 1169). Burning may create more suitable snags for roosting through exfoliation of bark (Johnson *et al.* 2009, p. 240), mimicking trees in the appropriate decay stage for roosting bats. In contrast, a prescribed burn in Kentucky caused a roost tree used by a radio-tagged female northern long-eared bat to prematurely fall after its base was weakened by smoldering combustion

(Dickinson *et al.* 2009, p. 56). Low-intensity burns may not kill taller trees directly but may create snags of smaller trees and larger trees may be injured, resulting in vulnerability (of the tree) to pathogens that cause hollowing of the trunk, which provides roosting habitat (Perry 2012, p. 177). Prescribed burning also opens the tree canopy, providing more canopy light penetration (Boyles and Aubrey 2006, p. 112; Johnson *et al.* 2009, p. 240), which may facilitate faster development of juvenile bats (Sedgeley 2001, p. 434). Although Johnson *et al.* (2009, p. 240) found the amount of roost switching did not differ between burned and unburned areas, the rate of switching in burned areas of every 1.35 days was greater than that found in other studies of every 2–3 days (Foster and Kurta 1999, p. 665; Owen *et al.* 2002, p. 2; Carter and Feldhamer 2005, p. 261; Timpone *et al.* 2010, p. 119).

Direct effects of fire on bats likely differ among species and seasons (Perry 2012, p. 172). Northern long-eared bats have been seen flushing from tree roosts shortly after ignition of prescribed fire during the growing season (Dickinson *et al.* 2009, p. 60). Fires of reduced intensity that proceed slowly allow sufficient time for roosting bats to arouse from sleep or torpor and escape the fire (Dickinson *et al.* 2010, p. 2200), although extra arousals from fire smoke could cause increased energy loss (Dickinson *et al.* 2009, p. 52). During prescribed burns, bats are potentially exposed to heat and gases; the roosting behavior of these two species, however, may reduce their vulnerability to toxic gases. When trees are dormant, the bats are roosting in caves or mines (hibernacula can be protected from toxic gases through appropriate burn plans), and during the growing season, northern long-eared bats roost in tree cavities or under bark above the understory, above the area with the highest concentration of gases in a low-intensity prescribed burn (Dickinson *et al.* 2010, pp. 2196, 2200). Carbon monoxide levels did not reach critical thresholds that could harm bats in low-intensity burns at the typical roosting height for the eastern small-footed and northern long-eared bats (Dickinson *et al.* 2010, p. 2196); thus heat effects from prescribed fire are of greater concern than gas effects on bats. Direct heat could cause injury to the thin tissue of bat ears and is more likely to occur than exposure to toxic gas levels during prescribed burns (Dickinson *et al.* 2010, p. 2196). In addition, fires of reduced intensity with shorter flame height could lessen the effect of heat to bats roosting higher in trees (Dickinson *et al.* 2010, p. 2196).

Winter, early spring, and late fall generally contain less intense fire conditions than during other seasons and coincide with time periods when bats are less affected by prescribed fire due to low activity in forested areas. Furthermore, no young are present during these times, which reduces the likelihood of heat injury and exposure of vulnerable young to fire (Dickinson *et al.* 2010, p. 2200). Prescribed fire objectives, such as fires with high intensity and rapid ignition in order to meet vegetation goals, must be balanced with the exposure of bats to the effects of fire (Dickinson *et al.* 2010, p. 2201). Currently, the Service and U.S. Forest Service strongly recommend not burning in the central hardwoods from mid- to late April through summer to avoid periods when bats are active in forests (Dickinson *et al.* 2010, p. 2200).

Bats that occur in forests are likely equipped with evolutionary characteristics that allow them to exist in environments with prescribed fire. Periodic burning can benefit habitat through snag creation and forest canopy gap creation, but frequency and timing need to be considered to avoid direct and indirect adverse effects to bats when using prescribed burns as a management tool. We conclude that there may be adverse effects posed by prescribed burning to individual northern long-eared bats and eastern small-footed bats; however, there is no evidence suggesting effects from prescribed burning itself have led to population declines in either species.

#### Conservation Efforts To Reduce Other Natural or Manmade Factors Affecting Its Continued Existence

In the Midwest, rapid wind development is a concern with regards to the effect to bats (Baker 2011, pers. comm.; Kath 2012, pers. comm.). Due to the known impact from wind energy development, in particular to listed (and species currently being evaluated to determine if listing is warranted) bird and bat species in the Midwest, the Service, State natural resource agencies, and wind energy industry representatives are developing the Midwest Wind Energy Multi-Species Habitat Conservation Plan (MSHCP). The planning area includes the Midwest Region of the Service, which includes all or portions of the following States: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. The MSHCP would allow permit holders to proceed with wind energy development, which may result in "incidental" taking of a listed species under section 10 of the Act, through issuance of an incidental take permit (77

FR 52754; August 30, 2012). Currently, both the northern long-eared bat and eastern small-footed bat are being considered for inclusion as covered species under the MSHCP. The MSHCP will address protection of covered species through avoidance, minimization of take, and mitigation to offset effect of "take" (*e.g.*, habitat preservation, habitat restoration, habitat enhancement) to help ameliorate the effect of wind development (77 FR 52754; August 30, 2012). In some cases, the U.S. Forest Service has agreed to limit or restrict burning in the central hardwoods from mid- to late April through summer to avoid periods when bats are active in forests (Dickinson *et al.* 2010, p. 2200).

#### Summary of Factor E

We have identified a number of factors (*e.g.*, wind energy development, climate change, contaminants, prescribed burning) that may have direct or indirect effects on eastern small-footed bats and northern long-eared bats. Although such activities occur, there is no evidence that these activities alone have significant effects on either species, because their effects are often localized and not widespread throughout the species' ranges. However, these factors may have a cumulative effect on the northern long-eared bat when added to white-nose syndrome, because the disease had led to dramatic population declines in that species (discussed under *Factor C*).

#### Cumulative Effects From Factors A Through E

None of the factors discussed above under Factors A, B, C, or E, alone or in combination, is affecting the eastern small-footed bat at a population level. Conversely, WNS (*Factor C*) alone has led to dramatic and rapid population-level effects on the northern long-eared bat. White-nose syndrome is the most significant threat to the northern long-eared bat, and the species would likely not be imperiled were it not for this disease. However, although the effects on the northern long-eared bat from Factors A, B, and E individually or in combination do not have significant effects on the species, when combined with the significant population reductions due to white-nose syndrome (*Factor C*), the resulting cumulative effect may further adversely impact the species.

#### Finding

##### *Eastern Small-Footed Bat*

As required by the Act, we considered the five factors in assessing whether the

eastern small-footed bat is endangered or threatened throughout all of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by the eastern small-footed bat. We reviewed the petition, information available in our files, and other available published and unpublished information, and we consulted with recognized bat experts and other Federal and State agencies. Threats previously identified for the eastern small-footed bat include modification or destruction of winter and summer habitat, disturbance of hibernating bats from commercial and/or recreational activities in caves and mines, disease, wind energy development, climate change, and contaminants. The primary threat previously identified was WNS. While other species of hibernating bats have experienced mass mortality due to WNS, there is no indication of a population-level decline in eastern small-footed bat based on winter survey data. A review of pre-WNS and post-WNS hibernacula count data over multiple years finds that post-WNS counts were within the normal observed range at the majority of sites analyzed. Several life-history traits may reduce the susceptibility of this bat to WNS, which include their comparatively late arrival and early departure from hibernacula, departure from hibernacula during mild winter periods, solitary roosting habits, and selection of drier microhabitats (*e.g.*, cave and mine entrances). We will continue to closely monitor the spread of WNS and its effects on eastern small-footed bats. As for the other above-mentioned threats, although there is risk of exposure and individual mortality in isolated incidences, no declines in eastern small-footed bat populations have been documented.

Our review of the best available scientific and commercial information indicates that the eastern small-footed bat is not in danger of extinction (endangered) nor likely to become endangered within the foreseeable future (threatened), throughout all of its range.

#### Distinct Vertebrate Population Segment

After assessing whether the species is endangered or threatened throughout its range, we next consider whether a distinct vertebrate population segment (DPS) of the eastern small-footed bat meets the definition of an endangered or threatened species.

Under the Service's Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act (61 FR 4722;

February 7, 1996 (DPS Policy)), three elements are considered in the decision concerning the establishment and classification of a possible DPS. These are applied similarly for additions to or removal from the Federal List of Endangered and Threatened Wildlife. These elements include:

(1) The discreteness of a population in relation to the remainder of the species to which it belongs;

(2) The significance of the population segment to the species to which it belongs; and

(3) The population segment's conservation status in relation to the Act's standards for listing, delisting, or reclassification (i.e., is the population segment endangered or threatened).

#### Discreteness

Under the DPS policy, a population segment of a vertebrate taxon may be considered discrete if it satisfies either one of the following conditions:

(1) It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation; or

(2) It is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

There are no characteristics of the eastern small-footed bat's taxonomy, distribution or abundance, habitat, or biology (see the *Species Information* section, above) that suggest the species may be segmented into discrete populations. Throughout its range, the eastern small-footed bat has similar morphology and, as far as we know, genetics; uses similar roosting and foraging habitat; and exhibits similar roosting, foraging, and reproductive behavior. Therefore, the best available information indicates there is no evidence of markedly separated eastern small-footed bat populations.

There are no characteristics of the eastern small-footed bat's management that suggest the species may be segmented into discrete populations. The eastern small-footed bat occurs in the Canadian provinces of Ontario and Quebec, as well as in the United States. However, the species is not listed under Canada's Species At Risk Act. In addition, we have no information to suggest that the species, its habitat, or the potential threats evaluated above in the five factor analysis are managed differently in the Canadian versus U.S.

portions of the eastern small-footed bat's range. Therefore, the best available information indicates that there is no evidence that the eastern small-footed bat is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

We determine, based on a review of the best available information, that no population of the eastern small-footed bat meets the discreteness conditions of the 1996 DPS policy. Therefore, no eastern small-footed bat population qualifies as a DPS under our policy, and no population is a listable entity under the Act.

The DPS policy is clear that significance is analyzed only when a population segment has been identified as discrete. Since we found that no population segment meets the discreteness element and, therefore, does not qualify as a DPS under the Service's DPS policy, we will not conduct an evaluation of significance.

#### Significant Portion of the Range

Under the Act and our implementing regulations, a species may warrant listing if it is endangered or threatened throughout all or a significant portion of its range. The Act defines "endangered species" as any species which is "in danger of extinction throughout all or a significant portion of its range," and "threatened species" as any species which is "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The definition of "species" is also relevant to this discussion. The Act defines "species" as follows: "The term 'species' includes any subspecies of fish or wildlife or plants, and any distinct population segment [DPS] of any species of vertebrate fish or wildlife which interbreeds when mature." The phrase "significant portion of its range" (SPR) is not defined by the statute, and we have never addressed in our regulations: (1) The consequences of a determination that a species is either endangered or likely to become so throughout a significant portion of its range, but not throughout all of its range; or (2) what qualifies a portion of a range as "significant."

Two recent district court decisions have addressed whether the SPR language allows the Service to list or protect less than all members of a defined "species": *Defenders of Wildlife v. Salazar*, 729 F. Supp. 2d 1207 (D. Mont. 2010), concerning the Service's

delisting of the Northern Rocky Mountain gray wolf (74 FR 15123; April 2, 2009); and *WildEarth Guardians v. Salazar*, 2010 U.S. Dist. LEXIS 105253 (D. Ariz. September 30, 2010), concerning the Service's 2008 finding on a petition to list the Gunnison's prairie dog (73 FR 6660; February 5, 2008). The Service had asserted in both of these determinations that it had authority, in effect, to protect only some members of a "species," as defined by the Act (i.e., species, subspecies, or DPS), under the Act. Both courts ruled that the determinations were arbitrary and capricious on the grounds that this approach violated the plain and unambiguous language of the Act. The courts concluded that reading the SPR language to allow protecting only a portion of a species' range is inconsistent with the Act's definition of "species." The courts concluded that once a determination is made that a species (i.e., species, subspecies, or DPS) meets the definition of "endangered species" or "threatened species," it must be placed on the list in its entirety and the Act's protections applied consistently to all members of that species (subject to modification of protections through special rules under sections 4(d) and 10(j) of the Act).

Consistent with that interpretation, and for the purposes of this finding, we interpret the phrase "significant portion of its range" in the Act's definitions of "endangered species" and "threatened species" to provide an independent basis for listing; thus there are two situations (or factual bases) under which a species would qualify for listing: A species may be endangered or threatened throughout all of its range; or a species may be endangered or threatened in only a significant portion of its range. If a species is in danger of extinction throughout a significant portion of its range, the species is an "endangered species." The same analysis applies to "threatened species." Based on this interpretation and supported by existing case law, the consequence of finding that a species is endangered or threatened in only a significant portion of its range is that the entire species shall be listed as endangered or threatened, respectively, and the Act's protections shall be applied across the species' entire range.

We conclude, for the purposes of this finding, that interpreting the significant portion of its range phrase as providing an independent basis for listing is the best interpretation of the Act because it is consistent with the purposes and the plain meaning of the key definitions of the Act; it does not conflict with established past agency practice (i.e.,

prior to the 2007 Solicitor's Opinion), as no consistent, long-term agency practice has been established; and it is consistent with the judicial opinions that have most closely examined this issue. Having concluded that the phrase "significant portion of its range" provides an independent basis for listing and protecting the entire species, we next turn to the meaning of "significant" to determine the threshold for when such an independent basis for listing exists.

Although there are potentially many ways to determine whether a portion of a species' range is "significant," we conclude, for the purposes of this finding, that the significance of the portion of the range should be determined based on its biological contribution to the conservation of the species. For this reason, we describe the threshold for "significant" in terms of an increase in the risk of extinction for the species. We conclude that a biologically based definition of "significant" best conforms to the purposes of the Act, is consistent with judicial interpretations, and best ensures species' conservation. Thus, for the purposes of this finding, and as explained further below, a portion of the range of a species is "significant" if its contribution to the viability of the species is so important that without that portion, the species would be in danger of extinction.

We evaluate biological significance based on the principles of conservation biology using the concepts of redundancy, resiliency, and representation. Resiliency describes the characteristics of a species and its habitat that allow it to recover from periodic disturbance. Redundancy (having multiple populations distributed across the landscape) may be needed to provide a margin of safety for the species to withstand catastrophic events. Representation (the range of variation found in a species) ensures that the species' adaptive capabilities are conserved. Redundancy, resiliency, and representation are not independent of each other, and some characteristic of a species or area may contribute to all three. For example, distribution across a wide variety of habitat types is an indicator of representation, but it may also indicate a broad geographic distribution contributing to redundancy (decreasing the chance that any one event affects the entire species), and the likelihood that some habitat types are less susceptible to certain threats, contributing to resiliency (the ability of the species to recover from disturbance). None of these concepts is intended to be mutually exclusive, and a portion of a

species' range may be determined to be "significant" due to its contributions under any one or more of these concepts.

For the purposes of this finding, we determine if a portion's biological contribution is so important that the portion qualifies as "significant" by asking whether without that portion, the representation, redundancy, or resiliency of the species would be so impaired that the species would have an increased vulnerability to threats to the point that the overall species would be in danger of extinction (i.e., would be "endangered"). Conversely, we would not consider the portion of the range at issue to be "significant" if there is sufficient resiliency, redundancy, and representation elsewhere in the species' range that the species would not be in danger of extinction throughout its range if the population in that portion of the range in question became extirpated (extinct locally).

We recognize that this definition of "significant" (a portion of the range of a species is "significant" if its contribution to the viability of the species is so important that without that portion, the species would be in danger of extinction) establishes a threshold that is relatively high. On the one hand, given that the consequences of finding a species to be endangered or threatened in a significant portion of its range would be listing the species throughout its entire range, it is important to use a threshold for "significant" that is robust. It would not be meaningful or appropriate to establish a very low threshold whereby a portion of the range can be considered "significant" even if only a negligible increase in extinction risk would result from its loss. Because nearly any portion of a species' range can be said to contribute some increment to a species' viability, use of such a low threshold would require us to impose restrictions and expend conservation resources disproportionately to conservation benefit: Listing would be rangewide, even if only a portion of the range of minor conservation importance to the species is imperiled. On the other hand, it would be inappropriate to establish a threshold for "significant" that is too high. This would be the case if the standard were, for example, that a portion of the range can be considered "significant" only if threats in that portion result in the entire species' being currently endangered or threatened. Such a high bar would not give the significant portion of its range phrase independent meaning, as the Ninth Circuit held in *Defenders of*

*Wildlife v. Norton*, 258 F.3d 1136 (9th Cir. 2001).

The definition of "significant" used in this finding carefully balances these concerns. By setting a relatively high threshold, we minimize the degree to which restrictions will be imposed or resources expended that do not contribute substantially to species conservation. But we have not set the threshold so high that the phrase "in a significant portion of its range" loses independent meaning. Specifically, we have not set the threshold as high as it was under the interpretation presented by the Service in the *Defenders* litigation. Under that interpretation, the portion of the range would have to be so important that current imperilment there would mean that the species would be currently imperiled everywhere. Under the definition of "significant" used in this finding, the portion of the range need not rise to such an exceptionally high level of biological significance. (We recognize that if the species is imperiled in a portion that rises to that level of biological significance, then we should conclude that the species is in fact imperiled throughout all of its range, and that we would not need to rely on the significant portion of its range language for such a listing.) Rather, under this interpretation we ask whether the species would be endangered everywhere without that portion, i.e., if that portion were completely extirpated. In other words, the portion of the range need not be so important that even the species being in danger of extinction in that portion would be sufficient to cause the species in the remainder of the range to be endangered; rather, the complete extirpation (in a hypothetical future) of the species in that portion would be required to cause the species in the remainder of the range to be endangered.

The range of a species can theoretically be divided into portions in an infinite number of ways. However, there is no purpose to analyzing portions of the range that have no reasonable potential to be significant or to analyzing portions of the range in which there is no reasonable potential for the species to be endangered or threatened. To identify only those portions that warrant further consideration, we determine whether there is substantial information indicating that: (1) The portions may be "significant," and (2) the species may be in danger of extinction there or likely to become so within the foreseeable future. Depending on the biology of the species, its range, and the threats it faces, it

might be more efficient for us to address the significance question first or the status question first. Thus, if we determine that a portion of the range is not "significant," we do not need to determine whether the species is endangered or threatened there; if we determine that the species is not endangered or threatened in a portion of its range, we do not need to determine if that portion is "significant." In practice, a key part of the determination that a species is in danger of extinction in a significant portion of its range is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats to the species occurs only in portions of the species' range that clearly would not meet the biologically based definition of "significant," such portions will not warrant further consideration.

We evaluated the current range of the eastern small-footed bat to determine if there is any apparent geographic concentration of potential threats for the species. We examined potential habitat threats from modification of cave and mine openings, mine reclamation, vandalism, wind energy development, and timber harvesting (Factor A); disturbance from cave recreation and research-related activities (Factor B); WNS and predation (Factor C); the inadequacy of existing regulatory mechanisms (Factor D); and collisions from wind energy development projects, climate change, contaminants, and prescribed burning (Factor E). We found no concentration of threats that suggests that the eastern small-footed bat may be in danger of extinction in a portion of its range. We found no portions of its range where potential threats are significantly concentrated or substantially greater than in other portions of its range. Therefore, we find that factors affecting the eastern small-footed bat are essentially uniform throughout its range, indicating no portion of the range warrants further consideration of possible endangered or threatened status under the Act. There is no available information indicating that there has been a range contraction for the species, and therefore we find that lost historical range does not constitute a significant portion of the range for the eastern small-footed bat. Our review of the best available scientific and commercial information indicates that the eastern small-footed bat is not in danger of extinction (endangered) nor likely to become

endangered within the foreseeable future (threatened), throughout all of its range or in a significant portion of its range. Therefore, we find that listing the eastern small-footed bat as an endangered or threatened species under the Act is not warranted at this time.

We request that you submit any new information concerning the status of, or threats to, the eastern small-footed bat to our Pennsylvania Field Office, 315 South Allen Street, Suite 322, State College, PA 16801, whenever it becomes available. New information will help us monitor the eastern small-footed bat and encourage its conservation. If an emergency situation develops for the eastern small-footed bat, we will act to provide immediate protection.

#### *Northern Long-Eared Bat*

As required by the Act, we considered the five factors in assessing whether the northern long-eared bat is an endangered or threatened species, as cited in the petition, throughout all of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by the northern long-eared bat. We reviewed the petition, information available in our files, and other available published and unpublished information, and we consulted with recognized bat and disease experts and other Federal and State agencies.

This status review identifies that the primary threat to the northern long-eared bat is attributable to WNS (Factor C), a disease caused by the fungus *Geomyces destructans* that is known to kill bats. The disease has led to dramatic and rapid population declines in northern long-eared bats of up to 99 percent from pre-WNS levels in some areas. White-nose syndrome has spread rapidly throughout the East and is currently spreading through the Midwest. We have no information to indicate that there are areas within the species' range that will not be impacted by the disease or that similar rates of decline (to what has been observed in the East, where the disease has been present for at most 8 years) will not occur throughout the species' range. Other sources of mortality to the species include wind-energy development, habitat modification, destruction and disturbance (e.g., vandalism to hibernacula, roost tree removal), effects of climate change, and contaminants. Although no significant decline due to these factors has been observed, they may have cumulative effects to the species in addition to WNS.

On the basis of the best scientific and commercial information available, we

find that the petitioned action to list the northern long-eared bat as an endangered or threatened species is warranted. A determination on the status of the species as an endangered or threatened species is presented below in the proposed listing determination.

#### Proposed Determination for Northern Long-Eared Bat

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations at 50 CFR part 424, set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, we may list a species based on (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. Listing actions may be warranted based on any of the above threat factors, singly or in combination.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the northern long-eared bat. There are several factors that affect the northern long-eared bat; however, we have found that no other threat is as severe and immediate to the species persistence as WNS (Factor C). Predominantly due to the emergence of WNS, the northern long-eared bat has experienced a severe and rapid decline in the Northeast, estimated at approximately 99 percent (from hibernacula data) since the disease was first discovered there in 2007. Summer survey data in the Northeast have confirmed rates of decline observed in northern long-eared bat hibernacula data post-WNS, with rates of decline ranging from 93 to 98 percent. This disease is considered the prevailing threat to the species, as there is currently no known cure. As mentioned under Factor C, although at the current time the disease has not spread throughout the species' entire range (WNS is currently found in 22 of 39 States where the northern long-eared bat occurs), it continues to spread, and we have no reason not to expect that where it spreads, it will have the same impact to the affected species (Coleman 2013, pers. comm.). Although there is some uncertainty as far as when the disease will spread throughout the northern long-eared bat's range, all models that have attempted to project the spread of WNS (presented in Factor C) were in agreement that WNS will indeed spread

across the United States. In addition, human transmission could introduce the spread of the fungus to new locations that are far removed from the current known locations (Coleman 2013, pers. comm.). This threat is ongoing, is expected to increase in the future, and is significant because it continues to extirpate northern long-eared bat populations as it spreads and is expected to continue to spread throughout the species' range. Other threats to the northern long-eared bat include wind-energy development, winter and summer habitat modification, destruction and disturbance (e.g., vandalism to hibernacula, roost tree removal), climate change, and contaminants. Although these threats (prior to WNS) have not in and of themselves had significant impacts at the species level, they may increase the overall impacts to the species when considered cumulatively with WNS.

The Act defines an endangered species as any species that is "in danger of extinction throughout all or a significant portion of its range" and a threatened species as any species "that is likely to become endangered throughout all or a significant portion of its range within the foreseeable future." We find that the northern long-eared bat is presently in danger of extinction throughout its entire range based on the severity and immediacy of threats currently affecting the species. The overall range has been significantly impacted because a large portion of populations in the eastern part of the range have been extirpated due to WNS. White-nose syndrome is currently or is expected in the near future to impact the remaining populations. In addition other factors are acting in combination with WNS to reduce the overall viability of the species. The risk of extinction is high because the species is considered less common to rare in the areas not yet, but anticipated to soon be, affected by WNS, and significant rates of decline have been observed over the last 6 years in the core of the species' range, which is currently affected by WNS; these rates of decline are especially high in the eastern part of the species' range, where rates of decline have been as high as 99 percent in hibernating populations of the species. Therefore, on the basis of the best available scientific and commercial information, we propose listing the northern long-eared bat as endangered in accordance with sections 3(6) and 4(a)(1) of the Act. We find that a threatened species status is not appropriate for the northern long-eared bat because the threat of WNS has

significant effects where it has occurred and is expected to spread rangewide in a short timeframe.

Under the Act and our implementing regulations, a species may warrant listing if it is endangered or threatened throughout all or a significant portion of its range. The threats to the survival of the species occur throughout the species' range and are not restricted to any particular significant portion of that range. Accordingly, our assessment and proposed determination applies to the species throughout its entire range.

#### Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and conservation by Federal, State, Tribal, and local agencies; private organizations; and individuals. The Act encourages cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required by Federal agencies and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Subsection 4(f) of the Act requires the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The recovery planning process involves the identification of actions that are necessary to halt or reverse the species' decline by addressing the threats to its survival and recovery. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

Recovery planning includes the development of a recovery outline shortly after a species is listed and preparation of a draft and final recovery plan. The recovery outline guides the immediate implementation of urgent recovery actions and describes the process to be used to develop a recovery plan. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery plan identifies site-specific management actions that set a trigger for review of the five factors that control

whether a species remains endangered or may be downlisted or delisted, and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) are often established to develop recovery plans. When completed, the recovery outline, draft recovery plan, and the final recovery plan will be available on our Web site (<http://www.fws.gov/endangered>), or from our Green Bay, Wisconsin, Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribal, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat protection, habitat restoration (e.g., restoration of native vegetation) and management, research, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. To achieve recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands.

If this species is listed, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost-share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, under section 6 of the Act, the State(s) of Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming, and the District of Columbia, would be eligible for Federal funds to implement management actions that promote the protection or recovery of the northern long-eared bat. Information on our grant programs that are available to aid species recovery can be found at: <http://www.fws.gov/grants>.

Although the northern long-eared bat is only proposed for listing under the Act at this time, please let us know if

you are interested in participating in recovery efforts for this species. Additionally, we invite you to submit any new information on this species whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as an endangered or threatened species and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service.

Federal agency actions within the species' habitat that may require conference or consultation or both as described in the preceding paragraph include management and any other landscape-altering activities on Federal lands administered by the U.S. Fish and Wildlife Service, U.S. Forest Service, NPS, and other Federal agencies; issuance of section 404 Clean Water Act (33 U.S.C. 1251 *et seq.*) permits by the U.S. Army Corps of Engineers; and construction and maintenance of roads or highways by the Federal Highway Administration.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered and threatened wildlife. The prohibitions of section 9(a)(2) of the Act, codified at 50 CFR 17.21 for endangered wildlife, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import, export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. Under the Lacey Act (18 U.S.C. 42–43; 16 U.S.C. 3371–3378), it is also illegal to possess, sell, deliver,

carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered and threatened wildlife species under certain circumstances. Regulations governing permits are codified at 50 CFR 17.22 for endangered species, and at § 17.32 for threatened species. With regard to endangered wildlife, a permit must be issued for the following purposes: For scientific purposes, to enhance the propagation or survival of the species, and for incidental take in connection with otherwise lawful activities.

It is our policy, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of a proposed listing on proposed and ongoing activities within the range of species proposed for listing. The following activities could potentially result in a violation of section 9 of the Act; this list is not comprehensive:

(1) Unauthorized collecting, handling, possessing, selling, delivering, carrying, or transporting of the species, including import or export across State lines and international boundaries, except for properly documented antique specimens of these taxa at least 100 years old, as defined by section 10(h)(1) of the Act.

(2) Incidental take of the species without authorization pursuant to section 7 or section 10(a)(1)(B) of the Act.

(3) Disturbance or destruction of known hibernacula due to commercial or recreational activities during known periods of hibernation.

(4) Unauthorized destruction or modification of summer habitat (including unauthorized grading, leveling, burning, herbicide spraying, or other destruction or modification of habitat) in ways that kills or injures individuals by significantly impairing the species' essential breeding, foraging, sheltering, or other essential life functions.

(5) Unauthorized removal or destruction of trees and other natural and manmade structures being utilized as roosts by the northern long-eared bat that results in take of the species.

(6) Unauthorized release of biological control agents that attack any life stage of this taxon.

(7) Unauthorized removal or exclusion from buildings or artificial structures being used as roost sites by the species, resulting in take of the species.

(8) Unauthorized building and operation of wind energy facilities within areas used by the species, which results in take of the species.

(9) Unauthorized discharge of chemicals, fill, or other materials into sinkholes which may lead to contamination of known northern long-eared bat hibernacula.

Questions regarding whether specific activities would constitute a violation of section 9 of the Act should be directed to the Green Bay, Wisconsin Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

### **Critical Habitat for Northern Long-Eared Bat**

#### *Background*

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the

destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) of the Act would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical and biological features within an area, we focus on the principal biological or physical constituent elements (primary constituent elements such as roost sites, nesting grounds, seasonal wetlands, water quality, tide, soil type) that are essential to the conservation of the species. Primary constituent elements are those specific elements of the physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For example, an area currently occupied by the species but that was not occupied at the time of listing may be essential to the conservation of the species and may be included in the critical habitat designation. We

designate critical habitat in areas outside the geographical area occupied by a species only when a designation limited to its range would be inadequate to ensure the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, other unpublished materials, or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of listed species, both inside and outside the critical habitat designation, continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species, and (3) section 9 of the Act's prohibitions on taking any individual of the species, including taking caused by

actions that affect habitat. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

#### *Prudency Determination*

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12), require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. Our regulations (50 CFR 424.12(a)(1)) state that the designation of critical habitat is not prudent when one or both of the following situations exist: (1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or (2) such designation of critical habitat would not be beneficial to the species.

There is currently no imminent threat of take attributed to collection or vandalism under Factor B for the northern long-eared bat, and identification and mapping of critical habitat is not expected to initiate any such threat. In the absence of finding that the designation of critical habitat would increase threats to a species, if there are any benefits to a critical habitat designation, then a prudent finding is warranted. The potential benefits of designation include: (1) Triggering consultation under section 7 of the Act, in new areas for actions in which there may be a Federal nexus where it would not otherwise occur because, for example, it is or has become unoccupied or the occupancy is in question; (2) focusing conservation activities on the most essential features and areas; (3) providing educational benefits to State or county governments or private entities; and (4) preventing people from causing inadvertent harm to the species. Therefore, because we have determined that the designation of critical habitat will not likely increase the degree of threat to the species and may provide some measure of benefit, we find that designation of critical

habitat is prudent for the northern long-eared bat.

#### *Critical Habitat Determinability*

Having determined that designation is prudent, under section 4(a)(3) of the Act we must find whether critical habitat for the species is determinable. Our regulations at 50 CFR 424.12(a)(2) state that critical habitat is not determinable when one or both of the following situations exist: (i) Information sufficient to perform required analyses of the impacts of the designation is lacking, or (ii) The biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat.

We reviewed the available information pertaining to the biological needs of the species and habitat characteristics where this species is located. Since information regarding the biological needs of the species is not sufficiently well known to permit identification of areas as critical habitat, we conclude that the designation of critical habitat is not determinable for the northern long-eared bat at this time.

There are many uncertainties in designating hibernacula as critical habitat for the northern long-eared bat. First, we are not able to establish which of the large number of known hibernacula the species is known to inhabit are essential to the conservation of the species. This is due to the species typically being found in small numbers (often fewer than 10 individuals per hibernaculum). Also, those hibernacula with historically greater numbers (greater than 100) are often now infested with WNS, where the northern long-eared bat has been extirpated or close to extirpated. In addition, we lack sufficient information to define the physical and biological features or primary constituent elements with enough specificity; we are not able to determine how habitats affected by WNS (where populations previously thrived and are now extirpated) may contribute to the recovery of the species or whether those areas may still contain essential physical and biological features. Finally, for several States (*e.g.*, Alabama, Iowa, Kansas, Montana, Nebraska, North Dakota, Oklahoma) within the species' range it is unknown if hibernacula occur within parts of the State, due to either the lack of survey effort or (especially the case in the western part of the range) the species being sparsely populated over a large landscape, making locating potential hibernacula challenging. Therefore, we currently lack the information necessary to propose critical habitat for the species.

There are also uncertainties with potential designation of summer habitat, specifically maternity colony habitat. Although research has given us indication of some key summer roost requirements, the northern long-eared bat appears to be somewhat opportunistic in roost selection, selecting varying roost tree species and types of roosts throughout the range. Thus, it is not clear whether certain summer habitats are essential for the recovery of the species, or whether summer habitat is not a limiting factor for the species. Although research has shown some consistency in female summer roost habitat (*e.g.*, selection of mix of live trees and snags as roosts, roosting in cavities, roosting beneath bark, and roosting in trees associated with closed canopy), the species and diameter of the tree (when tree roost is used) selected by northern long-eared bats for roosts vary widely depending on availability. Therefore, we are currently unable to determine whether specific summer habitat features are essential to the conservation of the species, and find that critical habitat is not determinable for the northern long-eared bat at this time. We will seek more information regarding the specific winter and summer habitat features and requirements for the northern long-eared bat and make a determination on critical habitat no later than 1 year following any final listing.

#### **Peer Review**

In accordance with our joint policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our listing determination for this species is based on scientifically sound data, assumptions, and analyses. We will invite these peer reviewers to comment during the public comment period.

We will consider all comments and information we receive during the comment period on this proposed rule during preparation of a final rulemaking. Accordingly, the final decision may differ from this proposal.

#### **Public Hearings**

The Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days after the date of publication of this proposal in the **Federal Register**. Such requests must be sent to the address shown in the **FOR FURTHER INFORMATION CONTACT** section. We will schedule public hearing on this proposal, if any are requested, and

announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing.

Persons needing reasonable accommodations to attend and participate in a public hearing should contact the Green Bay, Wisconsin, Field Office at 920-866-1717, as soon as possible. To allow sufficient time to process requests, please call no later than 1 week before the hearing date. Information regarding this proposed rule is available in alternative formats upon request.

#### **Required Determinations**

##### *Clarity of the Rule*

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

- (1) Be logically organized;
- (2) Use the active voice to address readers directly;
- (3) Use clear language rather than jargon;
- (4) Be divided into short sections and sentences; and
- (5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the **ADDRESSES** section. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

##### *National Environmental Policy Act (42 U.S.C. 4321 et seq.)*

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), need not be prepared in connection with listing a species as an endangered or threatened species under the Endangered Species Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

#### **References Cited**

A complete list of references cited in this rulemaking is available on the Internet at <http://www.regulations.gov> and upon request from the Green Bay, Wisconsin, Field Office (see **FOR FURTHER INFORMATION CONTACT**).

**Authors**

The primary authors of this proposed rule are the staff members of the Green Bay, Wisconsin, Field Office and the State College, Pennsylvania, Ecological Services Field Office.

**List of Subjects in 50 CFR Part 17**

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

**Proposed Regulation Promulgation**

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

**PART 17—[AMENDED]**

■ 1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 1531–1544; 4201–4245, unless otherwise noted.

■ 2. Amend § 17.11(h) by adding an entry for “Bat, northern long-eared” in alphabetical order under MAMMALS to the List of Endangered and Threatened Wildlife to read as follows:

**§ 17.11 Endangered and threatened wildlife.**

\* \* \* \* \*

(h) \* \* \*

| Species                   |                                 | Historic range  | Vertebrate population where endangered or threatened | Status  | When listed | Critical habitat | Special rules |
|---------------------------|---------------------------------|---|--|---------|-------------|------------------|---------------|
| Common name               | Scientific name                 |   |  |         |             |                  |               |
| MAMMALS                   |                                 |   |  |         |             |                  |               |
| *                         | *                               | *   | *  | *       | *           | *                | *             |
| Bat, northern long-eared. | <i>Myotis septentrionalis</i> . | U.S.A. (AL, AR, CT, DE, DC, FL, GA, IL, IN, IA, KS, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NH, NJ, NY, NC, ND, OH, OK, PA, RI, SC, SD, TN, VT, VA, WV, WI, WY); Canada (AB, BC, LB, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT). | Entire .....   | E ..... |             | NA .....         | NA            |
| *                         | *                               | *   | *  | *       | *           | *                | *             |

Dated: September 10, 2013.

**Stephen Guertin,**

Acting Director, U.S. Fish and Wildlife Service.

[FR Doc. 2013–23753 Filed 10–1–13; 8:45 am]

BILLING CODE 4310–55–P

## **APPENDIX E**

### **SAFETEA-LU 6002 COORDINATION PLAN**

**NHS CORRIDOR  
BETWEEN I-68 AND CORRIDOR H**

**US220 TIER ONE  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

## **SAFETEA-LU 6002 COORDINATION PLAN**

**February 2011  
(Version 2)**

## **Section 1: Project Background**

A Draft Environmental Impact Statement (DEIS) for the National Highway System (NHS) Corridor between I-68 and Corridor H is being prepared for the Federal Highway Administration (FHWA) by the West Virginia Department of Transportation Division of Highways (WVDOH) and the Maryland State Highway Administration (MDSHA). When completed, the DEIS will fulfill requirements set forth in both the *National Environmental Policy Act of 1969 (NEPA)* and the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)*.

The purpose of the project is to develop an improved transportation corridor connecting Interstate 68 (I-68) in Maryland and Appalachian Development Highway System Corridor H in West Virginia. Upgraded roadways resulting from the project would become part of the NHS. The new NHS Corridor, paralleling to some extent existing U.S. Route 220 in western Maryland and West Virginia's Potomac Highlands area, would improve the existing transportation system by providing an upgraded north-south road through a program of transportation projects. The new corridor will support efforts to increase mobility and regional commerce for residents, businesses, and visitors. It will also serve north-south interstate travel movements and support economic development throughout the Appalachian regions of Maryland, West Virginia, Pennsylvania, and Virginia.

The project is located in Grant, Hardy, Hampshire, and Mineral counties in West Virginia, and Allegany County in Maryland. The project region stretches from I-68 near Cumberland, Maryland, in the north to the proposed alignment of Corridor H in West Virginia in the south. Logical termini for the project are proposed at the northern end of the region along I-68 near the City of Cumberland and in the southern end along Corridor H in West Virginia.

Project needs were examined in the early stages of the process through a collaborative process that included examination of past studies, a review of existing regional plans, consultation with citizens and local officials within the project area, consultation with the government agencies involved in the process, and an analysis of the environmental and socioeconomic conditions of the region. Through this process, the following needs were identified within the study corridor:

- Current geometric deficiencies limit regional mobility.
- The project area has inadequate roadway capacity.

- There are safety deficiencies on some of the area's roadways.
- There is a need to support economic development efforts in the area.
- Additional system linkage is needed to complete the regional road network.

Although the major roads serving the area are well-maintained, they are primarily two-lane roads with grades as steep as nine percent and deficient roadway geometry in some locations. Capacity of the existing roadway network is inadequate to accommodate future economic development and commerce. In many areas throughout the region, unrestricted access creates traffic conflicts on the roads. The lack of multi-lane transportation facilities, beyond I-68 and very small sections of U.S. Route 220 and MD Route 53, has limited economic development in the region. Additionally, the high percentage of trucks on these two-lane roads together with limited passing zones creates conflicts with automobile traffic.

## **Section 2: Purpose of the Coordination Plan**

This coordination plan seeks to establish the responsibilities of the lead agencies in complying with the various aspects of the environmental review process and the anticipated schedule for the project. It also seeks to establish the lead agencies' plan for providing opportunities for other agencies and the public to provide comments on, and help develop the course of, the project. The plan identifies specific points of coordination; the persons, agencies, or organizations that should be included at each point of coordination; and the type of information required from each agency.

### Section 3 Lead / Cooperating / Participating Agencies

#### 3.1 List of Agencies, Roles, and Responsibilities

| Agency                                       | Role   | Responsibilities  |
|--|--|---|
| Federal Highway Administration (FHWA)        | Lead Agency  | Manage project processes; provide opportunity for public and agency involvement; and prepare EIS. Division offices in West Virginia and Maryland are jointly involved with the project. In an effort to maintain an efficient project operation and eliminate duplication of effort, the West Virginia Division office will coordinate the flow of information, reviews, and other activity, as much as possible, between the two division offices. In some cases, however, it may be necessary for both offices to carry out the same tasks. |
| U.S. Army Corps of Engineers (USACE)         | Cooperating Agency / Participating Agency <sup>1</sup> | Section 404 Permit jurisdiction; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.   |
| U.S. Coast Guard (USCG)                      | Participating Agency                                   | Provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS; elected not to be a cooperating agency because there are no navigable waterways in the project area.   |
| National Park Service (NPS)                  | Cooperating Agency / Participating Agency              | National Register of Historic Places jurisdiction; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.   |
| U.S. Environmental Protection Agency (USEPA) | Cooperating Agency / Participating Agency              | Review Section 404 permit application; provide comments on purpose and need; provide comments on alternatives; provide comments on EIS; and serve as the official federal recipient of the EIS.   |
| U.S. Fish and Wildlife Service (USFWS)       | Cooperating Agency/ Participating Agency               | Review Section 404 permit application; provide comments on purpose and need; provide comments on alternatives; provide comments on EIS; and provide special expertise with threatened and endangered species.   |
| Delaware Nation                              | Participating Agency                                   | Provide special expertise in Native American cultural resources; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.   |
| West Virginia Division of Highways (WVDOT)   | Co-lead State Agency                                   | Manage project processes; provide opportunity for public and agency involvement; and prepare EIS. The WVDOT will have responsibility for all interagency coordination efforts, including the dissemination of information (reports, background materials, and project activity notifications) and solicitation of project reviews, with West Virginia state agencies involved in the project.   |

| Agency   | Role                                      | Responsibilities   |
|--|---|--|
| Maryland State Highway Administration (MDSHA)                | Co-lead State Agency                      | Manage project processes; provide opportunity for public and agency involvement; and prepare EIS. The MDSHA will have responsibility for all interagency coordination efforts, including the dissemination of information (reports, background materials, and project activity notifications) and solicitation of project reviews, with Maryland state agencies involved in the project. |
| West Virginia Division of Natural Resources (WVDNR)          | Participating Agency                      | Provide special expertise with threatened and endangered species; provide comments on Section 404/401 process; and provide comments on EIS.  |
| West Virginia Department of Environmental Protection (WVDEP) | Participating Agency                      | Section 401 Water Quality Certification jurisdiction in West Virginia; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.  |
| West Virginia Division of Culture and History (WVDCH)        | Participating Agency                      | Provide special expertise with Section 106 resources; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.   |
| Maryland Department of the Environment (MDE)                 | Cooperating Agency / Participating Agency | Section 404 Permit jurisdiction in Maryland; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.  |
| Maryland Historical Trust (MHT)                              | Participating Agency                      | Provide special expertise with Section 106 resources; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.   |
| Maryland Department of Natural Resources (MDDNR)             | Participating Agency                      | Provide special expertise with threatened and endangered species; provide comments on Section 404/401 process; and provide comments on EIS.  |
| Maryland Department of Planning (MDP)                        | Participating Agency                      | Provide special expertise on socio-economic issues; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.   |
| Region 8 Planning and Development Council (R8PDC)            | Participating Agency                      | Provide special expertise on socio-economic issues; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.   |

| <b>Agency</b>                              | <b>Role</b>          | <b>Responsibilities</b>  |
|--|----------------------|--|
| U.S. Route 50 Association                  | Participating Agency | Provide special expertise on economic development; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS.  |
| Allegany County Planning Commission (ACPC) | Participating Agency | Provide special expertise on socio-economic issues; provide comments on purpose and need; provide comments on alternatives; and provide comments on EIS. |

<sup>1</sup> A cooperating agency is any public agency with jurisdiction by law over parts of the proposed project or with special expertise related to the project. Participating agencies are federal, state, tribal, regional, and local government agencies that may have an interest in the project. All cooperating agencies are also considered participating agencies, but participating agencies are not necessarily cooperating agencies.

### 3.2 Agency Contact Information

| <b>Agency</b>   | <b>Contact Person</b> | <b>Phone</b>   | <b>Mailing Address</b>  | <b>E-mail Address</b>              |
|-----------------|-----------------------|----------------|---|------------------------------------|
| FHWA-WV         | Jason Workman         | (304) 347-5268 | Geary Plaza, Suite 200<br>700 Washington St. E<br>Charleston, WV 25301  | jason.workman@fhwa.dot.gov         |
| FHWA-DelMar     | Denise King           | (410) 779-7145 | 10 S. Howard Street, Suite 2450<br>Baltimore, Maryland 21201  | Denise.king@fhwa.dot.gov           |
| USACE           | Sarah Workman         | (304) 399-5710 | USACE Huntington District<br>OR-FS<br>502 8 <sup>th</sup> St.<br>Huntington WVA 25701                             | Sarah.M.<br>Workman@usace.army.mil |
| USCG            | Roger Wiebusch        | (314) 539-3900 | Eighth Coast Guard Division<br>1222 Spruce Street<br>St. Louis, MO 63103  | roger.k.wiebusch@uscg.mil          |
| NPS             | Kevin Brandt          | (301) 745-5802 | Att: Lynne Wigfield<br>C&O Canal National Historic Park<br>1850 Dual Highway<br>Suite 100<br>Hagerstown, MD 27140 | Lynne_wigfield@nps.gov             |
| USEPA           | William Arguto        | (215) 814-3367 | Region III<br>1650 Arch Street<br>Philadelphia, PA  |                                    |
| USFWS           | Deborah Carter        | (304) 636-6586 | 694 Beverly Pike<br>Elkins, WV 26241  | deb_carter@fws.gov                 |
| Delaware Nation | Tamara Francis        | (405) 247-2448 | P.O. Box 825<br>Anadarko, OK 73005  | tfrancis@delawarenation.com        |
| WVDOH           | Ben Hark              | (304) 558-9670 | 1900 Kanawha Boulevard E<br>Building 5, Room A-416<br>Charleston, WV 25305  | Ben.L.Hark@wv.gov                  |

| Agency                     | Contact Person                 | Phone                                  | Mailing Address   | E-mail Address                                       |
|----------------------------|--------------------------------|--|---|--|
| MDSHA                      | Kameel Hall                    | (410)<br>545-8542                      | Project Planning Division<br>Mail Stop C301 SHA<br>707 N. Calvert Street<br>Baltimore, MD 21202               | Khall1@sha.state.md.us                               |
| WVDNR                      | Danny Bennett                  | (304)<br>558-2754                      | 1900 Kanawha Boulevard E<br>Building 3, Room 669<br>Charleston, WV 25305                                      | dannybennett@wvdnr.gov                               |
| WVDEP                      | Lyle Bennett                   | (304)<br>926-0499                      | Division of Water and Waste<br>Management<br>601 57 <sup>th</sup> Street SE<br>Charleston, WV 25304           | lbennett@wvdep.org                                   |
| WVDCH                      | Susan Pierce                   | (304)<br>558-0240                      | The Cultural Center<br>1900 Kanawha Boulevard E<br>Charleston, WV 25305                                       | susan.pierce@wvculture.org                           |
| MDE                        | Steve Hurt                     | (410)<br>662-7400                      | c/o McCormick Taylor, Inc.<br>509 S Exeter Street<br>Baltimore, MD 21202                                      | smhurt@mtmail.biz                                    |
| MHT                        | Beth Cole<br>Tim<br>Tamburrino | (410)<br>514-7631<br>(410)<br>514-7637 | 100 Community Place<br>Crownsville, MD 21032  | bcole@mdp.state.md.us<br>ttamburrino@mdp.state.md.us |
| MDNR                       | Greg Golden                    | (410)<br>260-8334                      | Environmental Review Unit<br>(B-3)<br>Tawes State Office Building<br>580 Taylor Avenue<br>Annapolis, MD 21401 | ggolden@dnr.state.md.us                              |
| MDP                        | Bihui Xu                       | (410)<br>767-4567                      | 301 West Preston Street<br>Baltimore, MD 21201  | bxu@mdp.state.md.us                                  |
| R8PDC                      | Terry Lively                   | (304)<br>257-2448                      | 8 Grant County Industrial<br>Park<br>P.O. Box 849<br>Petersburg, WV 26847                                     | tlively@regioneight.org                              |
| U.S.<br>Route 50<br>Assoc. | Craig Jennings                 | (304) 329-<br>1805                     | Preston County Commission<br>2336 Evansville Pike<br>Thornton, WV 26440                                       | cjennings@prestoncountywv.org                        |
| ACPC                       | Phil Hager                     | (301)<br>876-9555                      | Allegheny County Office<br>Complex<br>701 Kelly Road<br>Cumberland, MD 21502                                  | phil.hager@allconet.org                              |

#### Section 4: Coordination Points and Responsibilities

| Coordination Point                            | Information Distributed  | Responsible Agency     | Response Expected  | Responsible Agency  |
|---|--|------------------------|--|---|
| Notice of Intent to Prepare an EIS            | Publish notice in Federal register; develop coordination plan; and invite agencies to respond. | FHWA                   | Provide comments on proposed DEIS.   | Any interested federal agency.                                  |
| Coordinate on the Coordination Plan           | Provide initial coordination plan and future updates   | FHWA<br>WVDOH<br>MDSHA | Provide concurrence or comments.   | Cooperating and participating agencies                          |
| Briefings for Resource Agencies in MD         | Provide background Information.  | WVDOH<br>MDSHA         | Requests for further information; and identification of issues of concern.   | Cooperating and participating agencies with jurisdiction in MD. |
| Briefings for Resource Agencies in WV         | Provide background Information.  | WVDOH<br>MDSHA         | Requests for further information; and identification of issues of concern.   | Cooperating and participating agencies with jurisdiction in WV. |
| Cooperating and/or Participating Agencies     | Invite federal, state, and local agencies to become cooperating or participating agencies.     | FHWA<br>WVDOH<br>MDSHA | Commitments to cooperate or participate in the EIS process.  | As noted in Section 1.1.  |
| Public and Agency Scoping Meetings            | Invite public and agencies to public scoping meetings.   | WVDOH<br>MDSHA         | Requests for further information; present methodologies for technical analyses; and identification of issues of concern. | All interested parties.   |
| Purpose and Need                              | Distribute draft purpose and need statement.   | FHWA<br>WVDOH<br>MDSHA | Concurrence on purpose and need.   | Cooperating and participating agencies.                         |
| Corridors to be Retained for Further Analysis | Distribute preliminary alternatives analysis and recommendation for corridors to be retained.  | FHWA<br>WVDOH<br>MDSHA | Concurrence on corridors to be retained for further study.   | Cooperating and participating agencies.                         |

| <b>Coordination Point</b>  | <b>Information Distributed</b>  | <b>Responsible Agency</b> | <b>Response Expected</b>   | <b>Responsible Agency</b>               |
|--|---|---------------------------|--|---|
| Public Meeting on Purpose and Need and Corridors to be Retained for Further Analysis | Invite public and agencies to public meetings; distribute draft purpose and need statement; and distribute preliminary alternatives analysis and recommendation for corridors to be retained. | FHWA<br>WVDOH<br>MDSHA    | Public comment on purpose and need and corridors to be retained for further study. | All interested parties.                 |
| Circulation of Tier One Pre-DEIS   | --  | FHWA<br>WVDOH<br>MDSHA    | --   | --                                      |
| Identify Preferred Corridor(s) for Tier Two  | --  | FHWA<br>WVDOH<br>MDSHA    | --   | --                                      |
| Circulation of DEIS  | --  | FHWA                      | Comment on DEIS.   | Cooperating and participating agencies. |
| Public Hearing   | --  | WVDOH<br>MDSHA            | Provide comments on DEIS.  | All interested parties.                 |
| Circulation of FEIS  | --  | FHWA                      | Comment or concur on FEIS  | Cooperating and participating agencies. |
| Issue ROD  | --  | FHWA                      | --   | --                                      |

## Section 5: Public Involvement

Although included in both Section 4 and Section 6, public involvement activities associated with the project are included here to provide a concise description of those activities. Dates when the activities were completed are shown in Section 6.

| <b>Activity</b>  | <b>Information Distributed</b>   | <b>Responsible Agency</b> | <b>Response Expected from Public</b>   |
|--|--|---------------------------|--|
| Notice of Intent to Prepare an EIS   | Publish notice in Federal register.  | FHWA                      | Provide comments on proposed DEIS.   |
| Public and Agency Scoping Meetings   | Invite public and agencies to public scoping meetings; and conduct surveys.  | WVDOH<br>MDSHA            | Requests for further information; present methodologies for technical analyses; and identification of issues of concern. |
| Public Meeting on Purpose and Need and Corridors to be Retained for Further Analysis | Invite public and agencies to public meetings; distribute draft purpose and need statement; distribute preliminary alternatives analysis and recommendation for corridors to be retained; and conduct surveys. | FHWA<br>WVDOH<br>MDSHA    | Public comment on purpose and need and corridors to be retained for further study.                                       |
| Circulation of DEIS  | Distribute DEIS throughout the project area to allow for public review.  | FHWA                      | Comment on DEIS.   |
| Public Hearing   | Invite public and agencies to public hearing; and provide suitable opportunities for public to provide comments or testimony on DEIS.  | WVDOH<br>MDSHA            | Provide comments on DEIS.  |
| Circulation of FEIS  | Distribute FEIS throughout the project area to allow for public review.  | FHWA                      | Comment or concur on FEIS  |

## Section 6: Project Schedule

| Coordination Point   | Anticipated Date of Information to be Distributed | Responsible Agency | (Anticipated) Date of Response | Responsible Agency                      |
|--|---|--------------------|--------------------------------|---|
| Notice of Intent to Prepare an EIS   | April 14, 2006                                    | FHWA               | May 15, 2006                   | Any interested federal agency.          |
| Background Information to Resource Agencies in MD  | January 17, 2007                                  | WVDOH<br>MDSHA     | February 17, 2007              | Resource agencies in MD.                |
| Background Information to Resource Agencies in WV  | February 28, 2007                                 | WVDOH<br>MDSHA     | March 30, 2007                 | Resource agencies in WV.                |
| Preliminary Agency Field Views and Presentation of Technical Methodologies                         | May 3, 2006 (WV)<br>May 10, 2006 (MD)             | WVDOH<br>MDSHA     | June 30, 2006                  | Resource agencies in MD and WV.         |
| Public and Agency Scoping Meetings   | May 1 & 2, 2006 (WV)<br>May 10, 2006 (MD)         | WVDOH<br>MDSHA     | June 30, 2006                  | All interested parties.                 |
| Historic Resources Field Views and Presentation of Section 106 and Related Technical Methodologies | February 26, 2007 (MD)<br>March 22 & 23, 2007     | WVDOH<br>MDSHA     |                                | MD and WV SHPOs.                        |
| Purpose and Need   | April 18, 2007                                    | WVDOH<br>MDSHA     | June 20, 2007                  | Cooperating and participating agencies. |
| Corridors to be Retained for Further Analysis  | April 18, 2007                                    | WVDOH<br>MDSHA     | June 20, 2007                  | Cooperating and participating agencies. |
| Public Meeting on Purpose and Need and Corridors to be Retained for Further Analysis               | May 7 & 8, 2007 (WV)<br>May 10, 2007 (MD)         | WVDOH<br>MDSHA     | June 30, 2007                  | All interested parties.                 |
| Circulation of Tier One Pre-DEIS   | July 2010   | WVDOH<br>MDSHA     | December 2010                  | Cooperating and participating agencies. |

| <b>Coordination Point</b>                      | <b>Anticipated Date of Information to be Distributed</b> | <b>Responsible Agency</b> | <b>(Anticipated) Date of Response</b> | <b>Responsible Agency</b>                              |
|--|--|---------------------------|---------------------------------------|--|
| Circulation of DEIS to FHWA                    | February 2011  | FHWA<br>WVDOH<br>MDSHA    | --                                    | FHWA   |
| Circulation of DEIS to Agencies and Public     | July 2011  | WVDOH<br>MDSHA            | --                                    | Cooperating and participating agencies, and the Public |
| Tier I DEIS Public Hearings and Comment Period | July - September 2011                                    | FHWA<br>WVDOH<br>MDSHA    | --                                    | All interested parties.                                |
| Circulation of FEIS                            | February 2012  | FHWA<br>WVDOH<br>MDSHA    | --                                    | Cooperating and participating agencies.                |
| Issue ROD                                      | May 2012   | FHWA                      | --                                    | --   |

## **Section 7: Revision History**

If it becomes necessary to revise this Coordination Plan after it is issued by FHWA, MDSHA, and WVDOH in final form, a record of the specific changes will be noted below and included in any subsequent versions of the plan. Revisions to this document may be necessary due to changes in the project's regulatory framework, the schedule, or participants.

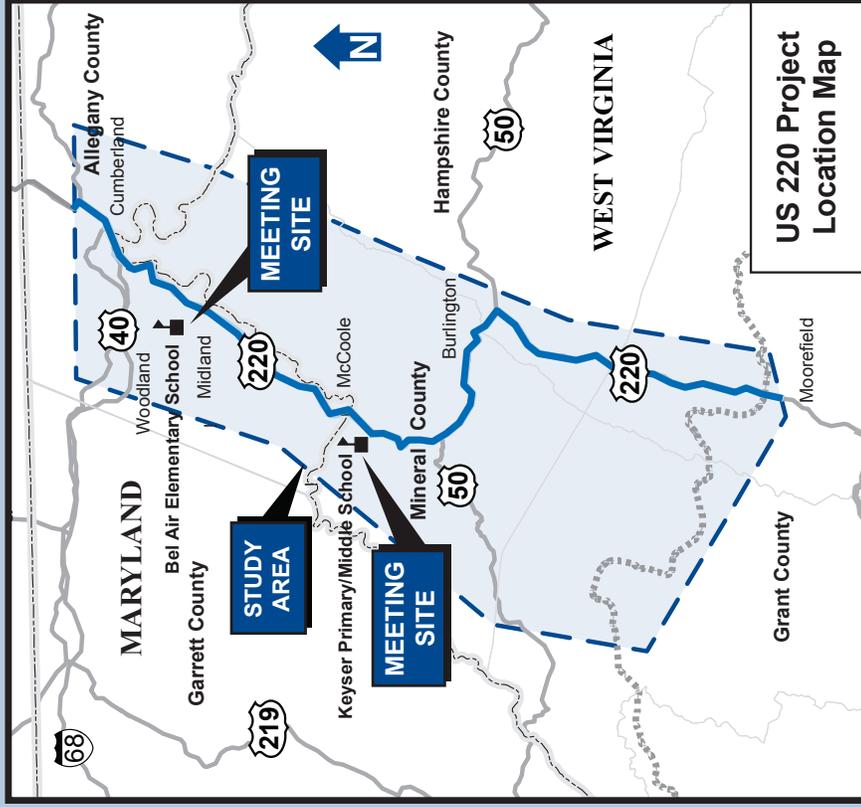
| <b>Version</b> | <b>Date</b>  | <b>Item</b>                          | <b>Description</b>  |
|----------------|--------------|--------------------------------------|---------------------|
| 2              | January 2011 | Agency contact information, schedule | Updated information |
|                |              |                                      |                     |
|                |              |                                      |                     |
|                |              |                                      |                     |

**APPENDIX F**

**PUBLIC INVOLVEMENT MATERIALS**

# US 220 Tier One Planning Study I-68 to Corridor H

## PUBLIC MEETINGS



US 220 Project  
Location Map

**Tuesday, September 13, 2011**  
**4:00 PM - 7:00 PM**  
 Keyser Primary/Middle School  
 700 Harley O. Staggers, Sr. Drive  
 Keyser, West Virginia 26726

**Wednesday, September 14, 2011**  
**6:00 PM - 9:00 PM**  
 Bel Air Elementary School  
 14401 Barton Boulevard  
 Cumberland, Maryland 21502

Project No. AL613B11



Maryland Department of Transportation  
 State Highway Administration



US Department of Transportation  
 Federal Highway Administration



State of West Virginia  
 Department of Transportation



## Project Planning Team

### Maryland

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Ms. Anne Elrays, Environmental Manager  
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Mr. Anthony Crawford  
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MD Relay Service for teletype users at 711

Ms. Keilyn Perez, Area Engineer  
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Baltimore, MD 21201  
Telephone: (410) 779-7160

### West Virginia

Mr. Gregory L. Bailey, P.E.  
Director, Engineering Division  
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Charleston, WV 25301-1657  
Telephone: (304) 347-5928

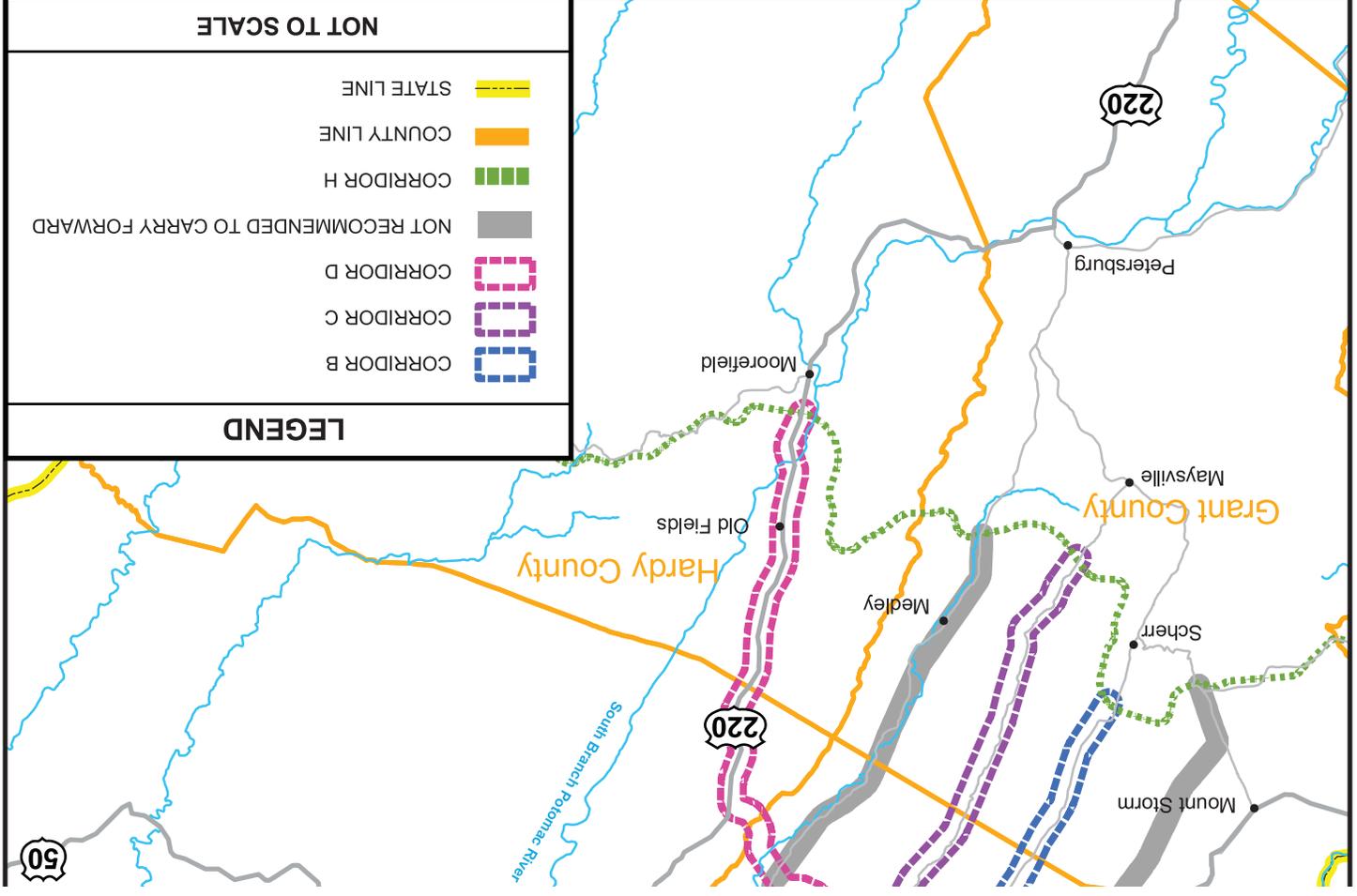


Figure 1

## Introduction

The Maryland State Highway Administration (MDSHA), the West Virginia Division of Highways (WVDOT), and the Federal Highway Administration (FHWA) have prepared a Tier One Draft Environmental Impact Statement (DEIS) for US 220 from I-68 in Cumberland, Maryland to Corridor H in Grant County, West Virginia (approximately 40 miles).

## Purpose of the Project

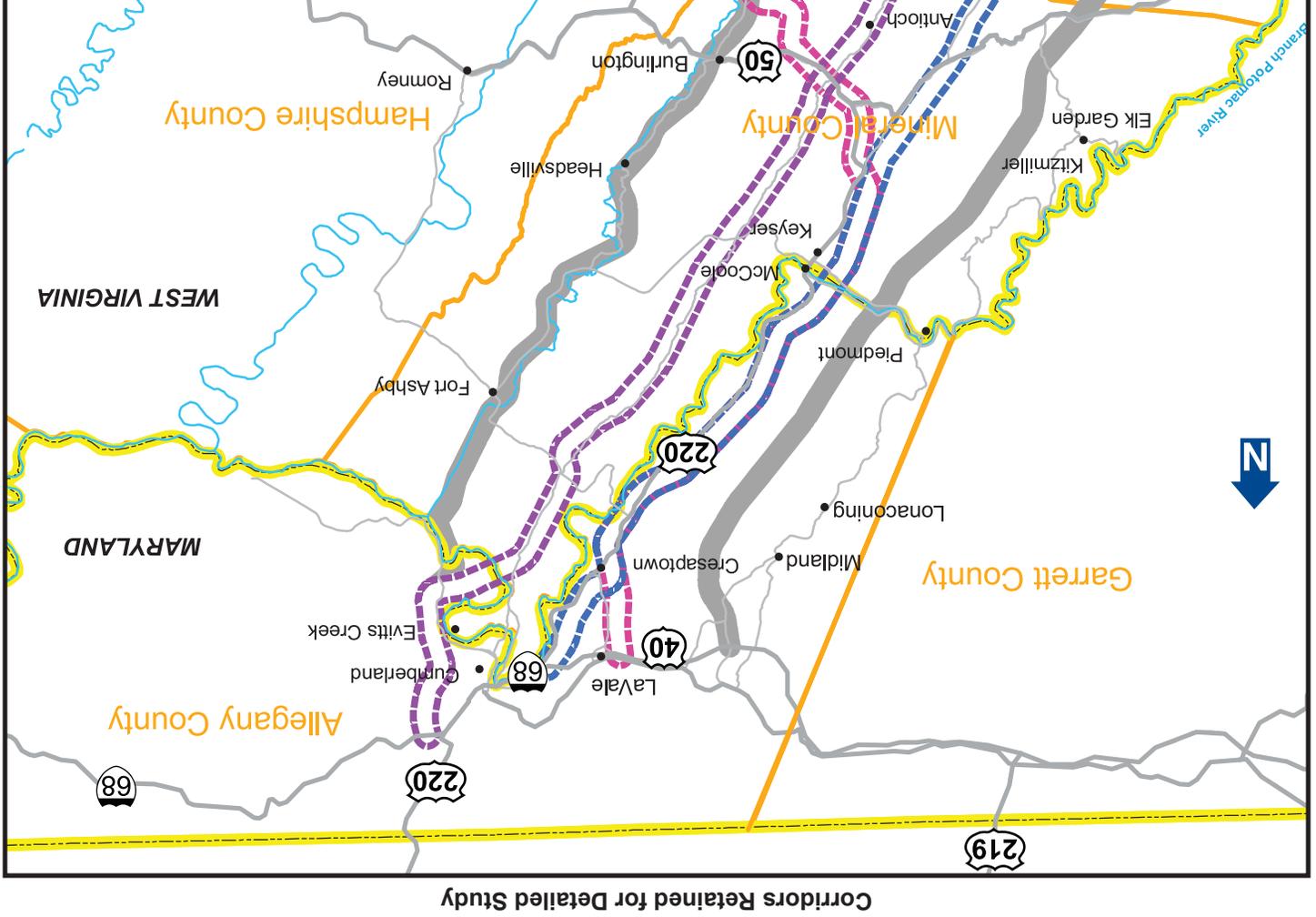
The purpose of this project is to develop an improved US 220 transportation corridor connecting I-68 and the Corridor H improvements to provide an upgraded north-south transportation system. The new corridor will support efforts to increase mobility and regional commerce for residents, businesses, and visitors. It will also serve north-south interstate travel and support economic development throughout the Appalachian region in Maryland, West Virginia, Pennsylvania, and Virginia. The following needs for the development of a Tier One DEIS have been identified:

- Current transportation deficiencies limit regional mobility.
- The project area has inadequate roadway capacity.
- Some area roadways are unsafe.
- Economic development efforts in the area need support.
- Additional system linkage is needed to complete the regional roadway network.

## Purpose of the Public Workshop and Public Hearing

Maryland and West Virginia will each hold a public meeting to present the results of the project's detailed engineering and environmental studies and receive public comment. A Public Workshop will be held on September 13, 2011, from 4:00 PM to 7:00 PM, at Keyser Primary/Middle School – 700 Harley O. Stagers, Sr. Drive, in Keyser, West Virginia, to meet policy requirements of the WVDOT. Maps and other project exhibits will be on display throughout the workshop, and staff from the WVDOT, MDSHA, and FHWA will be available to answer questions and take comments.

Maryland's Location/Design Public Hearing will be held on September 14, 2011, from 6:00 PM to 9:00 PM, at Bel Air Elementary School – 14401 Barton Boulevard, in Cumberland, Maryland. The formal hearing will allow individuals, associations, citizen groups, and government agencies to offer spoken or written comments for the project record before an alternative is selected. Maps and exhibits depicting the studied alternatives and other information will be on display beginning at 6:00 PM. Representatives from the MDSHA, WVDOT, and FHWA will be available to answer project-related questions. A formal presentation lasting approximately 30 minutes will begin at 7:00 PM and will be followed by public testimony. Testimony may also be given privately to a court reporter. All proceedings will be recorded and a transcript will be prepared. The transcript will



Corridors Retained for Detailed Study

be available for public review approximately eight weeks after the hearing, at the locations listed on page 14 of this brochure.

### **The same information will be presented at West Virginia's workshop and at Maryland's public hearing.**

#### **The Tiered EIS Process**

The goal of the US 220 project is to complete a Tier One National Environmental Policy Act (NEPA) analysis and DEIS for a corridor-level planning study only. Through the preparation of a tiered EIS, both the NEPA and transportation planning processes were consolidated. During Tier One, the project team evaluated generalized travel corridors at a planning level of detail within a bandwidth of 4,000 feet for each corridor. Tier One provides a broad-brush analysis that considers major environmental factors at an early stage. More detailed analyses on the selected corridors can then be undertaken during a Tier Two process. By following a tiered approach, the team has addressed the requirements for early project scoping and public involvement, developed the project purpose and need, and identified major environmental considerations as a factor for future decisions. The tiered process also provides a systematic approach to advance transportation improvements in a cost-effective manner and leads to the identification of corridors likely to have the fewest environmental impacts. As a result, the project's purpose and need will be refined, and corridor(s) will be selected for the further development of detailed alternative alignments during Tier Two of the process.

An earlier study (the North-South Appalachia Corridor Study, July 2001) identified several preliminary needs for the region. The Corridor Study (a multi-state transportation planning and economic-development effort among the WVDOH, the MDSHA, the Pennsylvania Department of Transportation, and the Virginia Department of Transportation) analyzed potential highway improvements for economic development in four north-south corridors in the Appalachian region in Maryland, Pennsylvania, Virginia, and West Virginia. The study also evaluated potential environmental impacts associated with a major transportation improvement action in the region.

The report concluded that the proposed National Highway System Corridor, which generally runs parallel to US 220, should receive high priority for future highway upgrades and other transportation improvements. Following the completion of the Corridor Study, the WVDOH and the MDSHA entered into a Memorandum of Understanding (May 21, 2004) to develop additional alternatives and a Tier One DEIS for the US 220 corridor study area.

Using the process established for the Tier One DEIS project, the team developed a full range of preliminary alternatives and began environmental and engineering studies. Tier One includes a needs analysis and an environmental overview and alternatives analysis of the preliminary study corridors. After the Tier One studies

## **Right-Of-Way and Relocation**

For information about right-of-way and relocation assistance, please contact:

Ms. Roxanne Harden, Real Property Manager  
Office of Real Estate, District 6  
Maryland State Highway Administration  
1251 Vocke Road  
LaVale, MD 21502-3347  
Telephone: (301) 729-8475  
Toll-free within Maryland: 1-800-635-5119  
Email: rharden@sha.state.md.us

Mr. David A. Neil, Acting Director  
West Virginia Department of Transportation  
Division of Highways  
Right of Way Division  
1900 Kanawha Boulevard, East  
Building 5, Room A-618  
Charleston, WV 25305-0430  
Telephone: (304) 558-2822  
Email: David.A.Neil@wv.gov

## **Media Used for Meeting Notification**

Advertisements appeared in the following newspapers to announce the workshop and hearing:

- The Cumberland Times-News
- The Baltimore Sun
- The Mineral Daily News-Tribune

## **Maryland and West Virginia Project Information**

For information about other MDSHA projects and services, go to [www.roads.maryland.gov](http://www.roads.maryland.gov) and click on **Projects & Studies, SHA Projects Page, and Allegany County, then US 220 McMullen Highway** under **Pre-Construction**. For information about other WVDOH projects and services, go to [www.transportation.wv.gov](http://www.transportation.wv.gov) and click on **Comment on Projects/US 220**. Teletype users can also access information and services at 711.

## Documents Available for Review

Copies of the DEIS are available for review at the locations listed below prior to the public hearing. The Location/Design Public Hearing Transcript will also be available for review approximately eight weeks after the hearing. To confirm availability, please call ahead Monday through Friday during normal business hours, at:

District 6  
Maryland State Highway Administration  
1251 Vocke Road  
LaVale, MD 21502-3347  
Telephone: (301) 729-8400  
Toll-free within Maryland: 1-800-760-7138

Maryland State Highway Administration  
Public Involvement Section  
707 N. Calvert Street, Mail Stop C-301  
Baltimore, MD 21202  
Telephone: (410) 545-8522  
Toll-free within Maryland: 1-800-548-5026

Washington Street Library  
31 Washington Street  
Cumberland, MD 21502  
Telephone: (301) 777-1200

South Cumberland Library  
100 Seymour Street  
Cumberland, MD 21502  
Telephone: (301) 724-1607

Keyser-Mineral County Public Library  
105 N. Main Street  
Keyser, WV 26726  
Telephone: (304) 788-3222

Mineral County Planning Commission  
Mineral County Courthouse  
150 Armstrong Street  
Keyser, WV 26726  
Telephone: (304) 788-1457

## Non-Discrimination in Federally Assisted and State-Aid Programs

For information concerning non-discrimination, please contact:

Ms. Sharon Lynn Holmes, Deputy Director  
Office of Equal Opportunity  
Maryland State Highway Administration  
707 N. Calvert Street  
Baltimore, MD 21202  
Telephone: (410) 545-0315  
Toll-free within Maryland: 1-888-545-0098  
Email: sholmes@sha.state.md.us

EEO Division  
West Virginia Division of Highways  
1900 Kanawha Boulevard, East  
Building 5, Room 948A  
Charleston, WV 25305-0430  
Telephone: (304) 558-3931  
Email: dot.eeo@wv.gov

are completed, documented, and provided to the public and state and federal resource agencies, a recommendation will be made for the next phase of the project.

Once the FHWA issues a Record of Decision at the conclusion of Tier One, one or more study-area corridors will be analyzed in greater detail during Tier Two. Additionally, specific alignments will be developed within the selected corridors during Tier Two. This systematic approach allows the team to (1) analyze the preliminary alternatives while developing the project's purpose and need and (2) develop, analyze, and advance or dismiss the alternative corridors at key project milestones. The team will conduct a more detailed evaluation of corridors retained for further analysis during later studies.

## Project Need

### Existing Conditions

The project is located in Allegany County in Maryland and Grant, Hardy, Hampshire, and Mineral counties in West Virginia. The major routes in the area are I-68, US 220, US 50, MD 51, MD 53, MD 135, WV 972, WV 46, and WV 93.

US 220 is functionally classified as a principal arterial. Speed limits within the study area vary from 25 to 55 miles per hour. Except for small sections of four-lane roadway on US 220 and MD 53 near Cumberland, the roadway is primarily two lanes with 12-foot-wide travel lanes and shoulders that vary from zero to 12-foot wide. Many of the major intersections include turn lanes, but several important intersections are too narrow for additional lanes. The capacity of the existing roadway network cannot accommodate future economic development and commerce, and in many areas unrestricted access creates traffic conflicts. Heavy truck traffic on these two-lane roads and limited passing zones create conflicts with automobiles.

The major routes in the area connect most of the population with employment in Cresaptown, Cumberland, McCoole, Keyser, Romney, Moorefield, and Petersburg. In addition to being among the seven largest residential communities and employment centers, five of these locations are also county seats (Cumberland, Keyser, Romney, Moorefield, Petersburg).

### Traffic Operations

Recent data collected by the WVDOH and the MDSHA show that traffic has remained consistent in some parts of the study area and increased in others. Traffic volume on US 220, south of Cumberland, is 14,125 Annual Average Daily Traffic (AADT). At the state line, traffic volume has remained consistent at 10,000 AADT. Traffic on more rural roads has increased slightly: from 2,200 to 3,400 AADT on WV 93, and from 3,200 to 5,300 on WV 46. Heavy truck traffic is found throughout the study area and generally ranges from 5 to 10 percent. Existing and future Level of Service (LOS) projected for roadway segments along (1) US 220; (2) MD 36, 53, and 135; and (3) WV 28, 46, 93, and 956 are shown in **Table 1**.

## Related Transportation Projects

### Corridor H

Corridor H is a series of transportation improvements stretching from Weston, WV to the West Virginia/Virginia state line. When completed (most likely by 2035), Corridor H will form a continuous four-lane highway through the eastern part of West Virginia. Portions of Corridor H are currently open to traffic.

### Remaining Steps in the Project-Planning Process

The following steps are required to complete the Tier One Planning Study:

- Evaluate and address public hearing/meeting comments and coordinate with state and federal environmental review and regulatory agencies (*Fall 2011*)
- Identify the Preferred Corridor(s) (*Spring 2012*)
- Prepare a Tier One Final Environmental Impact Statement (*Fall 2012*)
- Obtain Location/Design Approvals (*Spring 2013*)

### How to Comment on the Project

The MDSHA encourages all interested persons to provide comments and suggestions throughout the project-planning process. Use the postage-paid return mailer in this brochure. Additional copies of the mailer will be available at the receptionist's desk during the West Virginia workshop and the Maryland public hearing. Written comments for inclusion in the project record and the public hearing transcript may be submitted until October 14, 2011.

### Project Mailing List

To have your name added to the project mailing list, complete the enclosed mailer or give your contact information to the receptionist at the workshop or hearing. If you have previously submitted your name and address or received this brochure in the mail, you are already on the project mailing list.

| Route  | Segment                 | Current AADT | Current LOS | Year 2025 AADT | Year 2025 LOS |
|--------|-------------------------|--------------|-------------|----------------|---------------|
| US 220 | Moorefield to Junction  | 3,800        | E           | 5,600          | E             |
|        | Junction to New Creek   | 4,700        | E           | 7,000          | E             |
|        | New Creek to State Line | 4,400        | E           | 6,500          | E             |
| MD 53  | State Line to MD 53     | 10,125       | E           | 12,400         | F             |
|        | MD 53 to I-68           | 14,125       | E           | 20,200         | F             |
| MD 36  | Westport to Frostburg   | 8,150        | E           | 11,650         | F             |
| MD 53  | US 220 to I-68          | 14,575       | E           | 20,800         | E             |
| MD 135 | Westport to Keyser      | 6,975        | E           | 9,950          | E             |
| WV 28  | Ft. Ashby to WV 956     | 9,300        | E           | 14,700         | E             |
|        | WV 956 to Cumberland    | 9,900        | E           | 15,700         | E             |
| WV 46  | Westport to Keyser      | 2,000        | E           | 3,300          | E             |
|        | Keyser to Ft. Ashby     | 3,200        | E           | 5,300          | E             |
| WV 93  | Scherr to New Creek     | 2,200        | E           | 3,400          | E             |
| WV 956 | WV 28 to US 220         | 5,200        | E           | 8,000          | E             |

**Table 1**

LOS is a measure of the congestion experienced by drivers and ranges from LOS A (free flow, with little or no congestion) to LOS F (failure, with stop-and-go conditions). LOS is normally computed for the peak periods of a typical day, with LOS D (approaching unstable flow) or better generally considered acceptable for intersections or highways in urban and suburban areas. At LOS E, volumes are near or at the capacity of the highway. LOS F represents conditions in which drivers experience operational breakdowns, with stop-and-go traffic and extremely long delays at signalized intersections. **Table 1** summarizes LOS for study-area intersections.

### Safety

Updated crash rates for major roadways in the project area are shown in **Table 2**. Maryland and West Virginia have different reporting procedures, so crash rates were analyzed for different lengths of time. For Maryland roadways, crash rates were analyzed from January 2001 through December 2005. For West Virginia roadways, they were analyzed from July 2002 through June 2005. Only one of the segments, Mineral County Route 9, had a crash rate per million vehicle miles traveled (VMT) higher than the statewide average for similar highways.

species is especially important in Allegany County, where much of the land is forested, and specifically within Dans Mountain Wildlife Management Area, where habitat value is associated with forest interior, wildlife corridors/diversity, and recreation. Habitat is also especially important within the Chesapeake and Ohio Canal National Historical Park. Between 2,953 acres and 6,489 acres of agricultural lands and up to 67 acres of agricultural preservation districts and/or easements are located within the corridors. Acreage of potentially impacted forest and agricultural areas including districts and/or easements is shown on **Table 4** and will be quantified in more detail during Tier Two.

### Air and Noise Impacts

Detailed air-quality and noise analyses will be conducted for this project in Tier Two.

| Summary of Environmental Resources in each Corridor |                     |                     |                     |
|---|---------------------|---------------------|---------------------|
| Resource/Element                                    | Corridor B          | Corridor C          | Corridor D          |
| Parks and Recreational Areas                        | 8                   | 10                  | 9                   |
| NRHP-Listed & NRHP-Eligible Resources               | 4                   | 9                   | 21                  |
| Wetlands  | 118 acres           | 152 acres           | 143 acres           |
| Stream Crossings                                    | 183                 | 254                 | 282                 |
| Floodplain Crossings                                | 3                   | 3                   | 9                   |
| Forests   | 9,890 acres         | 11,130 acres        | 11,409 acres        |
| Agricultural Land Cover                             | 2,953 acres         | 6,489 acres         | 5,487 acres         |
| Preservation Districts/Easements                    | 0 acre              | 1 acre              | 67 acres            |
| Potentially Contaminated Sites                      | 43                  | 42                  | 55                  |
| Estimated Cost of New Highway Facility*             | \$482-\$500 million | \$651-\$669 million | \$630-\$648 million |

**Table 4** \* Estimated Costs are for construction only and do not include engineering, right-of way acquisition, or utility relocation

| Crash Rates for Study Area Roadways |                                   |           |                            |                   |
|-------------------------------------|-----------------------------------|-----------|----------------------------|-------------------|
| Route                               | Segment                           | State     | Crash Rate per Million VMT | Statewide Average |
| I-68                                | Exit 34 to Exit 47                | MD        | 0.23                       | 0.54              |
| MD 135                              | Westernport to Keyser             | MD        | 0.60                       | 1.49              |
| MD 36                               | Westernport to Frostburg          | MD        | 0.63                       | 1.32              |
| US 220                              | MD/WV State Line to I-68          | MD        | 0.66                       | 1.59              |
| MD 53                               | US 220 to I-68                    | MD        | 1.15                       | 1.99              |
| WV 28A                              | WV 28 to MD/WV State Line         | WV        | 0.62                       | 3.06              |
| WV 42                               | Mt. Storm to WV 93                | WV        | 1.01                       | 3.06              |
| Grant CR 5                          | County Line to Lahmansville       | WV        | 1.14                       | 3.80              |
| WV 42                               | US 50 to MD/WV State Line         | WV        | 1.36                       | 3.06              |
| WV 93                               | Scherr to New Creek               | WV        | 1.39                       | 3.06              |
| WV 972                              | US 220 to US 50                   | WV        | 1.59                       | 3.06              |
| Grant CR 3                          | County Line to Oak Hill           | WV        | 1.92                       | 3.80              |
| WV 28                               | Romney to MD/WV State Line        | WV        | 2.11                       | 3.80              |
| WV 956                              | WV 28 to MD/WV State Line         | WV        | 2.14                       | 3.80              |
| US 220                              | Moorefield to MD/WV State Line    | WV        | 2.34                       | 3.80              |
| WV 46                               | Elk Garden to WV 28               | WV        | 2.45                       | 3.80              |
| US 50                               | Mt. Storm to Romney               | WV        | 2.50                       | 3.80              |
| Mineral CR 11                       | WV 28 to Grant County Line        | WV        | 3.67                       | 3.80              |
| <b>Mineral CR 9*</b>                | <b>WV 28 to Grant County Line</b> | <b>WV</b> | <b>3.98</b>                | <b>3.80</b>       |

**Table 2** \* Higher than the statewide average for similar highways

### Corridors Retained for Detailed Study (See map on pages 16-17)

Three corridors (Study Corridors B, C, and D) and the No-Build Alternative are currently under consideration.

### No-Build Alternative

The No-Build Alternative takes no action to develop a new National Highway System corridor between I-68 and Corridor H and does not meet the project's

purpose and need. The No-Build Alternative will be carried forward as a baseline of comparison for the study corridors.

#### **Corridor B**

Corridor B will accommodate a four-lane rural divided arterial that begins with an interchange near Exits 41 and 42 along I-68 between LaVale and Cumberland, and ends with a connection to Corridor H north of Scherr. Most of Corridor B's northern limits fall within congested areas, especially in the vicinity of Cresaptown and Keyser. In the south, Corridor B serves low-density rural areas.

Corridor B originates along Haystack Mountain at I-68 and extends southwest to Cresaptown, where it crosses MD 53 (Winchester Road). At this point, it runs parallel to US 220 to the west and Dans Mountain to the east. West of McCoole, Corridor B crosses MD 135, the North Branch of the Potomac River, and WV 46. Entering Mineral County, Corridor B is west of Keyser and continues to run parallel to the west side of US 220. At the junction with WV 972, Corridor B continues southwest along US 50, and near Claysville it is approximately parallel to WV 93 until it ends at Corridor H.

#### **Corridor C**

Corridor C will accommodate a four-lane rural divided arterial that begins with an interchange near Exit 46 along I-68 east of Cumberland and ends with a connection to Corridor H north of Maysville. Most of Corridor C's northern limits fall within congested areas, especially in the vicinity of Cumberland. In the south, they fall in low-density rural areas.

Corridor C originates near Nave's Crossroads and extends south through the Willowbrook Road area near Allegany College of Maryland. It continues south to Evitts Creek and briefly runs parallel to MD 51. The Corridor then turns west through Mexico Farms and crosses the North Branch of the Potomac River into Mineral County, where it runs parallel to WV 28. Continuing southwest, it runs parallel to County Route 9 (Knobley Road), west of Short Gap and east of Keyser. Crossing US 50/220 at Ridgeville and continuing southwest, the Corridor enters Grant County parallel to County Route 3 (also Knobley Road) until it connects with Corridor H.

#### **Corridor D**

Corridor D will accommodate a four-lane rural divided arterial that begins with an interchange near Exit 39 along I-68 near LaVale and ends with a connection to Corridor H at Moorefield. Corridor D closely follows Corridor B between Cresaptown and US 50/220 just south of Keyser. Most of Corridor D's northern limits fall within congested areas, especially in the vicinity of LaVale, Cresaptown, and Keyser. In the south, they fall within low-density rural areas.

Corridor D originates on the eastern slope of Dans Mountain and extends south for a short distance on the western side of MD 53. From Cresaptown, Corridor D runs southwest and parallel to US 220 to the west and Dans Mountain to the east. West of McCoole, Corridor D crosses MD 135, the North Branch of the Potomac River, and WV 46. Entering Mineral County, Corridor D is west of Keyser and continues to run parallel to US 220. At its junction with WV 972, Corridor D turns southeast along

Branch Potomac River, South Branch Potomac River, and Patterson Creek. FEMA has delineated regulatory floodways in West Virginia associated with New Creek, Cabin Run, and sections of the North Branch Potomac River and Patterson Creek. No regulatory floodways have been defined within the study area in Maryland.

Crossings of the 100-year floodplains range from 3 to 9 depending on the corridor, as shown in **Table 4**. Additional floodplain studies will be completed during Tier Two to determine whether the project will adversely impact the beneficial values of the floodplains.

Wetlands range from 118 to 152 acres in the corridors. Pinto Marsh, a Wetland of Special State Concern, is located in the vicinity of Cresaptown and would be affected under Corridors B and D. Permits will be required from the COE and the Maryland Department of the Environment (MDE) and the West Virginia Department of Environmental Protection (WVDEP) for wetland and stream impacts.

Stream crossings range from approximately 183 to 282 within the corridors. Coordination with the COE indicates that brook trout may be present in the vicinity of the Town of Rawlings. Stream impacts will be further defined in Tier Two. Adverse impacts on water quality during construction will be minimized through strict adherence to state sediment and erosion procedures. A stormwater management and sediment and erosion control plan will be developed during the design phase of the project in accordance with the WVDEP/MDE stormwater criteria to minimize adverse effects on water resources, including any brook trout populations. The plan will include measures to address both quality and quantity controls that capture and treat runoff from a storm. For comparison purposes, the linear feet of potential stream crossings as well as potential wetland acreage in each corridor can be found in **Table 4** on page 12.

West Virginia has no state threatened or endangered species legislation. Species listed as either threatened or endangered in West Virginia are those listed by the US Fish and Wildlife Service (FWS) as federally threatened or endangered. Coordination with the FWS indicates that the federally listed endangered Indiana bat, the Virginia big-eared bat, sensitive mussels fauna, shale barrens rock cross, and the federally protected bald eagle may be present throughout the study area. In addition, coordination with the Maryland Department of Natural Resources indicates that the state-listed endangered Allegheny Woodrat, Franz' Cave Isopod, Cliff Stonecrop, and the state rare Harebell and Sora, as well as numerous other state-listed rare, threatened, or endangered plant and animal species may occur within the study area. More than half of the species listed here could be found in more than one corridor. Further coordination and consultation with the FWS and other agencies to identify and avoid/minimize impacts on federal or state rare, threatened, or endangered plant or wildlife species will occur during the Tier Two process.

Vegetation in the study area ranges widely and includes large forested tracts, agricultural areas, lawns, shrubs, and roadside vegetation. Forest identified within the corridors ranges from 9,890 to 11,409 acres. Habitat for forest interior-dwelling

US 220 and continues along US 50/220, County Route 50/4 (Shirley Lane), and County Route 13. Rejoining US 220/WV 28, Corridor D turns south and runs parallel to US 220 until it connects with Corridor H.

All corridors retained for detailed study are shown on **Figure 1** on pages 16 and 17.

## Environmental Summary

An inventory of natural, cultural, and socio-economic resources within the study area was conducted to identify the extent of potential impacts within the study corridors. A comparison of impacts within each corridor is included in the summary table on page 12. While each corridor is 4,000 feet wide, subsequent detailed engineering and environmental analyses will be completed during Tier Two to provide build alternatives with greatly reduced footprints.

### Planning Efforts

The project is consistent with the goals and objectives of planning efforts throughout all levels of government. At the federal level, this project is consistent with the Appalachian Development Highway System and the National Highway System as established by the US Congress. At the state level, improvements to US 220 are included in the West Virginia Statewide Transportation Improvement Plan and the Maryland Highway Needs Inventory. The project is also included in regional plans prepared by the Region 8 Planning and Development Council in West Virginia. In Maryland, the US 220 Tier One Planning Study is consistent with the Cumberland Area Metropolitan Planning Organization. Locally, major transportation improvements in the study area are recommended within the Hardy County Comprehensive Plan (1999), the Hampshire County Comprehensive Plan (2003), the Mineral County Comprehensive Plan (2011), and the Allegany County Comprehensive Plan 2002 Update.

### Land Use

Existing land use within the study area is primarily forestland, agricultural, mixed-use/other developed land, and residential, with concentrations of commercial and industrial development scattered throughout the region. Densely populated residential, commercial, and industrial development is found in four core areas around the cities of Cumberland, Frostburg, Keyser, and Moorefield. With few exceptions, future land use in the area is expected to remain relatively consistent with existing patterns of development. New subdivisions are being built and commercial development is occurring along US 220, from LaVale through Cresaptown, and south of Keyser through the New Creek Valley. Newer subdivisions are also being constructed at the following locations:

- along WV 38 around Wiley Ford and Fort Ashby,
  - on WV 46 between Keyser and Fort Ashby, and
  - along Mineral County Route 9 from Short Gap to WV 46 just east of Keyser.
- Hampshire County expects a spillover of residents from Virginia and the Baltimore/Washington Metro Area when Corridor H is constructed.

| Resource   | NRHP Status | Location             | Corridor |
|--|-------------|----------------------|----------|
| Concrete Block House (AL-III-C-050)                      | Eligible    | Allegany County, MD  | C        |
| Carleton Farm (AL-III-C-056)                             | Eligible    | Allegany County, MD  | C        |
| Hillcrest Memorial Park Funeral Chapel (AL-III-C-048)    | Eligible    | Allegany County, MD  | C        |
| Hillcrest Memorial Park (AL-III-C-110)                   | Eligible    | Allegany County, MD  | C        |
| Grabenstein Bungalow (AL-V-B-324)                        | Eligible    | Allegany County, MD  | D        |
| Julius Grabenstein Farmhouse (AL-V-B-116)                | Eligible    | Allegany County, MD  | D        |
| Chesapeake & Ohio Canal (AL-I-B-086)                     | Listed      | Allegany County, MD  | C        |
| Colonial Manor National Road Inn (AL-III-C-007)          | Listed      | Allegany County, MD  | C        |
| LaVale Toll Gate House (AL-V-B-012)                      | Listed      | Allegany County, MD  | D        |
| Log House with Stone Chimney (MI 0006)                   | Eligible    | Mineral County, WV   | B        |
| Luten Bridge/Boseley Bridge (MI 0009)                    | Eligible    | Mineral County, WV   | B        |
| Log House (MI 0010)                                      | Eligible    | Mineral County, WV   | B        |
| Frame House with Brick Chimney (MI 0015)                 | Eligible    | Mineral County, WV   | C,D      |
| Stone House Inn (MI 0005)                                | Eligible    | Mineral County, WV   | D        |
| Claysville United Methodist Church (MI 0011)             | Eligible    | Mineral County, WV   | B        |
| Vandiver-Trout-Clausen House (tavern) (MI 0016)          | Listed      | Mineral County, WV   | C,D      |
| Stewart's Tavern (MI 0024)                               | Listed      | Mineral County, WV   | C        |
| Fairview/Peerce Home Place (92001631)                    | Listed      | Mineral County, WV   | D        |
| Fort Hill Farm (96001569)                                | Listed      | Mineral County, WV   | D        |
| Abraham Inskeep House (1264)                             | Eligible    | Hardy County, WV     | D        |
| Middle South Branch Valley Rural Historic District       | Eligible    | Hardy County, WV     | D        |
| Moorefield Battlefield                                   | Eligible    | Hardy County, WV     | D        |
| Old Fields Church and Cemetery (HY 0065)                 | Eligible    | Hardy County, WV     | D        |
| I-House (farm) (HM 0091-0007)                            | Eligible    | Hampshire County, WV | D        |
| I-House (George Purgitt's house and farm) (HM 0091-0002) | Eligible    | Hampshire County, WV | D        |
| Former Commercial Structure (HM 0091-0001)               | Eligible    | Hampshire County, WV | D        |
| Former Commercial Structure (HM 0091-0002)               | Eligible    | Hampshire County, WV | D        |
| The Meadows (HY 0074)                                    | Listed      | Hardy County, WV     | D        |
| Willow Wall House and Farm (73001906)                    | Listed      | Hardy County, WV     | D        |
| Buena Vista Farms (85001594)                             | Listed      | Hardy County, WV     | D        |
| Fort Pleasant Farm (73001903)                            | Listed      | Hardy County, WV     | D        |
| Garrett VanMeter House (01000264)                        | Listed      | Hardy County, WV     | D        |

**Table 3**

The area around the existing interchange of I-68 and US 220 falls within a designated Priority Funding Area (PFA). Maryland locations partially within a PFA include (1) US 220, south to Rawlings, (2) the MD 53 corridor, and (3) the MD 51 corridor. PFAs are locations in which state and local governments target efforts to encourage and support economic development and new growth, in accordance with Maryland's Smart Growth legislation. No land-use controls are currently in effect in the West Virginia portion of the study-area, but with the anticipated adoption of a new comprehensive plan in Mineral County and an increasing awareness of the value of land-use planning in Hardy County, land-use controls are likely to be instituted as development pressures grow.

Up to 55 properties with potential for hazardous materials may be impacted by the corridors. Depending on the area required for acquisition, further investigations during Tier Two of some or all of these sites could be required before any sites are acquired.

#### **Right-of-Way**

If SHA selects a build alternative in one of the corridors during Tier Two, up to 2,000 acres of additional right-of-way will be required and will result in property displacements. The build alternatives developed in Tier Two are expected to impact study-area neighborhoods and communities, including those in Cresaptown and Keyser. The number of actual property displacements for each alternative will be determined in the study's Tier Two analysis. (See page 2 for more on the Tiered EIS Process.) Displacements will be accomplished in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

#### **Emergency Services**

Emergency response times in the study area are expected to improve as a result of the greater accessibility provided by the build alternatives. The MDSHA and the WVDOH will coordinate with emergency services providers once detailed alternatives are developed during Tier Two to identify potential traffic delays during construction and detour routes that may affect response times.

#### **Parks and Recreational Areas**

As many as 10 publicly owned public parks or recreational areas may be impacted within the study corridors. Some of these parks or recreational areas include Dans Mountain Wildlife Management Area (a 9,200-acre state-owned forest in Maryland), which may be affected by Corridors B and D, and Potomac Heritage National Scenic Trail (one of 11 national scenic trails within the National Trails System). A portion of this trail, known as the Chesapeake and Ohio Canal Towpath, is part of the Chesapeake and Ohio Canal National Historical Park (affected by Corridor C) and the related Western Maryland Railroad Corridor. A Section 4(f) Evaluation will be completed during Tier Two to address any proposed impacts and must include a description of avoidance, minimization, and mitigation measures. Coordination with representatives of these facilities will continue throughout the US 220 project-development process regarding potential impacts on these important resources.

#### **Environmental Justice**

In compliance with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," the MDSHA and the WVDOH are taking steps to avoid disproportionately high and adverse effects on minority and low-income communities throughout the study area. Identification of minority and low-income populations was based on a review of 2000 Census data, which indicates that minority populations exist within the study area. Additional analysis will be conducted to determine the extent of impacts as the project advances to Tier Two and the alternatives are developed using the current census data. The MDSHA and the WVDOH will continue outreach efforts to assess and avoid disproportionate impacts on environmental justice populations.

#### **Cultural Resources**

All three of the proposed corridors have the potential to impact historic properties, including standing structures and archeological sites. Tier One cultural resources investigations have included a preliminary standing structures survey and development of a Geographic Information System (GIS)-based model for locating archeological resources. The information from these investigations will be used to help in the alternatives analysis.

The MDSHA and the WVDOH, in consultation with the Maryland Historical Trust, the West Virginia Division of Culture and History, and other consulting parties have identified historic sites, which are listed on or eligible for the National Register of Historic Places (NHRP) in **Table 3** on page 10.

Further investigation will be completed during Tier Two to determine whether as many as 64 additional historic sites and numerous previously recorded archeological sites are potentially eligible for listing on the NHRP. Prior to requesting a Record of Decision concluding the Tier One study, a programmatic agreement or procedural outline will be developed with the consulting parties to detail the steps for complying with Section 106 of the National Historic Preservation Act (NHPA) for this project. In accordance with the Section 106 procedures of the NHPA, the September public meetings provide the opportunity for public comment regarding impacts on historic properties.

#### **Natural Environmental Resources**

The US 220 study area is located within the Potomac River watershed and two major sub-basins: North Branch Potomac River in Maryland and West Virginia, and South Branch Potomac River in West Virginia. Smaller watersheds are recognized within each sub-basin, including Georges, Wills, Evitts, Patterson, and New Creek. Although the North Branch Potomac River is considered a navigable waterway by the US Army Corps of Engineers (COE), this designation extends upstream on the North Branch Potomac River only as far as Cumberland. Upstream of this point, the North Branch Potomac River is no longer considered a navigable waterway.

The Federal Emergency Management Agency (FEMA) has identified 100-year floodplains associated with three major streams within the study area: North

(continued on page 11)

## THANK YOU FOR ATTENDING

Feel free to discuss the project with the MSHA and WVDOH staff available at the public meetings. You may also mail your comments to:

**Mr. Greg Bailey, P.E.**  
**Director, Engineering Division**  
**West Virginia Department of Transportation**  
**Division of Highways**  
**State Capitol Complex**  
**1900 Kanawha Boulevard, E**  
**Building 5**  
**Charleston, WV 25305**

All comments should be provided to the WVDOH by May 31, 2007.

If you are interested in more information about this project, the PURPOSE AND NEED Statement and the CORRIDORS RETAINED FOR FURTHER ANALYSIS Preliminary Draft are available for the public to review. They are housed at locations throughout the project area, as follows:

### **Allegany County**

Allegany County Office Complex (Cumberland)  
Allegany County Library (Washington Street, Cumberland)  
MSHA District 6 Office (LaVale)

### **Grant County**

Grant County Courthouse (Petersburg)

### **Hardy County**

Hardy County Courthouse (Moorefield)  
Hardy County Public Library (Moorefield)

### **Hampshire County**

Hampshire County Courthouse (Romney)

### **Mineral County**

Burlington Public Library  
Keyser-Mineral County Public Library  
Mineral County Courthouse (Keyser)  
WVDOH District 5 Office (Burlington)

## NATIONAL HIGHWAY SYSTEM CORRIDOR INTERSTATE 68 TO CORRIDOR H

### U.S. ROUTE 220 TIER ONE DRAFT ENVIRONMENTAL IMPACT STATEMENT

## PUBLIC INFORMATIONAL WORKSHOPS MAY 2007

### PURPOSE AND NEED

### CORRIDORS RETAINED FOR FURTHER ANALYSIS



## PROJECT OVERVIEW

The West Virginia Division of Highways (WVDOH) and the Maryland State Highway Administration (MDSHA) have scheduled three identical meetings to present information on the U.S. Route 220 Tier One Environmental Impact Statement (EIS). The study area for the project includes all or parts of Grant, Hampshire, Hardy, and Mineral counties in West Virginia and Allegany County in Maryland.

The purpose of this project is to develop an improved transportation corridor connecting Interstate 68 and Appalachian Development Highway System Corridor H. An upgraded north-south corridor would support efforts to increase mobility and regional commerce for residents, businesses, and visitors. It would also serve north-south interstate travel movements and support economic development throughout the region.



## WORKSHOP HIGHLIGHTS

- The project is a joint endeavor of the WVDOH and the MDSHA.
- The purposes of the public workshops are to present information on the project's purpose and need, recommend corridors to be retained for further analysis, and gather comments.
- The workshops will be held in an open-house format. Displays will provide background information on the project.
- There will be no formal presentations, but staff members of the WVDOH and MDSHA are on-hand to answer your questions and hear your concerns.

## WORKSHOP DATES AND LOCATIONS

**MONDAY, MAY 7, 2007**

**4:30 PM - 7:00 PM**

MOOREFIELD HIGH SCHOOL CAFETERIA  
401 NORTH MAIN STREET  
MOOREFIELD, WV 26836

**TUESDAY, MAY 8, 2007**

**4:30 PM - 7:00 PM**

KEYSER PRIMARY/MIDDLE SCHOOL CAFETERIA  
700 HARLEY D. STAGGERS, SR. DRIVE  
KEYSER, WV 26726

**THURSDAY, MAY 10, 2007**

**5:00 PM - 8:00 PM**

BEL AIR ELEMENTARY SCHOOL GYMNASIUM  
14401 BARTON AVENUE  
CUMBERLAND, MD 21502

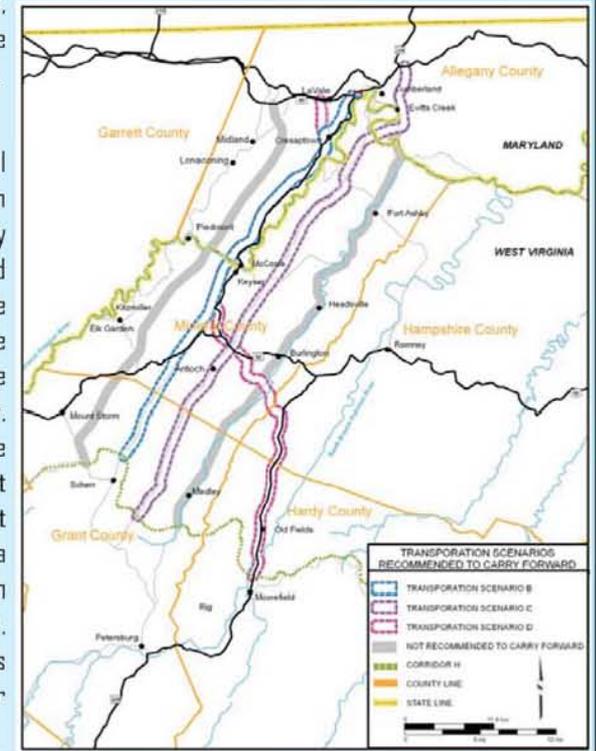
## THE ENVIRONMENTAL PROCESS

The National Environmental Policy Act of 1969 (NEPA) requires that the potential environmental impacts be assessed for every federal action that could "significantly affect the quality of the human environment." An environmental impact statement is required when it is apparent from the beginning of the project, or through subsequent analysis, that the proposed project is likely to have a major effect on the human environment.

The Draft EIS for the proposed project will be prepared by WVDOH, in cooperation with MDSHA, for the Federal Highway Administration (FHWA) as a tiered document. The tiered process will provide a systematic approach for advancing the best transportation improvements for the area in the most cost-effective manner. The analyses undertaken during Tier One will lead to the identification of the most practical corridor for carrying out transportation improvements and a record of decision on a possible program of projects for that corridor. Subsequently, more detailed alternatives can be developed within that corridor during Tier Two.

## PURPOSE AND NEED FOR THE STUDY CORRIDORS

- Current transportation deficiencies limit regional mobility.
- The project area has inadequate roadway capacity.
- There are safety deficiencies on some of the area's roadways.
- There is a need to support economic development efforts in the area.
- Additional system linkage is needed to complete the regional road network.



## **APPENDIX G**

# **ANALYSIS OF CROSSOVER CORRIDORS**

**NHS CORRIDOR  
BETWEEN I-68 AND CORRIDOR H**

**US 220 TIER ONE  
ENVIRONMENTAL IMPACT STATEMENT  
ENVIRONMENTAL SCREENING OF  
CROSSOVER CORRIDOR OPTIONS  
MODIFIED C AND CORRIDOR BCB**

**May 6, 2013**



## **Environmental Screening of Crossover Corridor Options US 220 Tier One Environmental Impact Statement**

### Project Background and Process:

The current project is an outgrowth of the “North South Appalachia Corridor Feasibility Study”. The final report for that study concluded that US 220 south from I-68 via MD 53 to Corridor H, and US 219 north from I-68 to the Pennsylvania Turnpike would provide the greatest potential for benefitting Appalachian economic development, a main objective of the feasibility study. The report further concluded future improvements within the US 220 corridor should be consistent with Maryland’s Smart Growth initiatives. The report specifically noted that Smart Growth initiatives suggested the following:

- Highway access points should be provided only in Priority Funding Areas (PFAs) to limit sprawl;
- Access points should encourage redevelopment in PFAs;
- Highway improvements should emphasize environmental protection and enhancement; and
- Improvements should be developed with active citizen participation.

Utilization of a tiered process for this project provides a systematic approach for advancing transportation improvements in a cost-effective manner within a relatively large geographic area. A Tier One addresses broad issues such as general locations of alleviating transportation problems and major environmental resources. By following a tiered approach, consideration of major environmental factors or resources can be incorporated early into the planning process. Tier One would conclude with an approved Record of Decision (ROD). The goal of this Tier One is to conclude with one corridor or project location. The new corridor could be comprised of roadways on new alignment, an upgrade of existing roadways, or some combination of upgrading existing roads and building a new road.

### Purpose and Need:

The purpose of this project is to develop an improved transportation corridor connecting I-68 in western Maryland and Corridor H in West Virginia. Upgraded roadways resulting from this project will become part of the NHS. Project needs were examined in the early stages of the project through a collaborative process that included examination of past studies, a review of existing regional plans, consultation with

citizens and local officials, consultation with the government agencies involved in the process, and an analysis of the environmental and socioeconomic conditions of the region. Through this process, the following needs were identified within the study area:

- Current geometric deficiencies on US 220 and parallel roadways limit regional mobility;
- the study area has inadequate roadway capacity;
- there are safety deficiencies on roadway sections within the area;
- there is a need to support economic development efforts in the area; and,
- additional system linkage is needed to complete the regional road network.

Highway improvements for the proposed NHS Corridor, between I-68 and Corridor H, are consistent with growth and development plans at all government levels. Although development is expected throughout the region, development patterns are expected to remain similar to present day.

#### Alternatives Development:

Development of project corridors began with an examination of the Memorandum of Understanding signed by Maryland and West Virginia state transportation officials and the existing transportation system in the area. In an effort to best meet traffic demand, four corridors were developed to parallel existing roadways. A fifth corridor was developed farther west of the other four to offer additional opportunities for regional economic development. A 4,000-foot buffer, which represented 2,000 feet to either side of a hypothetical centerline, was attached to the corridors so that preliminary environmental information could be evaluated. The first and westernmost of these corridors, Corridor A, originated at I-68 near Frostburg, MD, and extended southwest to Corridor H near Bismarck, WV. Corridor B originated at I-68 near LaVale, MD, and extended southwest to Corridor H near Scherr, WV. Corridor C originated along I-68 near Cumberland, MD, and extended southwest to Corridor H near Maysville, WV. Corridor D originated at I-68 near LaVale, MD, and extended south to Corridor H at Moorefield, WV. The final corridor, Corridor E, originated at I-68 near Cumberland, MD, and extended southwest to Corridor H near Lahmansville, WV.

After the five preliminary corridors were presented to several groups, including state and federal resource agencies, local planning officials, and the public, concurrent preliminary engineering studies

and environmental analyses began. The primary purpose of the engineering studies was to determine whether reasonable highway alignments could be developed within each of the preliminary corridors already shown to the public and resource agencies. A best-fit alignment was developed for each corridor utilizing WVDOH and MDSHA engineering criteria and preliminary information about the region's major environmental features. As the development of the refined corridors and conceptual interchanges continued to progress, traffic issues were examined and a screening of potential environmental resources from all five corridors was completed. Some additional alternatives were also investigated. As a result of the preliminary alternatives analysis, Corridors B, C, and D were carried forward as corridors to be retained for further analysis during Tier One (see Figure 1). Corridor B would provide additional transportation service to Cumberland, Keyser, and Westernport/Piedmont trade centers. Corridor C would provide additional transportation service to Cumberland and Keyser. Corridor D would provide service to Cumberland, Keyser, Westernport/Piedmont, and Moorefield.

A recurring suggestion raised by members of the public, the Maryland Department of the Environment (MDE), and the Maryland Department of Natural Resources (MDNR) during the study process for the US 220 Tier One Environmental Impact Statement (EIS) was that some combination of corridors may be an appropriate transportation solution for roadway improvements along the US 220 corridor. It was also suggested that crossover corridors could offer avoidance alternatives for environmental or socioeconomic impacts. In effect, a combination corridor, or crossover between corridors, could avoid important environmental features and have limited socioeconomic impacts, especially a crossover utilizing Corridor C in the south and Corridor B or Corridor D in the north. The original corridors carried into detailed study (Corridors B, C, and D) are shown on Figure 1. Following the distribution of a Draft EIS for the project, the MDE specifically requested consideration of a Modified Corridor C, near McKenzie, utilizing the southern portion of the corridor but not the northern. Such an alternative could allow additional opportunities for future alternatives that avoid the Dans Mountain Wildlife Management Area (WMA) and Dans Mountain State Park. MDNR also submitted a map to the project team prioritizing sensitive environmental resources and high quality habitat that are found within Corridor B (please see May 21, 2012, memo and map attached to this analysis). This five-tiered system was designed to capture and support the full array of biological diversity within Maryland including one of a kind species as well as keeping common species common. With considerable overlap of Corridor B and the resources, MDNR offered the Modified Corridor C as a way of avoiding those resources.

Based on the results of the environmental and engineering studies completed during Tier One, Corridor B, with the northern spur of Corridor D that connects to I-68 in Maryland, is being recommended as the preferred corridor to be carried into Tier Two. If advanced to construction, an alignment within the preferred corridor would utilize the Corridor B terminus with I-68 or the Corridor D terminus with I-68, not both termini. A system upgrade will also be considered as one of the alternatives during Tier Two alignment studies.

The WVDOH may evaluate, as related separate future projects, improvements within Corridor D from Keyser to the Hardy County connector with Appalachian Corridor H. Future upgrades and improvements to existing US 220 may occur, but if they do, they will be advanced as separate projects with their own NEPA documentation, not as part of the Tier Two studies.

The potential effects of the preferred corridor are shown in the following table (Table 1):

**Table 1: Potential Environmental Impact of the Preferred Corridor**

| Resource/Element                            | Recommended Preferred Corridor |
|---|--------------------------------|
| Residential Land Use                        | 2,482 or 2,590 acres           |
| Mixed Use, Built-up Land Use                | 1,300 or 1,621 acres           |
| Commercial and Industrial Land Use          | 167 or 170 acres               |
| Economic Development (trade centers served) | 3                              |
| Impacts on Community Cohesion               | 3                              |
| Environmental Justice Impacts               | Yes                            |
| Community Facilities                        | 43 or 58                       |
| Parks and Recreation Areas                  | 5 or 8                         |
| Very High/High Archaeological Potential     | 5,061 or 5,338 acres           |
| NRHP-Listed & NRHP-Eligible Resources       | 4 or 7                         |
| Wetlands                                    | 118 acres                      |
| Streams                                     | 300,239 or 301,886 feet        |
| Floodplains                                 | 734 or 775 acres               |
| Flood Control Dams                          | 8                              |
| Rangeland                                   | 84 or 127 acres                |
| Forests                                     | 9,890 or 11,481 acres          |
| Mixed Forests/Rangeland                     | 0 or 46 acres                  |
| Prime Farmland Soil                         | 2,146 or 2,161 acres           |
| Farm Soils of State or Local Importance     | 2,224 or 2,276 acres           |
| Agricultural Land Cover                     | 2,953 or 2,999 acres           |
| Preservation Districts/Easements            | 0 acre                         |
| RTE Species                                 | 13                             |
| Potentially Contaminated Sites              | 34 or 43                       |
| Noise Sensitive Areas (residential)         | 2,482 or 2,590 acres           |
| Potential Section 4(f) Resources            | 6 or 12                        |
| Residual US 220 Traffic (2025)              | Local                          |
| Estimated Cost of New Highway Facility      | \$482-\$500 million            |

### Crossover Corridors:

Crossover corridors were first examined during the preliminary corridors analysis phase of Tier One. Initially, there was considerable interest in the crossover alternatives because they might offer a safety valve to existing bottlenecks in the transportation system. As it currently stands, I-68 is the only practical east-west route through the project region for truck traffic and heavy volumes of passenger cars. In the past, however, weather-related and local emergency incidents have caused a shutdown of I-68 on occasion, forcing all traffic onto local roads. In each event, the resulting traffic congestion created serious operational problems for the local transportation system.

It was hoped that crossover connections from the US 220 project would serve as an I-68 bypass and relieve some future safety concerns. Upon further analysis at the time, however, it was determined that the crossover corridors would require a significant amount of earthwork to cross the steep terrain of Knobley Mountain (from about 760 feet in elevation near existing US 220 to as high as 1,600 feet on Knobley Mountain), require additional roadways to provide local access, create additional environmental impacts through heavily forested areas, and could impact the Allegany Ballistics Lab. The Allegany Ballistics Lab is a major employer in the area, a scientific and defense contractor, and a Superfund site.

The crossover corridors were not shown to offer any improvement over the five corridors as they were originally developed to meet the project's purpose and need.

At the request of MDE and MDNR, this Modified C crossover corridor was examined again in 2012 after distribution of the DEIS. Although an engineering analysis to develop an alignment that would meet the design criteria has not been performed at the proposed location, four options for a conceptual corridor were developed with input from the resource agencies. Those options, including crossover corridors BC-1, BC-2, BC-3 and BC-4, are shown on Figure 2.

In order to determine what effects might occur within these corridor options, a preliminary environmental screening, utilizing the same information collected for the development of the DEIS, was

conducted. As with the original five corridors, a 4,000-ft study width was used for the crossover analysis.

The following table (Table 2) shows the results of the screening:

**Table 2: Preliminary Environmental Screening of Crossovers**

| Resource or Analysis Factor                                   | Corridor B (the preferred corridor) | Corridor C | Crossover BC-1 | Crossover BC-2 | Crossover BC-3 | Crossover BC-4 | Corridor D |
|---|-------------------------------------|------------|----------------|----------------|----------------|----------------|------------|
| Residential Land Use (Low, Med, High Density)                 | 2,590 ac                            | 2,400 ac   | 2,040 ac       | 2,101 ac       | 2,112 ac       | 2,245 ac       | 2,620 ac   |
| Mixed Use, Built-Up Land Use (Institutional, Other Developed) | 1,300                               | 90 ac      | 394 ac         | 400 ac         | 419 ac         | 408 ac         | 860 ac     |
| Commercial and Industrial Land Use (Commercial, Industrial)   | 170 ac                              | 450 ac     | 143 ac         | 150 ac         | 150 ac         | 142 ac         | 340 ac     |
| Economic Development (Trade Centers Served)                   | 3                                   | 2          | 2              | 2              | 2              | 2              | 4          |
| Impacts to Community Cohesion                                 | 3                                   | 2          | 2              | 2              | 2              | 2              | 3          |
| Environmental Justice   | Yes                                 | Yes        | Yes            | Yes            | Yes            | Yes            | Yes        |
| Community Facilities  | 58                                  | 70         | 58             | 59             | 61             | 59             | 58         |
| Parks and Recreation Areas                                    | 8                                   | 10         | 6              | 6              | 6              | 6              | 9          |
| Very High/High Archaeological Potential                       | 5,338 ac                            | 6,974 ac   | 5,439 ac       | 5,604 ac       | 5,984 ac       | 5,685 ac       | 7,709 ac   |
| NRHP Listed/NRHP Eligible Resources                           | 4                                   | 9          | 2              | 2              | 2              | 2              | 21         |
| Potentially NRHP-Eligible Resources                           | 20                                  | 31         | 23             | 22             | 23             | 23             | 23         |
| Wetlands  | 118 ac                              | 152 ac     | 155 ac         | 164 ac         | 163 ac         | 160 ac         | 143 ac     |
| Streams   | 300,239 ft                          | 330,835 ft | 288,597 ft     | 282,866 ft     | 290,961 ft     | 289,575 ft     | 448,803 ft |
| Floodplains   | 775 ac                              | 719 ac     | 475 ac         | 577 ac         | 507 ac         | 410 ac         | 2,244 ac   |
| Flood Control Dams  | 8                                   | 4          | 2              | 2              | 2              | 2              | 6          |
| Rangeland   | 127 ac                              | 644 ac     | 320 ac         | 326 ac         | 339 ac         | 327 ac         | 720 ac     |
| Forests   | 9,890 ac                            | 11,130 ac  | 9,615 ac       | 9,417 ac       | 9,302 ac       | 9,799 ac       | 11,409 ac  |
| Mixed Forests/Rangeland                                       | 0                                   | 53 ac      | 54 ac          | 54 ac          | 54 ac          | 54 ac          | 91 ac      |
| Prime Farmland Soil   | 2,146 ac                            | 1,491 ac   | 1,395 ac       | 1,752 ac       | 1,691 ac       | 1,391 ac       | 3,335 ac   |
| Farm Soils of Statewide or Local Imp.                         | 2,276 ac                            | 5,456 ac   | 4,411 ac       | 4,333 ac       | 4,476 ac       | 4,475 ac       | 3,728 ac   |
| Agricultural Land Cover                                       | 2,953 ac                            | 6,489 ac   | 6,586 ac       | 6,666 ac       | 7,174 ac       | 6,743 ac       | 5,487 ac   |
| Preservation Districts/Easements                              | 0                                   | 1 ac       | 0              | 0              | 0              | 0              | 67 ac      |
| RTE Species   | 13                                  | 16         | 13-16          | 13-16          | 13-16          | 13-16          | 30         |
| Potentially Contaminated Sites                                | 43                                  | 42         | 33             | 34             | 34             | 33             | 55         |
| Noise Sensitive Areas   | 2,590 ac                            | 2,400 ac   | 2,040 ac       | 2,101 ac       | 2,112 ac       | 2,245 ac       | 2,620 ac   |
| Potential 4(f) Resources                                      | 6                                   | 13         | 3              | 3              | 3              | 3              | 21         |
| Length (miles)  | 34.2                                | 44.5       | 39.3           | 39.1           | 40.3           | 40.3           | 45.3       |

Costs for the crossover options have not been calculated due to the uncertainty of the excessive amount of earthwork required to cross Knobley Mountain. To allow a complete comparison of the potential environmental impacts, information for the original corridors (B, C, and D) is also included in the table. The table does not include any unsurveyed or uninvestigated area in the proposed crossover area. A large amount of data from DEIS field studies was available to examine the crossover area, but to obtain complete coverage, the original field data was supplemented with information from reliable Internet sources. In effect, a desktop analysis was conducted and no additional field work was performed.

Dans Mountain Wildlife Management Area (WMA) and the C&O Canal National Historical Park would be avoided with any of the crossover options; Pinto Marsh is still impacted and not avoided by any of them. Dans Mountain WMA occupies approximately 9,600 acres. The lands are managed to promote featured wildlife species such as white-tailed deer, gray squirrel, wild turkey, ruffed grouse, and cottontail rabbit. Dans Mountain State Park encompasses 482 acres and is generally located east of MD 36 and west of Dans Mountain WMA. This park principally provides recreation to meet local, community needs. The C&O Canal National Historical Park extends 185 miles along the Potomac River to Georgetown in Washington D.C. Designated as a National Historical Park in 1971, the National Park Service receives three million visitors annually and operates six visitor centers along the canal, including one at Cumberland. Pinto Marsh, a two- to three-acre marshy pond near Cresaptown, is designated by MDNR as non-tidal wetlands of special state concern. Wetlands like Pinto Marsh receive special state attention because of their value as known habitat for rare, threatened, or endangered species. A breeding record of the state-listed rare sora (*Porzana Carolina*) was previously observed in Pinto Marsh. The sora is a marsh bird, six to eight inches in length with a wingspan of 12 inches. Also in this area, Pinto Mine supports additional species.

In accordance with Section 4(f) regulations, should impacts to Dans Mountain WMA be anticipated, avoidance, minimization, and/or mitigation options would be considering. Impacts caused by the degradation of water quality or changes to hydrology could affect the groundwater of the Pinto Mine cave system. Prior to construction, stormwater management and sediment and erosion control permits will be required to minimize water quality impacts. In order to avoid and/or minimize potential impacts to streams best management practices (BMPS) will be considered via coordination with the agencies and undertaken as appropriate.

It is important to note here that the potential for Section 4(f) impacts is greater than shown because some of the potentially historic resources may be determined eligible for the National Register of Historic Places resources during Tier Two. If eligible, these historic resources will also become Section 4(f) resources. Thus, there may be little or no minimization of potential impacts in respect to Section 4(f) resources. Also, because the area where the crossover options are located is mostly undeveloped, impacts to forestland are still possible, but on Knobley Ridge instead of the lower slopes of Dans Mountain. The crossover corridors will also impact the American Discovery Trail for approximately 26 miles of its length. The American Discovery Trail is a multi-use trail, providing for hiking, bicycle, and equestrian use. It is managed and administered by the American Discovery Trail (ADT) Society, a nationwide non-profit organization. Funding for the development of the trail was provided by the ADT Society, the American Hiking Society, and corporate financial and promotional support. All of these resources are shown on Figure 3. They are also found at a larger scale within the EIS on the plates.

Future highway alternatives utilizing the crossover corridors would provide less access to economic development centers and the City of Keyser, West Virginia, than the preferred corridor. Providing support to economic development areas is a key element of the project's need. Additionally, during the public comment period in 2012 the Mineral County Commission and the Mineral County Development Authority both commented that they do not support Corridor C because of its potential impact to existing development, groundwater, and farmlands. Both entities also deemed that Corridor B would have a more positive impact on economic development in the area. In addition, comments received from Allegany County and the City of Cumberland all support the project, but neither government has identified preference for any specific corridor.

Although parts of the proposed crossover corridors could avoid some of the more densely populated areas of Corridor C, there will still be impacts to a growing area of Mineral County and any crossover corridor impacting this part of West Virginia may still continue to generate considerable public controversy. Concern about potential public controversy is particularly important to WVDOH, especially where the potential socioeconomic impacts of a project are a primary factor affecting community perception.

During the comment period for the DEIS, 235 people expressed opposition to Corridor C, by far the most number of people expressing any position, either in favor or against, for any corridor. Additionally, a special meeting of representatives from the Mexico Farms area in Maryland expressed strong opposition to Corridor C and over 400 people attended a special community meeting in Short Gap, West Virginia, organized to present opposition to Corridor C. This community-initiated was one of the largest public turnouts for a transportation project that experienced WVDOH staff present had ever seen. Following a brief presentation on the project, WVDOH staff spent over two hours listening to comments on the project and answering questions. There was no doubt that the community was opposed to a new highway anywhere within Corridor C.

Following the Short Gap meeting, two petitions with over 1,400 signatures combined were submitted to the West Virginia Division of Highways opposing Corridor C. While crossover options would avoid impacts to the more developed areas at the northern end of Corridor C and not affect many of the people who attended the meeting or signed one of the petitions, many of these people are opposed to the entire corridor, not just how it affects the immediate Short Gap area. Considerable concern was voiced over the potential impacts within Corridor C to community cohesion, the area's rural character, the effect on elderly residents, churches, groundwater resources, farmlands, and historic resources.

Additionally, new information about the Knobley Ridge aquifer increases the potential impact from possible alternatives within Corridor C (West Virginia University, *Knobley Mountain Groundwater Study, Mineral County, WV*). The aquifer, shown on Figure 4, runs along the entire eastern face of Knobley Mountain through Mineral County and part of Grant County. The aquifer is coterminous with Corridor C for a surface distance of over 30 miles.

Although unlikely because of its depth below the surface, there is a strong perception within the community from citizens and public officials alike that highway alignments in Corridor C could negatively impact this aquifer. Knobley Mountain is the only portion of Mineral County where groundwater-source public supplies of water have been successfully developed in the area (WVU 2012). As a result, local citizens and elected officials fear both existing and future water supplies in the area could be jeopardized if a new highway is constructed in Corridor C. This is particularly troublesome to the community because this part of the county has been identified as a growth area within its recently adopted comprehensive plan. : Approximately 11 percent of all comments and about 30 percent of

comments received from the Short Gap meeting specifically raised concern about potential impacts to the Knobley Ridge aquifer, groundwater, or water quality. Also, approximately 1,300 people from Short Gap and the surrounding area signed a petition opposing Corridor C that specifically listed impacts to the Knobley Ridge aquifer as one of the major reasons for their opposition.

While the US 220 project has been determined to be generally consistent with the comprehensive plan, the development of highway alignments within Corridor C during Tier Two may not be. Additional engineering and geotechnical analysis will be necessary to determine the exact level of impact. Based on previous studies, road construction could affect groundwater resources as far as 10 miles away (U.S. Forest Service, *Measuring Effects of Roads on Groundwater: Five Case Studies*).

The U.S. Environmental Protection Agency (USEPA) also requested consideration of a different modified corridor utilizing portions of Corridor B at its northern and southern ends, the middle portion of Corridor C, and two crossovers of Knobley Ridge, the northernmost in the vicinity of WV 956 and the southernmost in the vicinity of US 50. Corridors B and C, as well as this proposed Corridor BCB, are shown on Figure 5. Such an alternative could allow for future alternatives that avoid the Dans Mountain WMA and Dans Mountain State Park.

In order to determine what effects might occur within this proposed corridor, another preliminary environmental screening utilizing a 4,000-ft width was conducted. Costs for the proposed corridor have not been calculated either. Following the screening, the potential impacts were compared to those found within Corridors B, C, and D.

Dans Mountain WMA and the C&O Canal National Historic Park would be avoided with Corridor BCB, but Pinto Marsh could be impacted. As with the other crossover corridors, however, the potential for Section 4(f) impacts for all of the corridors is greater than shown because some of the potentially historic resources may be determined eligible for the National Register of Historic Places resources during Tier Two. Corridor BCB will also impact the American Discovery Trail for approximately 17 miles of its length. Additionally, although it would avoid the more densely populated areas of Corridor C, a crossover corridor utilizing Corridor BCB (utilizing Crossover Option 4) may still continue to generate considerable public controversy for the same reasons as the other crossover options. The complete results of the Corridor BCB are shown in the following table (Table 3):

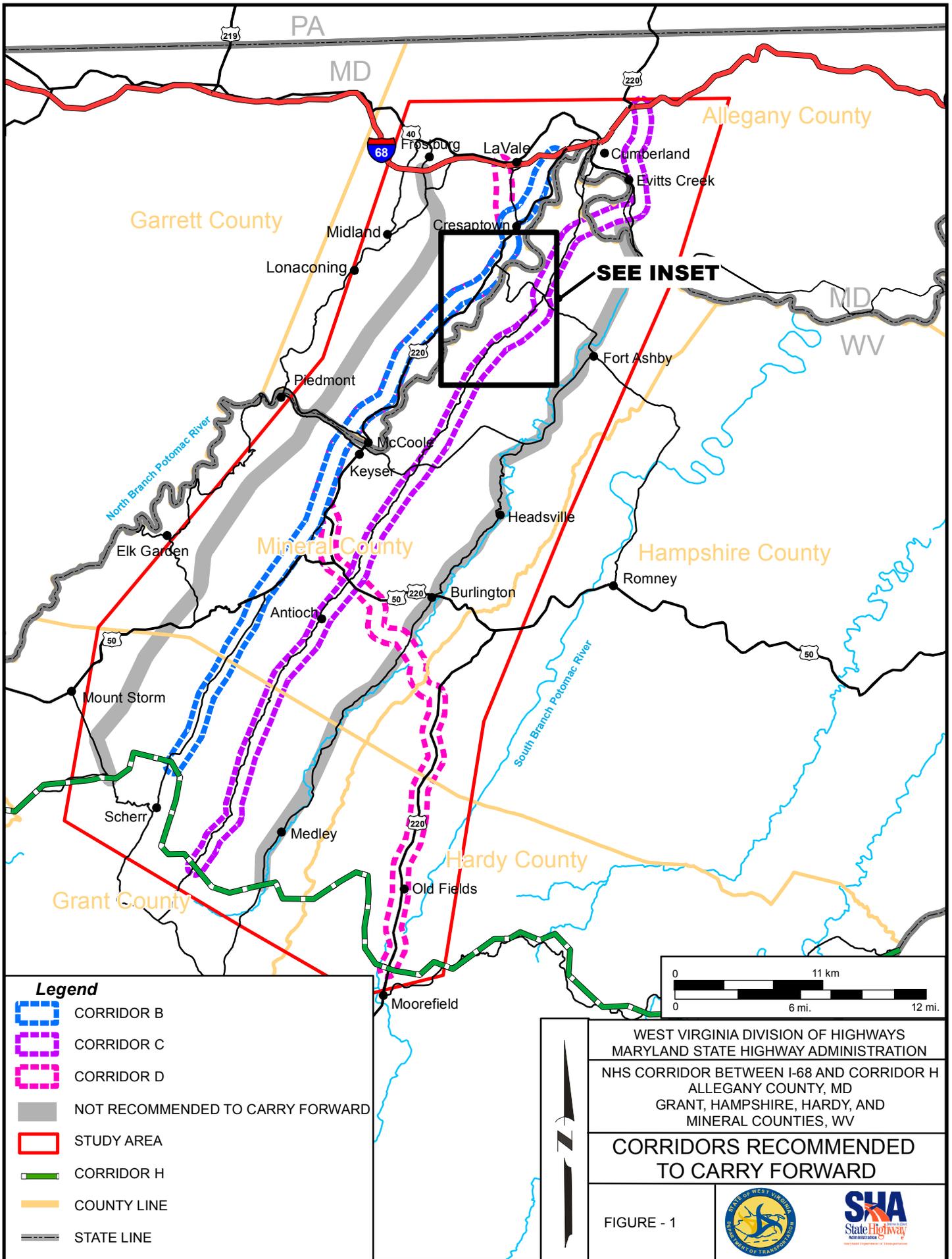
**Table 3: Preliminary Environmental Screening of Corridor BCB**

| Resource or Analysis Factor  | Corridor B | Corridor C | Crossover BCB | Corridor D |
|--|------------|------------|---------------|------------|
| <b>Residential Land Use (Low, Med, High Density)</b>                 | 2,590 ac   | 2,400 ac   | 2,573 ac      | 2,620 ac   |
| <b>Mixed Use, Built-Up Land Use (Institutional, Other Developed)</b> | 1,300      | 90 ac      | 348 ac        | 860 ac     |
| <b>Commercial and Industrial Land Use (Commercial, Industrial)</b>   | 170 ac     | 450 ac     | 164 ac        | 340 ac     |
| <b>Economic Development (Trade Centers Served)</b>                   | 3          | 2          | 3             | 4          |
| <b>Impacts to Community Cohesion</b>                                 | 3          | 2          | 2             | 3          |
| <b>Environmental Justice</b>   | Yes        | Yes        | Yes           | Yes        |
| <b>Community Facilities</b>  | 58         | 70         | 51            | 58         |
| <b>Parks and Recreation Areas</b>                                    | 8          | 10         | 6             | 9          |
| <b>Very High/High Archaeological Potential</b>                       | 5,338 ac   | 6,974 ac   | 4,891 ac      | 7,709 ac   |
| <b>NRHP Listed/NRHP Eligible Resources</b>                           | 4          | 9          | 6             | 21         |
| <b>Potentially NRHP-Eligible Resources</b>                           | 20         | 31         | 17            | 23         |
| <b>Wetlands</b>  | 118 ac     | 152 ac     | 154 ac        | 143 ac     |
| <b>Streams</b>   | 300,239 ft | 330,835 ft | 297,028 ft    | 448,803 ft |
| <b>Floodplains</b>   | 775 ac     | 719 ac     | 779 ac        | 2,244 ac   |
| <b>Flood Control Dams</b>  | 8          | 4          | 4             | 6          |
| <b>Rangeland</b>   | 127 ac     | 644 ac     | 209 ac        | 720 ac     |
| <b>Forests</b>   | 9,890 ac   | 11,130 ac  | 11,028 ac     | 11,409 ac  |
| <b>Mixed Forests/Rangeland</b>                                       | 0          | 53 ac      | 52 ac         | 91 ac      |
| <b>Prime Farmland Soil</b>   | 2,146 ac   | 1,491 ac   | 1,959 ac      | 3,335 ac   |
| <b>Farm Soils of Statewide or Local Importance</b>                   | 2,276 ac   | 5,456 ac   | 2,303 ac      | 3,728 ac   |
| <b>Agricultural Land Cover</b>                                       | 2,953 ac   | 6,489 ac   | 4,673 ac      | 5,487 ac   |
| <b>Preservation Districts/Easements</b>                              | 0          | 1 ac       | 0             | 67 ac      |
| <b>RTE Species</b>   | 13         | 16         | 13-16         | 30         |
| <b>Potentially Contaminated Sites</b>                                | 43         | 42         | 38            | 55         |
| <b>Noise Sensitive Areas</b>   | 2,590 ac   | 2,400 ac   | 2,573 ac      | 2,620 ac   |
| <b>Potential Section 4 (f) Resources</b>                             | 6          | 13         | 8             | 21         |
| <b>Length (miles)</b>  | 34.2       | 44.5       | 39            | 45.3       |

Also of major concern with Corridor BCB is the requirement to cross Knobley Mountain twice. Based on past experience with highway construction in Appalachian topography, this is expected to increase both earthwork and costs significantly. Although Knobley Ridge is not a wildlife management area, it is undeveloped forest land, with very similar habitat to the neighboring Dans Mountain. While the potential to develop alignments within the preferred corridor at the edge of the Dans Mountain WMA

along US 220 exists, any crossing of Knobley Ridge will impact the heart of the mountain. Additionally, with the need for increased earthwork and approach roads, it is reasonable to assume that the impact of crossing Knobley Mountain could exceed the preliminary corridor width of 4,000 feet. Consequently, a higher range of environmental impacts may be encountered once actual highway alignments are developed.

Based on the results of the crossover screenings, it appears that a crossover corridor may be more environmentally damaging than any of the other corridors. The original conclusions about crossover corridors remain valid: The crossover corridors were not shown to offer any improvement over the corridors as they were originally developed. It is also thoroughly understood, however, that there are significant environmental resources within the preferred corridor, resources that will require considerable stewardship and enhancement measures as the proposed project progresses to Tier Two.



**Legend**

- ▭ CORRIDOR B
- ▭ CORRIDOR C
- ▭ CORRIDOR D
- NOT RECOMMENDED TO CARRY FORWARD
- STUDY AREA
- ▭ CORRIDOR H
- COUNTY LINE
- STATE LINE

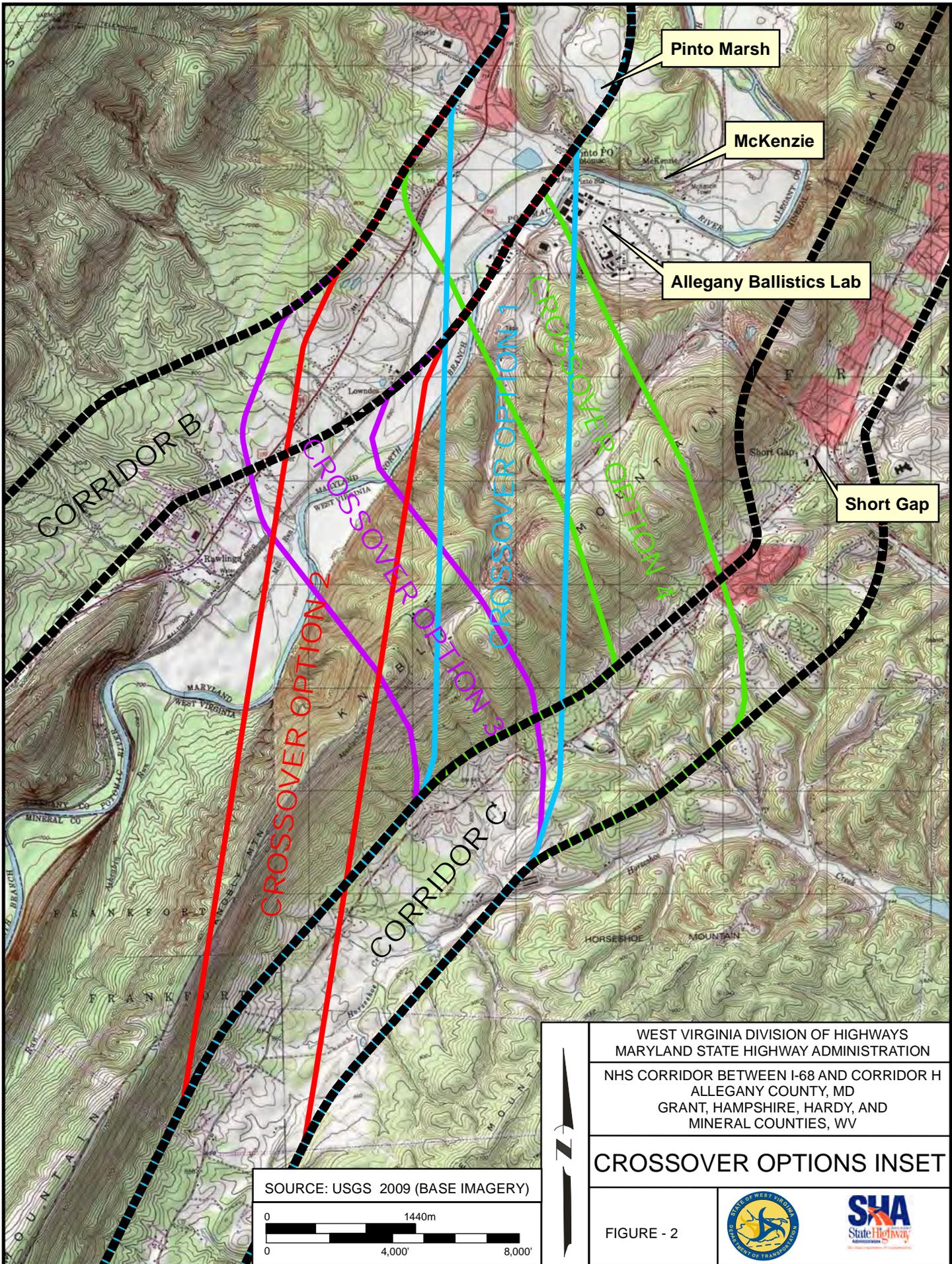


WEST VIRGINIA DIVISION OF HIGHWAYS  
 MARYLAND STATE HIGHWAY ADMINISTRATION  
 NHS CORRIDOR BETWEEN I-68 AND CORRIDOR H  
 ALLEGANY COUNTY, MD  
 GRANT, HAMPSHIRE, HARDY, AND  
 MINERAL COUNTIES, WV

**CORRIDORS RECOMMENDED TO CARRY FORWARD**

FIGURE - 1





Pinto Marsh

McKenzie

Allegany Ballistics Lab

Short Gap

CORRIDOR B

CORRIDOR C

CROSSOVER OPTION 2

CROSSOVER OPTION 3

CROSSOVER OPTION 1

CROSSOVER OPTION 1

WEST VIRGINIA DIVISION OF HIGHWAYS  
MARYLAND STATE HIGHWAY ADMINISTRATION

NHS CORRIDOR BETWEEN I-68 AND CORRIDOR H  
ALLEGANY COUNTY, MD  
GRANT, HAMPSHIRE, HARDY, AND  
MINERAL COUNTIES, WV

CROSSOVER OPTIONS INSET

SOURCE: USGS 2009 (BASE IMAGERY)

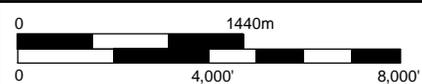
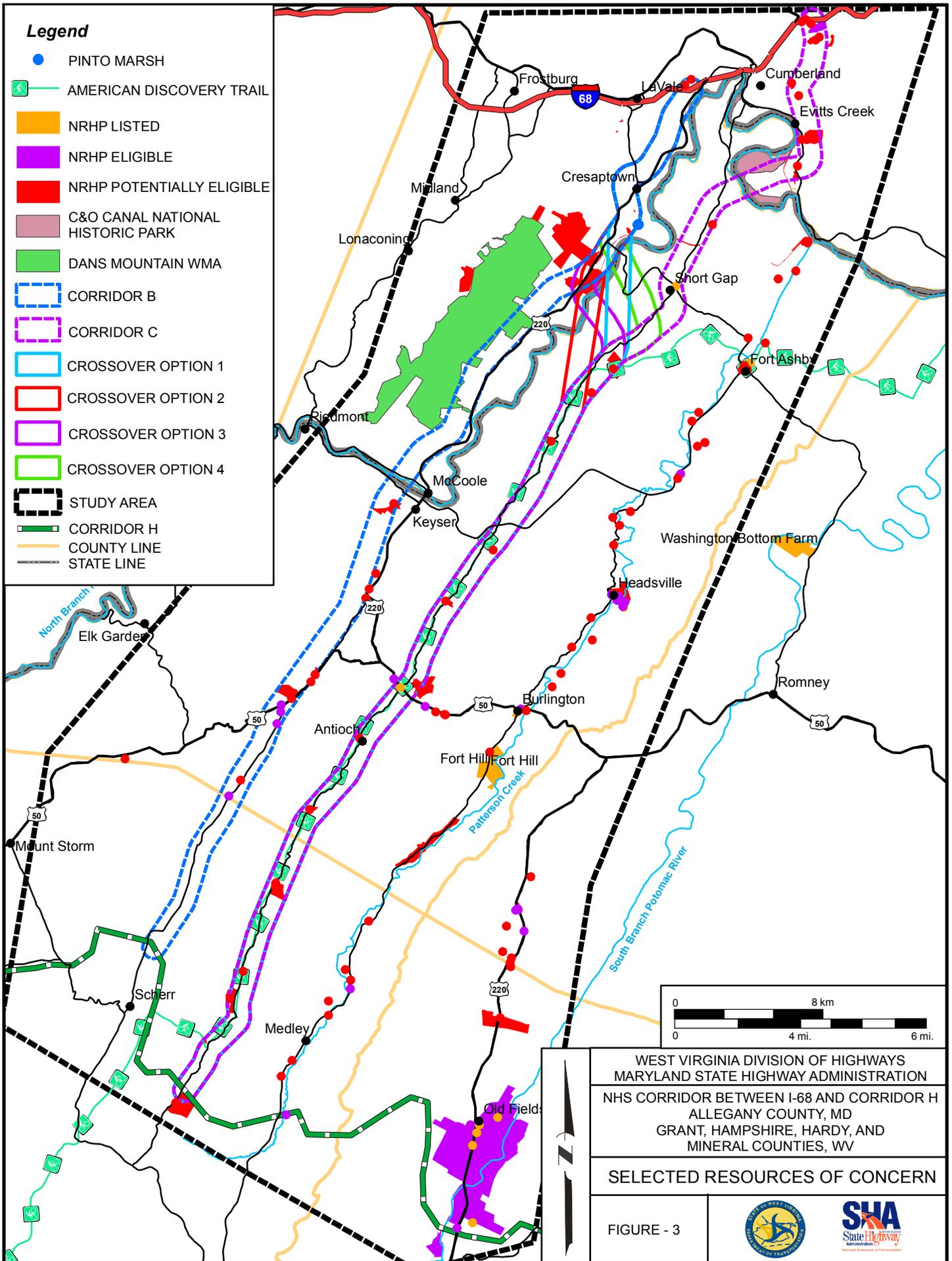


FIGURE - 2





**Legend**



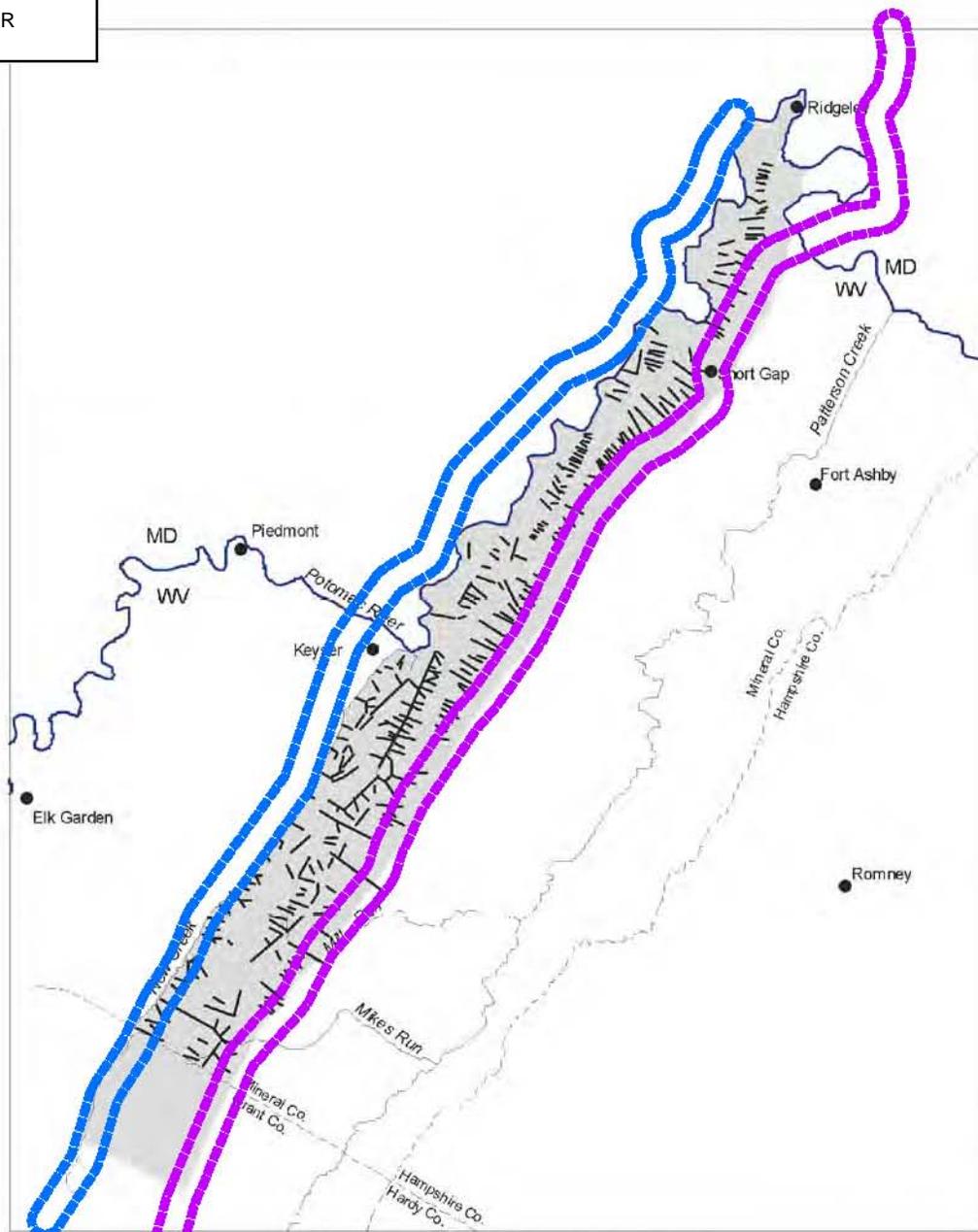
CORRIDOR B



CORRIDOR C



AQUIFER



SOURCE: WVU 2011

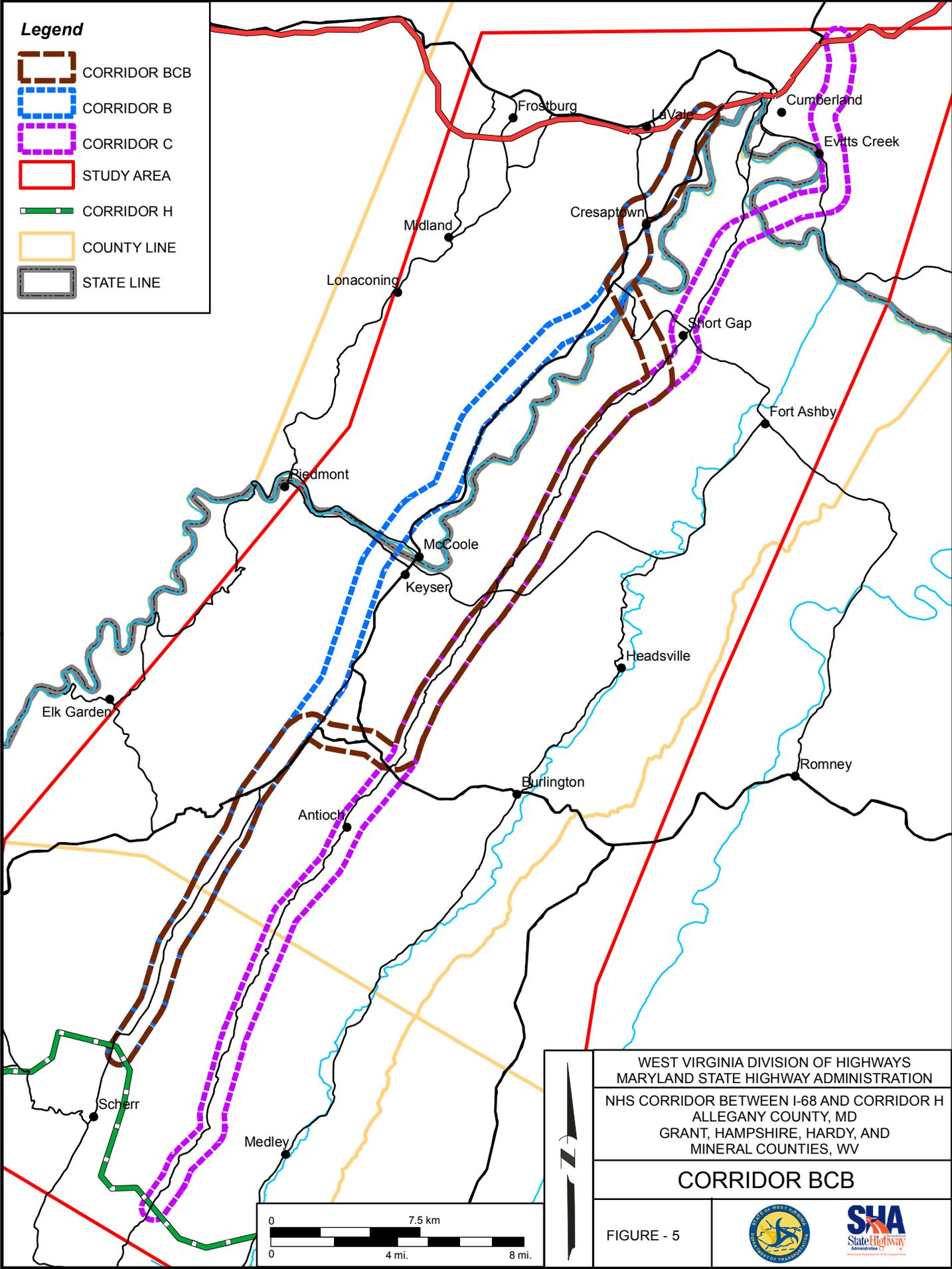


WEST VIRGINIA DIVISION OF HIGHWAYS  
MARYLAND STATE HIGHWAY ADMINISTRATION  
NHS CORRIDOR BETWEEN I-68 AND CORRIDOR H  
ALLEGANY COUNTY, MD  
GRANT, HAMPSHIRE, HARDY, AND  
MINERAL COUNTIES, WV

**KNOBLEY MOUNTAIN AQUIFER**

FIGURE - 4





## BIONET: Biodiversity Conservation Network

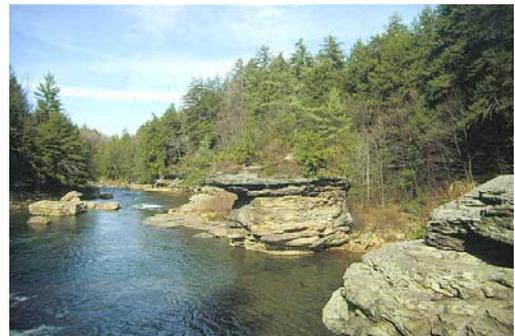
Wildlife and Heritage Service  
Natural Heritage Program  
May 21, 2012

Since 1980, DNR's Natural Heritage Program (NHP) has been collecting, managing, analyzing, and distributing spatial data regarding the habitats of the state's rarest plants and animals, as well as high quality and rare natural communities and other living resources of conservation concern, including:

- 1,000 Rare, Threatened or Endangered plants and animals (over 350 of these are Endangered)
- 1,500 places where Rare, Threatened or Endangered species live (called Ecologically Significant Areas)
- 200 additional animals of Greatest Conservation Need
- 200 Watch List plants
- 27 of 75 ecological communities considered Rare in Maryland

Currently, the NHP has developed a number of digital map products designed for somewhat different purposes and different target audiences. Natural Heritage Areas, Critical Area Habitat Protection Areas, Ecologically Significant Areas, and Sensitive Species Project Review Areas are examples of products developed for various protection-related needs. For example, Sensitive Species Project Review Areas are designed specifically for reviewing proposed development projects. However, our current need is for a product that better integrates our information and prioritizes Maryland's vanishing natural landscape to highlight those areas that are important to conserve the full complement of species and natural communities currently found within the State.

BioNet is a digital map (GIS shapefile) that prioritizes areas for terrestrial and freshwater biodiversity conservation. It was developed as an additional tool for the Natural Heritage Program and its conservation partners to use for proactive land conservation activities, such as targeting for acquisitions and easements, locating appropriate areas for project mitigation or habitat restoration, and planning for areas that require management to sustain dwindling species and habitats. The criteria used within BioNet primarily have a dual focus on both the most irreplaceable species and habitats, as well as on the habitats that concentrate larger numbers of rare species. In addition to focusing on vanishing species and habitats, and on high quality common habitats, the criteria also were designed to incorporate the larger landscapes required for migratory animals, population dispersal, and habitat shifts resulting from climate change.



In summary, BioNet includes and prioritizes:

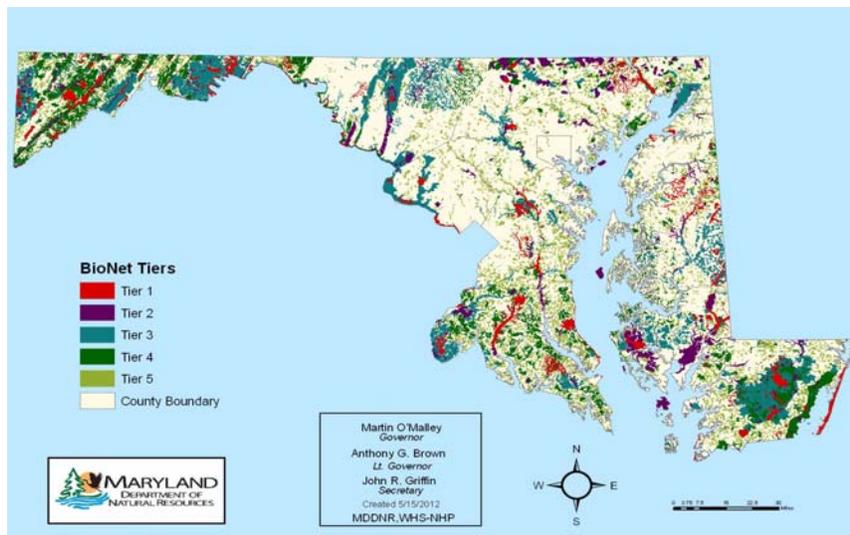
- Only known occurrences of species and habitats
- Globally rare species and habitats

- State rare species and habitats
- Animals of Greatest Conservation Need
- Watch List plants and indicators of high quality habitats
- Animal assemblages (e.g., colonial nesting waterbirds, forest interior species)
- Hotspots for rare species and habitats
- Intact watersheds
- Wildlife corridors and concentration areas

These areas are prioritized into a five-tiered system:

- Tier 1** – Critically Significant for Biodiversity Conservation
- Tier 2** – Extremely Significant for Biodiversity Conservation
- Tier 3** – Highly Significant for Biodiversity Conservation
- Tier 4** – Moderately Significant for Biodiversity Conservation
- Tier 5** – Significant for Biodiversity Conservation

This five-tiered system was designed to capture and support the full array of biological diversity within Maryland – not just those places that are one-of-a-kind, but also the places that are needed to maintain viable populations of more common species. Keeping common species common is a goal that will provide enormous benefits to both our quality of life and our economy. We simply can not afford to wait until herculean efforts are necessary to save species from the brink of extinction. The costs of these efforts are staggering. Therefore, even Tier 5 BioNet Areas are still significant to conserve, both for the species they directly support, as well as for maintenance of the larger fabric of our natural landscape.

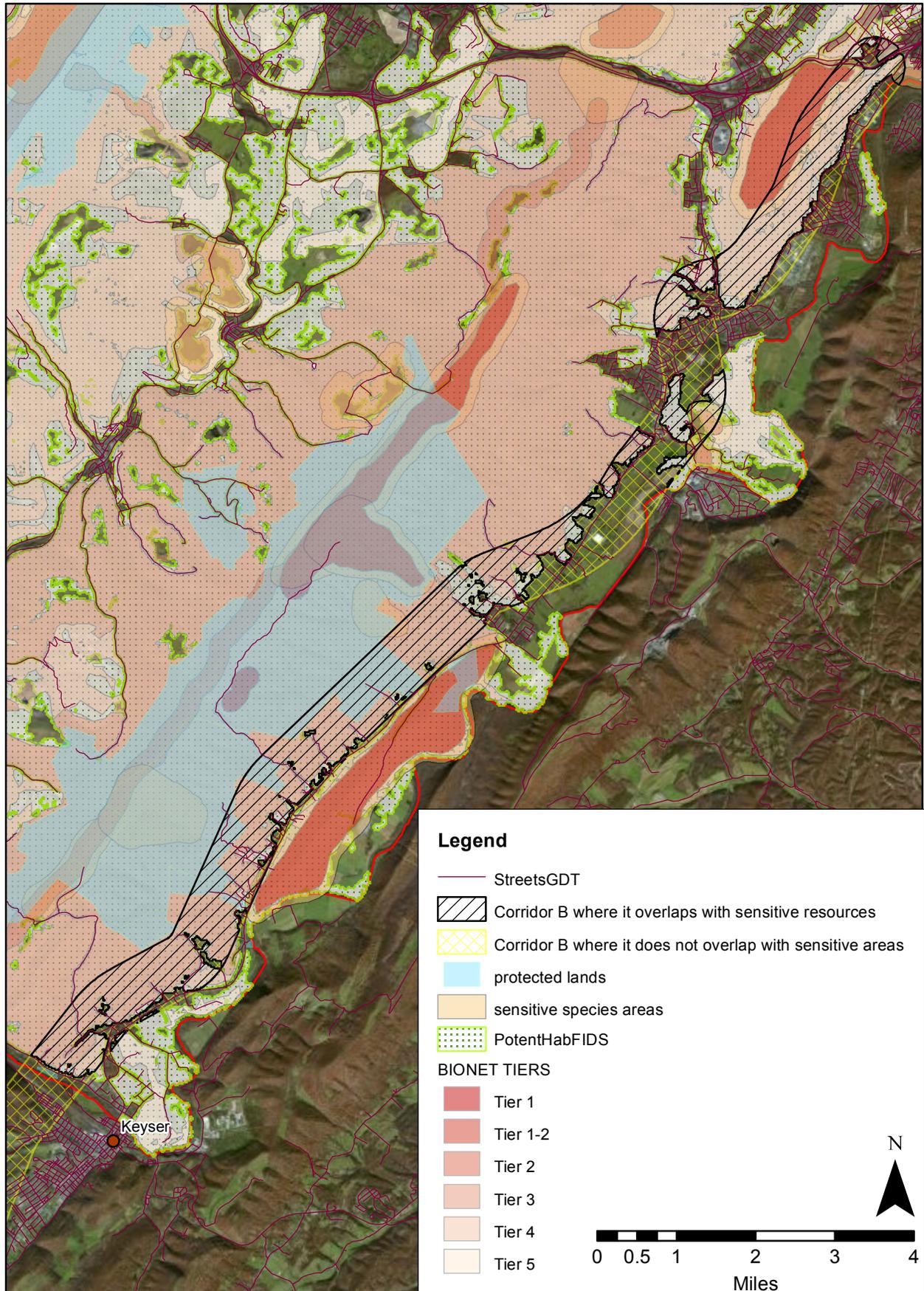


Version one of BioNet is available, and updates are currently in progress. Version one was made available with the knowledge that it is incomplete. A number of data gaps exist within NHP's central database. Most of these data gaps involve animals of Greatest Conservation Need, Watch List plants, and high quality common habitats.

Download this data layer from the "Living Resources" section of:

<http://dnrweb.dnr.state.md.us/gis/data>

# US 220 Corridor B and Environmental Resources



## **APPENDIX H**

### **AGENCY RESPONSES TO PRELIMINARY FEIS**



DEPARTMENT OF THE ARMY  
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
P.O. BOX 1715  
BALTIMORE, MD 21203-1715

Operations Division

AUG 05 2013

U.S. Army Corps of Engineers, Huntington District  
Ms. LuAnne S. Conley, Chief, South/Transportation Section OR-F  
502 8th Street  
Huntington, WV 25701

Dear Ms. Conley:

The U.S. Army Corps of Engineers, Baltimore District has reviewed the preliminary US 220 Tier One Final Environmental Impact Statement, dated May 2013. We appreciate the opportunity to provide Baltimore District comments to the Huntington District, the lead Corps District for the project.

This office is concerned that our comments and those of the resource agencies have not been fully addressed. Resource agencies proposed potential crossover options and these should be considered in Tier Two.

We suggest that impacts to Dan's Mountain by TS-B be avoided and minimized to the maximum extent practicable. Dan's Mountain Management Area is an important natural area that is proposed to be affected by TS-B. We received information from the Maryland Department of Natural Resources (MD DNR) that Mill Run is a brook trout stream and this is located along the TS-B corridor near Rawlings. Not all of the streams on the eastern slope of Dan's Mountain have been assessed for brook trout habitat so aquatic sampling should be done to more precisely map the location of brook trout populations. The document states that additional studies will be conducted in streams on the eastern slope of Dan's Mountain during Tier Two.

The Potomac River crossing has not been addressed. This is a navigable waterway subject to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Spanning the entire floodplain, minimizing the number of piers and spanning all wetlands are options that will need to be addressed.

A joint federal/state permit would be required for activities that impact Waters of the U.S. in Maryland. The applicant must demonstrate that proposed impacts to streams and wetlands are necessary and unavoidable and that all avoidance and minimization measures have been fully exhausted. Avoidance and minimization of impacts to Waters of the U.S. include the use of compressed medians, reduced safety grading widths, and interchange design alternatives in areas where the alignment would impact aquatic resources. Other options for avoiding impacts include bridging the entire floodplain, bridging of wetlands, and building bottomless arches. Installation of free-span bridge

AUG 05 2013

structures and bottomless arch culverts reduce the risk of not passing flows during a high water event, decreases the possibility of down-cutting of the streambed or riverbed (upstream or downstream of the crossing), minimizes the possibility of bank erosion upstream and/or downstream of the crossing, and promotes fish passage.

As you are aware, Section 404 (b) (1) of the Clean Water Act requires us to authorize projects that are the least environmentally damaging practicable alternative to the aquatic environment. These Guidelines require an applicant to consider and demonstrate that all practicable and feasible alternatives were examined that would avoid or minimize impacts to waters. The US 220 Improvement Project will be subject to the EPA/Corps 2008 Mitigation Rule. A discussion of potential environmental mitigation for unavoidable adverse impacts to Waters of the US should be included. The document states that this will be addressed during Tier Two.

We have been coordinating with the Environmental Protection Agency and concur with their comments. We look forward to discussing the preferred corridor, crossover options, the LEDPA and additional comments with FHWA and other stakeholders at a meeting as EPA suggested.

Thank you for the opportunity to review the US 220 Tier One Draft Environmental Impact Statement. A copy of this letter is being forwarded to the Maryland State Highway Administration, West Virginia Division of Highways and Maryland Department of the Environment Nontidal Wetlands Division for informational purposes. If you have any questions concerning the information provided in this letter, please me at (410) 962-5679.

Sincerely,



Mary A. Frazier  
Biologist, Maryland Section Northern



## United States Department of the Interior

Office of the Secretary  
Washington, D.C. 20240

JUL 24 2013

ER-13/0463

Mr. David P. Bodnar, P.E.  
Acting Director, Engineering Division  
West Virginia Division of Highways  
Capitol Complex, Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, WV 25305

Dear Mr. Bodnar:

The Department of the Interior (Department) has reviewed the Tier One Draft Environmental Impact Statement (DEIS) for the National Highway System (NHS) Corridor between I-68 and Corridor H (U.S. 220 Planning Study) in West Virginia and Maryland. The project consists of a new highway between Interstate 68 and the Appalachian Development Highway System Corridor H as part of the NHS. The proposed NHS corridor will essentially parallel Route 220 within Alleghany County, Maryland and Mineral, Hampshire, Hardy and Grant Counties in West Virginia. The Department offers the following comments for your consideration.

### **Section 4(f) Evaluation Comments**

We understand that the assessment of project-related impacts on Section 4(f) resources in the Tier One phase has been necessarily cursory. We note that because of the widespread occurrence of cultural resources throughout the area, a Section 4(f) Evaluation will be necessary during Tier Two, as stated within the DEIS on pages ES-16 and 5-5. Therefore, the Department will review and comment on the Section 4(f) Evaluation when it is completed in conjunction with the Tier Two analysis.

### **Environmental Impact Statement**

The National Park Service (NPS) National Capital Region and Chesapeake and Ohio Canal National Historic Park have reviewed the DEIS of May 2013. As illustrated on page ES-15 in figure ES-5, the DEIS states that the proposed Corridor B has been selected as the preferred corridor. Upon review of Figure ES-5, NPS has determined that both Corridors C and E have not been selected to carry forward in the DEIS. With the aforementioned Corridor B selected as the preferred alternative, the DEIS no longer proposes development on NPS lands. The Department has no further comments or issues with the DEIS dated May 2013 as it no longer proposes development on NPS lands. This opinion shall remain, provided the preferred corridor

TRANSMITTED ELECTRONICALLY – NO HARDCOPY TO FOLLOW

Mr. David P. Bodnar, P.E.

2

does not change. We would appreciate the opportunity to review the final EIS when it is available.

For questions or further information regarding this response, please contact Dave Sire, Natural Resources Management Team Leader, at (202) 208-6661 or [david\\_sire@ios.doi.gov](mailto:david_sire@ios.doi.gov).

We appreciate the opportunity to provide these comments.

Sincerely,



for

Willie R. Taylor  
Director, Office of Environmental  
Policy and Compliance

cc:

SHPO-WV ([Susan.M.Pierce@wv.gov](mailto:Susan.M.Pierce@wv.gov))

SHPO-MD ([rlittle@mdp.state.md.us](mailto:rlittle@mdp.state.md.us))



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029**

JUL 31 2013

Jason Workman  
Federal Highway Administration- West Virginia  
Geary Plaza, Suite 200  
700 Washington Street E  
Charleston, West Virginia 25301

Anna Price  
Federal Highway Administration  
DelMar Division  
10 South Howard Street  
Suite 2450  
Baltimore, Maryland 21201

Dear Mr. Workman and Ms. Price:

The Environmental Protection Agency (EPA) has received and reviewed the preliminary version of the Tier 1 Final Environmental Impact Statement (EIS) for the National Highway System Corridor between I-68 and Corridor H, US 220, Maryland and West Virginia. EPA agreed to be a cooperating agency on this project on June 14, 2006. As a cooperating agency EPA has provided numerous comments on this project, including on the preliminary Draft EIS in email on November 18, 2010, the Draft EIS in comment letter dated October 28, 2011, and an additional letter dated January 2, 2013. In EPA's October 28, 2011 letter, EPA rated each of the action alternative corridors evaluated in the Draft EIS as Environmental Objections ("EO") and the adequacy of the document as "2" (insufficient information).

Upon review of the preliminary Final EIS and FHWA's responses to agency comments, EPA remains concerned that resource agency comments have not been fully understood or vetted. It is not clear that all comments have been included and addressed in the comment response matrix. Resource agencies proposed potential crossover options for FHWA's consideration; documentation provided for evaluating these crossover options is limited. The preliminary Final EIS states that if necessary to avoid environmental, cultural, and socioeconomic resources the current 4,000-foot corridor will be expanded in width during Tier 2. It is not apparent to EPA that the proposed width expansion will be sufficient to adequately avoid and minimize resource impacts to the extent necessary to determine the least environmentally damaging practicable alternative (LEDPA). EPA continues to express concern that there may be no viable alignment within FHWA's preferred corridor B, even with an expanded corridor width.

EPA's comments, provided in correspondences listed above and in previous meetings, have raised, what EPA considers to be, serious concerns and objections, that we believe would best be addressed by a meeting of the resource agencies. At this time, EPA requests a meeting be scheduled to discuss with FHWA and federal and state resource agencies correspondences provided on the Draft EIS and other comments provided to date. At the proposed meeting EPA would also like to hear from FHWA how agency comments are being addressed, what changes have been made in the preliminary copy of the Final EIS, and to discuss in greater detail the crossover options presented. EPA suggests initiating a discussion of commitments to be made in the Final Tier 1 EIS and Record of Decision, as well as expectations for the Tier 2 process. In order to ensure the best, most transparent and streamlined process, as well as ensuring an environmentally preferable outcome, we continue to feel that a meeting would be prudent before moving forward with the Final EIS and eventually Tier 2.

EPA feels that a meeting would be the most effective and efficient way to discuss whether concerns have been adequately addressed and to allow for remaining concerns to be voiced. We look forward to discussing the preferred corridor, crossover options, the LEDPA, and additional detailed comments with FHWA and other stakeholders. Thank you for your consideration of our request to meet on this project. Please contact my staff, Alaina McCurdy at 215-814-2741, or Barbara Rudnick, NEPA Team Leader, at 215-814-3322, should you have any further questions and to coordinate available meeting dates.

Sincerely,



Jeffery D. Lapp  
Associate Director  
Office of Environmental Programs

CCs: SHA  
Baltimore Corps  
US FWS  
MD DNR  
MDE



*Martin O'Malley, Governor*  
*Anthony G. Brown, Lt. Governor*  
*Joseph P. Gill, Secretary*  
*Frank W. Dawson III, Deputy Secretary*

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August 2, 2013

Mr. David P. Bodnar, P.E.  
Acting Director  
Engineering Division  
West Virginia Division of Highways  
Capitol Complex, Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, WV 25305

Re: Preliminary Draft, US 220 Tier One Final Environmental Impact Statement, NHS Corridor between I-68 and Corridor H Project

Dear Mr. Bodnar:

The Maryland Department of Natural Resources (MD DNR) continues its review of the above referenced project, and has reviewed the referenced document, dated May 2013.

Upon review of the document, our review team has determined that there are several review issues that we consider outstanding and inadequately addressed at this time to move forward to next steps in the project documentation process. We strongly advocate and request that further interagency coordination be conducted at this current planning phase to resolve and document the outstanding issues to the satisfaction of the Lead, Cooperating, and Participating Agencies, before project planning and documentation proceeds from the current phase.

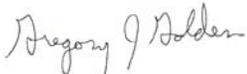
We appreciate the ongoing interagency and interstate coordination on this important project review. We understand the significant challenges of such a planning project. But our review team is not convinced that adequate joint planning and review coordination has occurred on several project aspects of extreme importance. The Department has the responsibility to fully represent natural resource concerns in Maryland, and we have concerns regarding the balance of issue coordination between different corridors and sections of the project, as well as the level of consideration of potential impact minimization alternatives that have been suggested. It is essential in our review activities to be certain that full consideration has been given to all practicable alternatives and options to fully avoid and then minimize potential impacts to natural resources.

Specifically, we conclude at this time that inadequate documentation and clarity exists related to the consideration of the Potomac River crossover alignments (especially in regards to potential avoidance measures for Pinto Marsh), and the information used to propose dropping of Corridor C from further consideration. Dan's Mountain WMA is of primary importance in our review, and potential impact avoidance and minimization measures for that area require additional coordination. We understand that certain further avoidance and minimization efforts are targeted for Tier Two studies, but given the importance of natural resources in the study area and the proposal to drop corridors and options prior to Tier Two, we advocate that additional detailed discussion, documentation, and avoidance and minimization efforts occur now prior to leaving the Preliminary Draft stage of the FEIS.

Because of the need for additional interagency coordination and discussion, and the existence of a number of previous agency comments on natural resource topics that several natural resource agencies have indicated are not yet adequately addressed, we will not attempt to repeat here each of the prior comments and concerns. Instead, we advocate that the agencies meet to go over the previous comments and Project Study Team responses in an effort to further study and resolve the review topics where agency disagreement remains. In addition, it is very important for the review of natural resource issues within the State of Maryland that complete confidence is achieved in the active and in-depth involvement of all pertinent Maryland State agencies and Maryland interests in this project planning study, and it is our position that this confidence has not yet been achieved.

Thank you for the opportunity to provide these comments. We look forward to meeting in an interagency setting to further discuss environmental planning and conservation issues related to this project during this important planning stage. If you have any questions regarding these comments, please contact either myself (410-260-8331 or [ggolden@dnr.state.md.us](mailto:ggolden@dnr.state.md.us)) or Mr. Tony Redman (410-260-8336, or [redman@dnr.state.md.us](mailto:redman@dnr.state.md.us)). For upcoming interagency meetings for this project, please include both of us in the distribution list.

Sincerely,



Greg Golden  
Project Review Division  
Integrated Policy and Review Unit  
MD Department of Natural Resources

cc: Tony Redman, MD DNR  
Joseph Kresslein, MD SHA  
Jeanette Mar, USFHWA  
Jason Workman, USFHWA  
Natural Resources Interagency Distribution List



Maryland Department of Planning

Sustainable\_\_\_\_\_Attainable

June 28, 2013

Mr. David Bodnar, P.E.  
Acting Director, Engineering Division  
West Virginia Department of Transportation  
Capitol Complex, Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, WV 25305

**STATE CLEARINGHOUSE REVIEW PROCESS**

**State Application Identifier:** MD20130627-0463

**Reply Due Date:** 07/28/2013

**Project Description:** Preliminary Draft of the US 220 Tier One Final Environmental Impact Statement (EIS) for the NHS Corridor Between I-68 and Corridor H (US 220)

**Project Location:** State(s) of West Virginia

**Clearinghouse Contact:** Sophia Richardson

Dear Mr. Bodnar:

Thank you for submitting your project for intergovernmental review. Your participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps to ensure that your project will be consistent with the plans, programs, and objectives of State agencies and local governments.

We have forwarded your project to the following agencies and/or jurisdictions for their review and comments: the Maryland Department(s) of Transportation, Natural Resources, the Environment; the County(ies) of Allegany; the Regional Agency(ies) of Tri-County Council for Western Maryland; and the Maryland Department of Planning; including Maryland Historical Trust. A composite review and recommendation letter will be sent to you by the reply due date. Your project has been assigned a unique State Application Identifier that you should use on all documents and correspondence.

Please be assured that we will expeditiously process your project. The issues resolved through the MIRC process enhance the opportunities for project funding and minimize delays during project implementation.

If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at [srichardson@mdp.state.md.us](mailto:srichardson@mdp.state.md.us). Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey, J.D., Assistant Secretary

*P.S. Great News!! Your project may be eligible to be "FastTracked" through the State permitting processes. For more information, go to: <http://easy.maryland.gov/wordpress/fasttrack/>.*

LCJ:SR

13-0463\_NRR.NEW.doc

Martin O'Malley, Governor  
Anthony G. Brown, Lt. Governor

Richard Eberhart Hall, AICP, Secretary  
Amanda Stakem Conn, Esq., Deputy Secretary



Maryland Department of Planning

Sustainable \_\_\_\_\_ Attainable

August 2, 2013

Mr. David Bodnar, P.E.  
Acting Director, Engineering Division  
West Virginia Department of Transportation  
Capitol Complex, Building 5, Room A-317  
1900 Kanawha Boulevard, East  
Charleston, WV 25305

**STATE CLEARINGHOUSE RECOMMENDATION**

**State Application Identifier: MD20130627-0463**

**Applicant: West Virginia Department of Transportation**

**Project Description: Preliminary Draft of the US 220 Tier One Final Environmental Impact Statement (EIS) for the NHS Corridor Between I-68 and Corridor H (US 220) Allegany County, MD**

**Project Location: State(s) of Allegany and West Virginia**

**Approving Authority: U.S. Department of Transportation DOT/FHWA**

**Recommendation: Consistent Contingent Upon Certain Action(s)**

Dear Mr. Bodnar:

In accordance with Presidential Executive Order 12372 and Code of Maryland Regulation 34.02.01.04-.06, the State Clearinghouse has coordinated the intergovernmental review of the referenced project. This letter constitutes the State process review and recommendation based upon comments received to date. This recommendation is valid for a period of three years from the date of this letter.

Review comments were requested from the Maryland Department(s) of Natural Resources, Transportation, the Environment; Allegany County; Tri-County Council for Western Maryland; and the Maryland Department of Planning, including Maryland Historical Trust. **This recommendation is contingent upon the applicant considering and addressing the problems or conditions identified by the Maryland Department(s) of Natural Resources, Transportation, the Environment and the Maryland Department of Planning, including the Maryland Historical Trust.**

The Maryland Department(s) of Transportation; Allegany County; Tri-County Council for Western Maryland found this project to be consistent with their plans, programs, and objectives.

**Allegany County** noted that the section on public transportation, the priority funding areas map, and the land use map should be updated.

**The Maryland Department of Transportation** stated it is Consistent with our plans, programs, and objectives.

The Maryland Department of Planning found this project to be generally consistent with their plans, programs, and objectives, but included certain qualifying comments summarized below.

Martin O'Malley, Governor  
Anthony G. Brown, Lt. Governor

Richard Eberhart Hall, AICP, Secretary  
Amanda Stakem Conn, Esq., Deputy Secretary

1. The project is generally consistent with local plans but will need to be monitored to ensure that location and access are consistent with State Smart Growth Policy.

2. We support the recommendation to carry Corridor B as the preferred corridor into the Tier Two NEPA study. We appreciate the coordination and support from the project study team in addressing smart growth and land use issues of the project. The Draft FEIS includes information on the Priority Funding Area (PFA) law and local master plans, and generally discussed how these state and local planning policies relate to the project. In addition, we suggest that the information on the requirement of compliance with the PFA law in the Tier Two NEPA study be included in the Executive Summary and Preface's Unresolved Issues sections on page ES-14 to 17 and page P11-13.

As indicated on page 1-4 and 1-5, the North South Appalachia Corridor Feasibility Study recommends smart growth related strategies for future improvements within the US 220 corridor. The FEIS should make a note that the Tier Two Study for the US 220 corridor will address these strategies.

On page 1-31, it seems the PFA map is outdated. Please contact MDP for the updated PFA boundary map for Allegany County.

In the section of 4.8.1 Indirect Impacts (page 4-128), we suggest the FEIS include the information on the Allegany County's Mountain Ridge Rural Legacy Area and how the Area would be affected by the project. For the information on the rural legacy area program, check this link on the Maryland Department of Natural Resources website: <http://www.dnr.state.md.us/land/rurallegacy/index.asp> . In Allegany County, over 31,000 acres of land are designated as the Mountain Ridge Rural Legacy Area (<http://www.dnr.state.md.us/land/rurallegacy/mapoptions.asp>). As described in the program, the Area is "situated within the Ridge & Valley Physiographic Province where it meets the Allegheny Front, the first rural legacy area in Allegany County includes large blocks of unbroken forest, pristine ecologically significant areas and historic sites. It includes exemplary plant and wildlife habitat, an important migration corridor and perhaps the most significant golden eagle flyway in the state. The Area is delineated around 10,163 acres of existing protected lands which may be further connected and consolidated, forming a greenway potentially linking ridge tops in West Virginia with Pennsylvania, as well as westward into the Allegheny Plateau. (<http://www.dnr.state.md.us/land/rurallegacy/allrurallegacyareas.asp> ).

The Maryland Department(s) of Environment and Maryland Historical Trust stated that their finding(s) of consistency is/are contingent upon the applicant taking the action(s) summarized below.

**The Maryland Department of the Environment** provided the following comments:

As received, this Clearinghouse project is limited to a review of Preliminary Draft of the US 220 Tier One Final Environmental Impact Statement (EIS) for the NHS Corridor Between I-68 and Corridor H (US 220). In summary, the Federal Highway Administration (FHWA), the West Virginia Division of Highways (WVDOH) and the Maryland State Highway Administration (MDSHA) prepared a report investigating the potential impact from the construction of a north-south highway extending from Grant and Hardy Counties in West Virginia to Allegany County in Maryland. Initially, five (5) alternates were developed, along with the No Build Alternative; two of the alternates have already been discarded, leaving three (3) alternates to be further evaluated in Tier Two.

The following was copied from the document:

*4.6 Air Quality*

*4.6.1 Methodology*

*Transportation air quality evaluation requirements as stipulated in the National Environmental Policy Act of 1969 and the federal Clean Air Act (CAA) involve micro-scale computer modeling on the project level to determine localized air quality impacts related to the National Ambient Air Quality Standards, as well as regional modeling to determine conformity. Regional emissions, namely O<sub>3</sub>, for this project were analyzed through an evaluation of State Implementation Plans (SIPs). At this stage in the project, the air quality analysis relates to general attainment designation and future requirements. When this project enters Tier Two, a localized, microscale evaluation at worst-case locations throughout the study area will be conducted.*

Thus, at this time the final impact to air quality has not been determined.

As stated, three (3) alternatives are being considered. Thus, it is being suggested that the following items at a minimum be investigated, and pertinent information included in the Tier Two EIS for the project:

1. Are there existing structures which will be disturbed/demolished as part of the project? If so, provide information on the ages of the structures (as criteria for projecting the absence/presence of asbestos).
2. Use Best Management Practices (BMPs) to reduce potential for particles becoming airborne during all phases of the construction project.
3. Is any equipment being installed which has the potential for creating emissions? If so, provide information on the type of equipment, annual usage, fuel, size, etc. for consideration.
4. Will soil excavation be performed? If so, there is a potential for encountering contaminated soil. In the event that contaminated soil is encountered, the Maryland Department of the Environment will need to be contacted for further guidance.
5. Will there be either a short term, or long term change in traffic volume? If so, a detailed evaluation of the resulting change in emissions may be required.
6. Will Federal funds be used for any of the proposed projects? Carroll County is nonattainment for ozone. Therefore, an evaluation of emissions resulting from the construction, and/or emission resulting from any newly installed equipment will need to be calculated in order to confirm these emissions do not exceed permitted levels.
7. All new construction must meet and/or exceed state requirements for energy efficiency.
8. Cutback asphalt shall not be used during the months of June, July and August.
9. The subject property within Maryland's Priority Funding Area (PFA)?
10. Are there any other construction projects which could potentially result in an increase in emissions scheduled to occur concurrently?

#### **Land Management Administration**

Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance

#### **Science Services Administration**

Transportation Scenario A has the potential to impact a Tier II area, Elklick Run 1. It is recommended that environmental screening for Tier II High Quality Waters be incorporated into the Workplan projects. Such projects could include SP214B43 Preliminary Studies or SP514B4E Streamlined Implementation. It is also suggested that it be clear that Transportation Scenario A, if selected, does not impact Elklick Run 1.

Mr. David Bodnar, P.E.  
August 2, 2013  
Page 4  
State Application Identifier: MD20130627-0463

For an interactive mapping link: <http://www.mde.state.md.us/programs/Water/TMDL/Water%20Quality%20Standards/Pages/HighQualityWatersMap.aspx> or a GIS mapping layer can be requested from Angel Valdez ([angel.valdez@maryland.gov](mailto:angel.valdez@maryland.gov)).

The Maryland Historical Trust looks forward to completing the Section 106 review process as project planning continues.

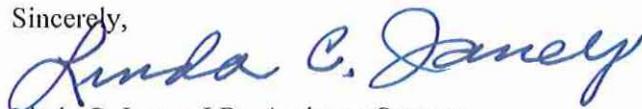
The Maryland Department of Natural Resources (DNR) is deeply concerned with potential impacts to Dan's Mountain Wildlife Management Area (WMA) that would likely occur if the current preferred option described in the Draft FEIS is chosen. DNR will soon be participating in a meeting of multiple state and federal resource agencies to ensure that the cross over option is reexamined as a viable option by Maryland State Highway Administration and West Virginia to avoid or minimize impacts to the 9,600-acre Dan's Mountain WMA.

**Any statement of consideration given to the comments(s) should be submitted to the approving authority, with a copy to the State Clearinghouse.** The State Application Identifier Number must be placed on any correspondence pertaining to this project. The State Clearinghouse must be kept informed if the approving authority cannot accommodate the recommendation.

Please remember, you must comply with all applicable state and local laws and regulations. If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at [srichardson@mdp.state.md.us](mailto:srichardson@mdp.state.md.us). **Also please complete the attached form and return it to the State Clearinghouse as soon as the status of the project is known. Any substitutions of this form must include the State Application Identifier Number. This will ensure that our files are complete.**

Thank you for your cooperation with the MIRC process.

Sincerely,



Linda C. Janey, J.D., Assistant Secretary

LCJ:SR  
Enclosure(s)

cc: Melinda Gretsinger - MDOT  
Greg Golden - DNR  
Amanda Degen - MDE  
Roy Cool - ALLG

Leanne Mazer - TCCWMD  
Bihui Xu - MDPI-T

David Cotton - MDPLW  
13-0463\_CRR.CLS6.doc

Beth Cole - MHT



Maryland Department of Planning

Sustainable \_\_\_\_\_ Attainable \_\_\_\_\_

PROJECT STATUS FORM

Please complete this form and return it to the State Clearinghouse upon receipt of notification that the project has been approved or not approved by the approving authority.

TO: Maryland State Clearinghouse
Maryland Department of Planning
301 West Preston Street
Room 1104
Baltimore, MD 21201-2305

DATE: \_\_\_\_\_
(Please fill in the date form completed)

FROM: \_\_\_\_\_
(Name of person completing this form.)

PHONE: \_\_\_\_\_
(Area Code & Phone number)

RE: State Application Identifier: MD20130627-0463
Project Description: Preliminary Draft of the US 220 Tier One Final Environmental Impact Statement (EIS) for the NHS Corridor Between 1-68 and Corridor H (US 220) Allegany County, MD

PROJECT APPROVAL
This project/plan was: [ ] Approved [ ] Approved with Modification [ ] Disapproved
Name of Approving Authority: \_\_\_\_\_ Date Approved: \_\_\_\_\_

FUNDING APPROVAL
The funding (if applicable) has been approved for the period of:
\_\_\_\_\_, 201\_\_ to \_\_\_\_\_, 201\_\_ as follows:
Federal \$: \_\_\_\_\_ Local \$: \_\_\_\_\_ State \$: \_\_\_\_\_ Other \$: \_\_\_\_\_

OTHER
[ ] Further comment or explanation is attached

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor

Richard Eberhart Hall, AICP, Secretary
Amanda Stakem Conn, Esq., Deputy Secretary



RECEIVED  
JUN 25 2013  
ENGINEERING DIVISION  
WV DOH

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west virginia department of environmental protection

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Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304 926 0475 • FAX: 304 926 0479

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.wvdep.org](http://www.wvdep.org)

June 24, 2013

Mr. David P. Bodnar, P.E.  
Acting Director  
Engineering Division  
WV Division of Highways  
Capital Complex, Bldg. 5, Rm. A-317  
1900 Kanawha Blvd., East  
Charleston, WV 25305

RE: NHS Corridor between I-68 and  
Corridor H (US 220)  
Draft Final Tier One DEIS

Dear Mr. Bodnar:

This agency has received and reviewed the Preliminary Draft of the US 220 Tier One Final Environmental Impact Statement (FEIS) for the NHS Corridor between I-68 and Corridor H Project. The air quality issues appear to be adequately addressed for this phase of the FEIS. The documentation includes a summary of comments/responses, which indicate that the significant comments previously submitted by WVDEP will be adequately addressed in the Tier Two FEIS [see page 8 of the *Guide to US 220 DEIS/FEIS Responses to Agency Comments (Errata) May 2013*].

Therefore, we defer additional comment until the Tier Two FEIS is completed and made available for review. If you have any questions or need further assistance or information, please contact me by phone: 304.926.0499 ext.1242 or email: [william.f.durham@wv.gov](mailto:william.f.durham@wv.gov)

Sincerely,

William Fred Durham  
Deputy Director

US 220 Tier One EIS  
 Agency Coordination Meeting  
 December 3, 2013 / 9:30 a.m.  
 State Highway Administration (SHA) District 6 Office

Attendees List:

| Name                | Agency             | Email  |
|---------------------|--------------------|--|
| Jeanette Mar        | FHWA-DelMar Div    | <a href="mailto:jeanette.mar@dot.gov">jeanette.mar@dot.gov</a>                     |
| Alison Rogers       | FHWA-WV Div        | <a href="mailto:alison.rogers@dot.gov">alison.rogers@dot.gov</a>                   |
| Jason Workman       | FHWA-WV Div        | <a href="mailto:jason.workman@dot.gov">jason.workman@dot.gov</a>                   |
| Greg Golden         | MD DNR             | <a href="mailto:ggolden@dnr.state.md.us">ggolden@dnr.state.md.us</a>               |
| Anne Elrays         | MD SHA - EPLD      | <a href="mailto:aelrays@sha.state.md.us">aelrays@sha.state.md.us</a>               |
| Martha Stauss       | MD DNR/SHA         | <a href="mailto:mstauss@dnr.state.md.us">mstauss@dnr.state.md.us</a>               |
| Linda Puffendbarger | MD SHA -District 6 | <a href="mailto:lzerbee@sha.state.md.us">lzerbee@sha.state.md.us</a>               |
| Stephen A. Bucy     | MD SHA-District 6  | <a href="mailto:sbucy@sha.state.md.us">sbucy@sha.state.md.us</a>                   |
| Joe Kresslein       | MD SHA-EPLD        | <a href="mailto:jkresslein@sha.state.md.us">jkresslein@sha.state.md.us</a>         |
| Danielle Black      | MD SHA-PMD         | <a href="mailto:dblack@sha.state.md.us">dblack@sha.state.md.us</a>                 |
| Brandon Scott       | MD SHA-PMD         | <a href="mailto:bscott@sha.state.md.us">bscott@sha.state.md.us</a>                 |
| Tim Tamburrino      | MHT                | <a href="mailto:ttamburrino@mdp.state.md.us">ttamburrino@mdp.state.md.us</a>       |
| Beth Cole           | MHT                | <a href="mailto:bcole@mdp.state.md.us">bcole@mdp.state.md.us</a>                   |
| Joe Romano          | Skelly and Loy     | <a href="mailto:Jromano@skellyloy.com">Jromano@skellyloy.com</a>                   |
| Alaina MCurdy       | US EPA             | <a href="mailto:mccurdy.alaina@epa.gov">mccurdy.alaina@epa.gov</a>                 |
| Barbara Rudnick     | US EPA             | <a href="mailto:rudnick.barbara@epa.gov">rudnick.barbara@epa.gov</a>               |
| Sarah Workman       | USACE-Huntington   | <a href="mailto:sarah.m.workman@usace.army.mil">sarah.m.workman@usace.army.mil</a> |
| Pam Denmon          | USFWS              | <a href="mailto:pamela_denmon@fws.gov">pamela_denmon@fws.gov</a>                   |
| Liz Stout           | USFWS - WV         | <a href="mailto:eliabeth_stout@fws.gov">eliabeth_stout@fws.gov</a>                 |
| Devin Ray           | USFWS-MD           | <a href="mailto:devin_ray@fws.gov">devin_ray@fws.gov</a>                           |
| Raymond Li          | USFWS-MD           | <a href="mailto:ray_li@fws.gov">ray_li@fws.gov</a>                                 |
| John Schmidt        | USFWS-WV           | <a href="mailto:john_schmidt@fws.gov">john_schmidt@fws.gov</a>                     |
| Anne Wakeford       | WV DNR             | <a href="mailto:anne.m.wakeford@wv.gov">anne.m.wakeford@wv.gov</a>                 |
| Lovell Facemire     | WVDOH              | <a href="mailto:lovell.r.facemire@wv.gov">lovell.r.facemire@wv.gov</a>             |
| Ben Hark            | WVDOH              | <a href="mailto:ben.l.hark@wv.gov">ben.l.hark@wv.gov</a>                           |

1. Jason Workman, FHWA, welcomed everyone to the meeting. Following introductions by all those present, Jason asked representatives from the two State transportation agencies to make a few opening remarks.
2. Ben Hark, WVDOH, noted that over the next several weeks, the WVDOH would like to conclude Tier One with one preferred corridor, Corridor B. To accomplish that, the current schedule suggests distribution of the Final Environmental Impact Statement (FEIS) in early Spring 2014 with issuance of a Record of Decision (ROD) later in the

Spring. Ben noted, however, that West Virginia has no money programmed in the Statewide Transportation Improvement Program for Tier Two studies.

3. Danielle Black, MD SHA, indicated that the US 220 project is an important project for western Maryland and that MD SHA would like to move into Tier Two studies for a portion of Corridor B as soon as possible after a ROD for Tier One is issued. Danielle also noted that MD SHA has \$5 million programmed in its transportation budget for continuing Tier Two studies from I-68 to Cresaptown, MD along US 220 and MD 53. That portion of the project would have operationally independent utility. MD SHA has started some preliminary traffic analysis within this section of the project, but cannot do more until Tier Two begins.
4. Joe Romano, Skelly and Loy, Inc., gave a brief history of the project from its conception in 2001 as part of the North/South Appalachian Corridor Feasibility Study in 2001, development of a Memorandum of Understanding between Maryland and West Virginia (2004), public and agency scoping (2006), preliminary analysis and screening of five 4,000-foot corridors, analysis of three corridors retained for further study, development and distribution of a Pre-Draft Draft Environmental Impact Statement (DEIS) (2010) and DEIS (2011), informational workshops and public meetings (2006, 2007, and 2011), and a public hearing (2011).
5. Joe Romano also noted that the purpose of the project was to develop an improved transportation corridor between I-68 in Maryland to Corridor H in West Virginia. Project need includes correction of geometric deficiencies on US 220 and other area roadways that limit regional mobility, improved roadway capacity, reduced safety deficiencies, supportive of economic development, and adding system linkage to complete the regional road network.
6. Jason Workman noted that there have been considerable coordination efforts on the project, including interagency coordination meetings, public scoping meetings, and field views, meetings with local planning and economic development agencies, review opportunities for the resource agencies of draft versions of the EIS documents for early comment, and a video conference to address agency concerns. Although coordination between the two states will continue during Tier Two, the two states will move forward on different schedules and separate operationally independent projects within the corridor could be advanced with the appropriate level of environmental documentation. Several alternatives would be developed and traditional NEPA level analysis conducted for any of these Tier Two studies.
7. Joe Romano and Lovell Facemire, WVDOH, presented the crossover analysis that was requested by EPA and other Maryland resource agencies. Essentially, two crossover corridors were analyzed. The first would cross from Corridor B south of Cresaptown to Corridor C in the vicinity of Short Gap and continue south to Corridor H. The second would also cross from Corridor B to Corridor C in the same area, but instead of continuing all the way to Corridor C, it would cross back to Corridor B to the south of Keyser and continue from there to Corridor H.

Joe and Lovell noted that while either of these corridors would eliminate impacts to Dans Mountain, they could still possibly impact Pinto Marsh. They would also require considerably large cuts and earthwork that would have significant direct and indirect (due to the disposal of vast quantity of excess fill) impacts to the environmental resources of Knobley Mountain, including streams, wetlands, terrestrial habitat, land cover, and wildlife. Although no habitat analysis has been done on Knobley Mountain, it is considered to have habitat and wildlife similar to Dans Mountain. There is also the potential to impact the Knobley aquifer (the only location in Mineral County where groundwater-source public water supplies have been successfully developed). Based on public comments to date, the crossover corridors are also likely to generate considerable public controversy. After circulation of the DEIS, 235 people submitted comments opposed to Corridor C (the single largest category of any comment) and over 400 people attended a special meeting in Short Gap, specifically arranged by the community in opposition to any alignment in Corridor C. Over 1,400 people also signed a petition in opposition to Corridor C. Finally, the crossover corridors would provide less access to development areas in Keyser than Corridor B would.

8. Greg Golden, MDNR, noted that the information presented today on the crossover corridors was very informative. He also suggested that this information be documented, especially the potential direct impact of crossing Knobley Mountain, the potential secondary impact of construction waste sites, and the ecological value of Knobley Mountain.
9. Barbara Rudnick, EPA, indicated that there are considerable resources that could be impacted by Corridor B, including significant resources like Dans Mountain and Pinto Marsh, among others. As a result, EPA requested that more than one corridor be carried into Tier Two. She also noted that if groundwater impacts are going to be used to eliminate any corridor, it would need to be analyzed for all corridors. Barb also said that she is not yet convinced a sufficient number of alignments can be developed within Corridor B during Tier Two to avoid resources. She also requested environmental commitments for follow-up items to be addressed in Tier Two studies reflected in the Tier One FEIS, rather than after Tier Two begins. She also suggested that more documentation is needed for the additional work conducted to analyze the crossover corridors.
10. Alaina McCurdy, EPA, noted that carrying a single corridor forward to Tier Two was problematic from an impact avoidance/minimization standpoint in having to reach a (Least Environmentally Damaging Preferred Corridor (LEDPC) decision. She also cautioned that all supporting information developed which was used in the decision-making process be thoroughly documented. She indicated that she had prepared an environmental resources map to help analyze the potential impact of Corridor B on Dans Mountain and other resources near it. Jason Workman indicated that the information was used in the crossover analysis and is included in report that was prepared in May 2013. Alaina indicated that the May 2013 comment/response matrix did not fully address all of EPA's concerns.

11. Jeff Follweiler, MDE, indicated via conference call, that he, Paul Wettlaufer, and a few others field viewed the area of Knobley Mountain that would be impacted by a crossover corridor and Paul indicated that he no longer feels a crossover corridor is a good option due to the challenges presented by the rough terrain.
12. Bihui Xu, MDP, requested via conference call, that information on Priority Funding Areas (PFAs) be updated in the Tier One EIS. Joe Romano will contact her after the meeting to assure the correct information will be reflected in the document.
13. Beth Cole, MHT, indicated that there is some discomfort in decision-making based on a lesser level of detail than is provided for a traditional NEPA study. She encouraged the sharing of more information, especially because Tier Two studies will require additional analysis and documentation to assess avoidance, minimization, and mitigation to sensitive resources within the corridor.
14. Greg Golden likened weaving a roadway through Corridor B to avoid resources to threading a needle and recommended that more than one corridor be carried into Tier Two. He indicated that he will need to elevate this project to a senior management within DNR to determine whether moving forward with a single corridor will be acceptable to them. MDNR would also like to see a commitment now to identify trout streams, investigate wildlife corridors/passages from Dans Mountain to the Potomac River, conduct a forest delineation, and identify the highest quality forest areas that could provide habitat for forest interior dwelling species (FIDS).  
  
Joe Kresslein indicated that MD SHA is willing to make those types of environmental commitments as part of the Tier One FEIS and ROD. Joe Kresslein also recommended sending out the meeting summary to the agencies to make sure we have captured all of their comments. This meeting summary would be included in the final document. It would also serve as a list of commitments as MD SHA moves into Tier Two.
15. Raymond Li, USFWS, also noted concern regarding brook trout and its habitat, especially the potential for stormwater run-off and thermal loading of streams.
16. Liz Stout, USFWS, noted that the Northern long-eared bat is likely to become a federally-listed species in the near future. As a result, she would like to see a commitment to conduct studies for it. She also noted that new methodologies for surveying bats are still being developed.
17. The meeting concluded with a discussion on how WVDOH and MD SHA should proceed to draw Tier One to a close and move into Tier Two. MD SHA, WVDOH and FHWA will have a conference call at a later date to discuss the process for concluding the FEIS.

## Romano, Joe

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**From:** McCurdy, Alaina <McCurdy.Alaina@epa.gov>  
**Sent:** Thursday, December 19, 2013 1:46 PM  
**To:** Hark, Ben L; Ginger.Mullins@usace.army.mil; Anderson, Roger J; AElrays@sha.state.md.us; elizabeth\_stout@fws.gov; JKresslein@sha.state.md.us; BScott@sha.state.md.us; BKiedrowski@sha.state.md.us; DEdmonds@sha.state.md.us; DAtkins@sha.state.md.us; Jeanette.Mar@dot.gov; Facemire, Lovell R; anna.price@dot.gov; bcole@mdp.state.md.us; ttamburrino@mdp.state.md.us; SHansen@mdp.state.md.us; BXu@mdp.state.md.us; Mary.A.Frazier@usace.army.mil; TRedman@dnr.state.md.us; GGOLDEN@dnr.state.md.us; smhurt@mccormicktaylor.com; john\_schmidt@fws.gov; Benedict, John A; Reip, Wilma; McClung, Lisa A; Jezioro, Frank J; Romano, Joe; alison.rogers@dot.gov; ray\_li@fws.gov; Pierce, Susan M; Jitesh.Parikh@dot.gov; Rudnick, Barbara; eghigiarelli@mde.state.md.us; DSparklin@sha.state.md.us; Bob\_Zepp@fws.gov; pwettlaufer@rkk.com; Sarah.M.Workman@usace.army.mil; Bennett, Danny A; JDuan@sha.state.md.us; DHayes2@sha.state.md.us; Susan.A.Porter@usace.army.mil; sbucy@sha.state.md.us; Pamela\_denmon@fws.gov; devin\_ray@fws.gov; mstauss@dnr.state.md.us; Wakeford, Anne M; dblack@sha.state.md.us; Jason.workman@dot.gov; lzerbee@sha.state.md.us  
**Subject:** RE: US 220 12/3/13 Coordination Meeting Minutes

Can you provide some clarification on this? It's not clear how you are planning to proceed and what decision was made regarding revisions to the draft FEIS. It was my understanding from our meeting that the group agreed to add some additional environmental commitments to the document. This was important as it would set up how things would be carried into Tier Two, especially important as MD SHA has funds to begin Tier Two. There was also interest from the agencies to have an opportunity to review the additional commitments to ensure that agency comments to date have been responded to. Your email only seems to reflect January submittal to FHWA. Please clarify.

Sincerely,

Alaina

-----  
Alaina McCurdy

Office of Environmental Programs

U.S. EPA Region 3

1650 Arch Street

Philadelphia, PA 19103

phone: (215)814-2741

fax: (215)814-2783

**From:** Hark, Ben L [<mailto:Ben.L.Hark@wv.gov>]

**Sent:** Thursday, December 12, 2013 12:46 PM

**To:** [Ginger.Mullins@usace.army.mil](mailto:Ginger.Mullins@usace.army.mil); Anderson, Roger J; [AElrays@sha.state.md.us](mailto:AElrays@sha.state.md.us); [elizabeth\\_stout@fws.gov](mailto:elizabeth_stout@fws.gov); [JKresslein@sha.state.md.us](mailto:JKresslein@sha.state.md.us); [BScott@sha.state.md.us](mailto:BScott@sha.state.md.us); [BKiedrowski@sha.state.md.us](mailto:BKiedrowski@sha.state.md.us); [DEdmonds@sha.state.md.us](mailto:DEdmonds@sha.state.md.us); [DAtkins@sha.state.md.us](mailto:DAtkins@sha.state.md.us); [Jeanette.Mar@dot.gov](mailto:Jeanette.Mar@dot.gov); Hark, Ben L; Facemire, Lovell R; [anna.price@dot.gov](mailto:anna.price@dot.gov); [bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us); [ttamburrino@mdp.state.md.us](mailto:ttamburrino@mdp.state.md.us); [SHansen@mdp.state.md.us](mailto:SHansen@mdp.state.md.us); [BXu@mdp.state.md.us](mailto:BXu@mdp.state.md.us); McCurdy, Alaina; [Mary.A.Frazier@usace.army.mil](mailto:Mary.A.Frazier@usace.army.mil); [TRedman@dnr.state.md.us](mailto:TRedman@dnr.state.md.us); [GGOLDEN@dnr.state.md.us](mailto:GGOLDEN@dnr.state.md.us); [smhurt@mccormicktaylor.com](mailto:smhurt@mccormicktaylor.com); [john\\_schmidt@fws.gov](mailto:john_schmidt@fws.gov); Benedict, John A; Reip, Wilma; McClung, Lisa A; Jezioro, Frank J; [jromano@skellyloy.com](mailto:jromano@skellyloy.com); [alison.rogers@dot.gov](mailto:alison.rogers@dot.gov); [ray\\_li@fws.gov](mailto:ray_li@fws.gov); Pierce, Susan M; [Jitesh.Parikh@dot.gov](mailto:Jitesh.Parikh@dot.gov); Rudnick, Barbara; [eghigiarelli@mde.state.md.us](mailto:eghigiarelli@mde.state.md.us); [DSparklin@sha.state.md.us](mailto:DSparklin@sha.state.md.us); [Bob\\_Zepp@fws.gov](mailto:Bob_Zepp@fws.gov); [pwettlaufer@rkk.com](mailto:pwettlaufer@rkk.com); [Sarah.M.Workman@usace.army.mil](mailto:Sarah.M.Workman@usace.army.mil); Bennett, Danny A; [JDuan@sha.state.md.us](mailto:JDuan@sha.state.md.us); [DHayes2@sha.state.md.us](mailto:DHayes2@sha.state.md.us); [Susan.A.Porter@usace.army.mil](mailto:Susan.A.Porter@usace.army.mil); [sbuycy@sha.state.md.us](mailto:sbuycy@sha.state.md.us); [Pamela\\_denmon@fws.gov](mailto:Pamela_denmon@fws.gov); [devin\\_ray@fws.gov](mailto:devin_ray@fws.gov); [mstauss@dnr.state.md.us](mailto:mstauss@dnr.state.md.us); Wakeford, Anne M; [dblack@sha.state.md.us](mailto:dblack@sha.state.md.us); [Jason.workman@dot.gov](mailto:Jason.workman@dot.gov); [lzerbee@sha.state.md.us](mailto:lzerbee@sha.state.md.us)

**Subject:** US 220 12/3/13 Coordination Meeting Minutes

Attached are notes from the US 220 Project meeting on Tuesday, December 3, 2013 at MDSHA's District Office in Cumberland, MD. Thank you all for participating in the discussions. Our consultant, Skelly & Loy is expected to have the revised US 220 Tier One Final EIS completed by the end of January 2014 at which time we will submit the document to the WV FHWA Division for approval.

Ben Hark

Environmental Section Head

Engineering Division

WV Division Of Highways

Charleston, WV

[Ben.L.Hark@WV.gov](mailto:Ben.L.Hark@WV.gov)

304-558-9670

**Romano, Joe**

---

**From:** Hark, Ben L <Ben.L.Hark@wv.gov>  
**Sent:** Monday, December 23, 2013 2:20 PM  
**To:** Romano, Joe  
**Subject:** FW: US 220 Agency Materials

**From:** Bihui Xu -MDP- [<mailto:bihui.xu@maryland.gov>]  
**Sent:** Monday, December 23, 2013 12:18 PM  
**To:** Hark, Ben L  
**Cc:** Scott Hansen -MDP-  
**Subject:** Re: US 220 Agency Materials

Ben,

MDP reviewed both attachments and found no additional comments. Thanks.

Bihui

Bihui Xu

Manager, Transportation Planning

Maryland Department of Planning

301 W. Preston Street

Baltimore, MD 21201

410-767-4567

[bihui.xu@maryland.gov](mailto:bihui.xu@maryland.gov)

On Fri, Dec 20, 2013 at 9:58 AM, Hark, Ben L <[Ben.L.Hark@wv.gov](mailto:Ben.L.Hark@wv.gov)> wrote:

Attached are revised minutes that incorporates MDSHAs edits from our December 3, 2013 agency meeting in Cumberland, MD. Also attached is a list of Tier Two commitments that will be in the Tier One Final EIS. Please provide me with any comments on either list by Friday January 10, 2014 in order to be addressed in the Final EIS expected to be submitted to FHWA for approval by the end of January, 2014.

Ben L Hark

Environmental Section Head

Engineering Division

WV Division Of Highways

Charleston, WV

[Ben.L.Hark@wv.gov](mailto:Ben.L.Hark@wv.gov)

[304-558-9670](tel:304-558-9670)

## Romano, Joe

---

**From:** Stauss, Martha <mstauss@dnr.state.md.us>  
**Sent:** Thursday, January 09, 2014 4:29 PM  
**To:** Hark, Ben L; Ginger.Mullins@usace.army.mil; Anderson, Roger J; AElrays@sha.state.md.us; elizabeth\_stout@fws.gov; JKresslein@sha.state.md.us; BScott@sha.state.md.us; BKiedrowski@sha.state.md.us; DEdmonds@sha.state.md.us; DAtkins@sha.state.md.us; Jeanette.Mar@dot.gov; Facemire, Lovell R; anna.price@dot.gov; bcole@mdp.state.md.us; ttamburrino@mdp.state.md.us; SHansen@mdp.state.md.us; BXu@mdp.state.md.us; Mary.A.Frazier@usace.army.mil; Redman, Tony; Golden, Greg; smhurt@mccormicktaylor.com; john\_schmidt@fws.gov; Benedict, John A; Reip, Wilma; McClung, Lisa A; Jezioro, Frank J; Romano, Joe; alison.rogers@dot.gov; ray\_li@fws.gov; Pierce, Susan M; Jitesh.Parihh@dot.gov; eghigiarelli@mde.state.md.us; DSparklin@sha.state.md.us; Bob\_Zepp@fws.gov; pwettlaufer@rkk.com; Sarah.M.Workman@usace.army.mil; Bennett, Danny A; JDuan@sha.state.md.us; DHayes2@sha.state.md.us; Susan.A.Porter@usace.army.mil; sbucy@sha.state.md.us; Pamela\_denmon@fws.gov; devin\_ray@fws.gov; Wakeford, Anne M; dblack@sha.state.md.us; Jason.workman@dot.gov; lzerbee@sha.state.md.us; McCurdy.Alaina@epa.gov  
**Subject:** RE: US 220 Agency Materials

Thanks Ben,

The methodologies and commitments document adequately addresses the MD DNR concerns about this project. In the 'changes to the preliminary FEIS' document, we would like to incorporate the statement Joe Kresslein made at the Agency Coordination Meeting in December (bullet #14). Specifically FEIS page 2-2, paragraph 2 should be inserted:

The preferred Tier Two corridor may be expanded in width to allow the development of more alignments, and/or avoidance and mitigation strategies. The MD SHA is willing to work closely with MD DNR in order to develop avoidance strategies or corridor crossings for sensitive species due to the sensitive nature of the preferred corridor.

Thank you for the opportunity to comment. We look forward to further coordination with MD SHA to study these sensitive resources and possible avoidance measures.

Martha Stauss, PE, PWS

MD DNR

Project Review Division

Integrated Policy and Review Unit

SHA Liaison

Tawes State Office Building

580 Taylor Avenue

Annapolis, Maryland 21401

[mstauss@dnr.state.md.us](mailto:mstauss@dnr.state.md.us)

240-278-5729

---

**From:** Hark, Ben L [<mailto:Ben.L.Hark@wv.gov>]

**Sent:** Friday, December 20, 2013 9:59 AM

**To:** [Ginger.Mullins@usace.army.mil](mailto:Ginger.Mullins@usace.army.mil); Anderson, Roger J; [AElrays@sha.state.md.us](mailto:AElrays@sha.state.md.us); [elizabeth\\_stout@fws.gov](mailto:elizabeth_stout@fws.gov); [JKresslein@sha.state.md.us](mailto:JKresslein@sha.state.md.us); [BScott@sha.state.md.us](mailto:BScott@sha.state.md.us); [BKiedrowski@sha.state.md.us](mailto:BKiedrowski@sha.state.md.us); [DEdmonds@sha.state.md.us](mailto:DEdmonds@sha.state.md.us); [DAtkins@sha.state.md.us](mailto:DAtkins@sha.state.md.us); [Jeanette.Mar@dot.gov](mailto:Jeanette.Mar@dot.gov); Facemire, Lovell R; [anna.price@dot.gov](mailto:anna.price@dot.gov); [bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us); [ttamburrino@mdp.state.md.us](mailto:ttamburrino@mdp.state.md.us); [SHansen@mdp.state.md.us](mailto:SHansen@mdp.state.md.us); [BXu@mdp.state.md.us](mailto:BXu@mdp.state.md.us); [Mary.A.Frazier@usace.army.mil](mailto:Mary.A.Frazier@usace.army.mil); Redman, Tony; Golden, Greg; [smhurt@mccormicktaylor.com](mailto:smhurt@mccormicktaylor.com); [john\\_schmidt@fws.gov](mailto:john_schmidt@fws.gov); Benedict, John A; Reip, Wilma; McClung, Lisa A; Jezioro, Frank J; [jromano@skellyloy.com](mailto:jromano@skellyloy.com); [alison.rogers@dot.gov](mailto:alison.rogers@dot.gov); [ray\\_li@fws.gov](mailto:ray_li@fws.gov); Pierce, Susan M; [Jitesh.Parikh@dot.gov](mailto:Jitesh.Parikh@dot.gov); [eghiqiarelli@mde.state.md.us](mailto:eghiqiarelli@mde.state.md.us); [DSparklin@sha.state.md.us](mailto:DSparklin@sha.state.md.us); [Bob\\_Zepp@fws.gov](mailto:Bob_Zepp@fws.gov); [pwettlaufer@rkk.com](mailto:pwettlaufer@rkk.com); [Sarah.M.Workman@usace.army.mil](mailto:Sarah.M.Workman@usace.army.mil); Bennett, Danny A; [JDuan@sha.state.md.us](mailto:JDuan@sha.state.md.us); [DHayes2@sha.state.md.us](mailto:DHayes2@sha.state.md.us); [Susan.A.Porter@usace.army.mil](mailto:Susan.A.Porter@usace.army.mil); [sbucy@sha.state.md.us](mailto:sbucy@sha.state.md.us); [Pamela\\_denmon@fws.gov](mailto:Pamela_denmon@fws.gov); [devin\\_ray@fws.gov](mailto:devin_ray@fws.gov); Stauss, Martha; Wakeford, Anne M; [dblack@sha.state.md.us](mailto:dblack@sha.state.md.us); [Jason.workman@dot.gov](mailto:Jason.workman@dot.gov); [lzerbee@sha.state.md.us](mailto:lzerbee@sha.state.md.us); [McCurdy.Alaina@epa.gov](mailto:McCurdy.Alaina@epa.gov)

**Subject:** US 220 Agency Materials

Attached are revised minutes that incorporates MDSHA's edits from our December 3, 2013 agency meeting in Cumberland, MD. Also attached is a list of Tier Two commitments that will be in the Tier One Final EIS. Please provide me with any comments on either list by Friday January 10, 2014 in order to be addressed in the Final EIS expected to be submitted to FHWA for approval by the end of January, 2014.

Ben L Hark

Environmental Section Head

Engineering Division

WV Division Of Highways

Charleston, WV

[Ben.L.Hark@wv.gov](mailto:Ben.L.Hark@wv.gov)

304-558-9670

**Romano, Joe**

---

**From:** Hark, Ben L <Ben.L.Hark@wv.gov>  
**Sent:** Friday, January 10, 2014 12:43 PM  
**To:** Romano, Joe  
**Subject:** FW: US 220 Agency Materials

**From:** Pierce, Susan M  
**Sent:** Friday, January 10, 2014 11:35 AM  
**To:** Hark, Ben L  
**Subject:** RE: US 220 Agency Materials

Dear Ben,

The summary of previous cultural resource efforts and the proposed future efforts to insure compliance with the Section 106 review process appears to be complete. As you know, continued consultation with our office is necessary.

Susan

Susan M. Pierce

Deputy State Historic Preservation Officer

WV Division of Culture and History

1900 Kanawha Boulevard East

Charleston, WV 25305

(304) 558-0240 ext. 158

**From:** Hark, Ben L

**Sent:** Friday, December 20, 2013 9:59 AM

**To:** [Ginger.Mullins@usace.army.mil](mailto:Ginger.Mullins@usace.army.mil); Anderson, Roger J; [AElrays@sha.state.md.us](mailto:AElrays@sha.state.md.us); [elizabeth\\_stout@fws.gov](mailto:elizabeth_stout@fws.gov); [JKresslein@sha.state.md.us](mailto:JKresslein@sha.state.md.us); [BScott@sha.state.md.us](mailto:BScott@sha.state.md.us); [BKiedrowski@sha.state.md.us](mailto:BKiedrowski@sha.state.md.us); [DEdmonds@sha.state.md.us](mailto:DEdmonds@sha.state.md.us); [DAtkins@sha.state.md.us](mailto:DAtkins@sha.state.md.us); [Jeanette.Mar@dot.gov](mailto:Jeanette.Mar@dot.gov); Facemire, Lovell R; [anna.price@dot.gov](mailto:anna.price@dot.gov); [bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us); [ttamburrino@mdp.state.md.us](mailto:ttamburrino@mdp.state.md.us); [SHansen@mdp.state.md.us](mailto:SHansen@mdp.state.md.us); [BXu@mdp.state.md.us](mailto:BXu@mdp.state.md.us); [Mary.A.Frazier@usace.army.mil](mailto:Mary.A.Frazier@usace.army.mil); [TRedman@dnr.state.md.us](mailto:TRedman@dnr.state.md.us); [GGOLDEN@dnr.state.md.us](mailto:GGOLDEN@dnr.state.md.us); [smhurt@mccormicktaylor.com](mailto:smhurt@mccormicktaylor.com); [john\\_schmidt@fws.gov](mailto:john_schmidt@fws.gov); Benedict, John A; Reip, Wilma; McClung, Lisa A; Jezioro, Frank J; [jromano@skellyloy.com](mailto:jromano@skellyloy.com); [alison.rogers@dot.gov](mailto:alison.rogers@dot.gov); [ray\\_li@fws.gov](mailto:ray_li@fws.gov); Pierce, Susan M; [Jitesh.Parikh@dot.gov](mailto:Jitesh.Parikh@dot.gov); [eghigiarelli@mde.state.md.us](mailto:eghigiarelli@mde.state.md.us); [DSparklin@sha.state.md.us](mailto:DSparklin@sha.state.md.us); [Bob\\_Zepp@fws.gov](mailto:Bob_Zepp@fws.gov); [pwettlaufer@rkk.com](mailto:pwettlaufer@rkk.com); [Sarah.M.Workman@usace.army.mil](mailto:Sarah.M.Workman@usace.army.mil); Bennett, Danny A; [JDuan@sha.state.md.us](mailto:JDuan@sha.state.md.us); [DHayes2@sha.state.md.us](mailto:DHayes2@sha.state.md.us); [Susan.A.Porter@usace.army.mil](mailto:Susan.A.Porter@usace.army.mil); [sbucy@sha.state.md.us](mailto:sbucy@sha.state.md.us); [Pamela\\_denmon@fws.gov](mailto:Pamela_denmon@fws.gov); [devin\\_ray@fws.gov](mailto:devin_ray@fws.gov); [mstauss@dnr.state.md.us](mailto:mstauss@dnr.state.md.us); Wakeford, Anne M; [dblack@sha.state.md.us](mailto:dblack@sha.state.md.us); [Jason.workman@dot.gov](mailto:Jason.workman@dot.gov); [lzerbee@sha.state.md.us](mailto:lzerbee@sha.state.md.us); [McCurdy.Alaina@epa.gov](mailto:McCurdy.Alaina@epa.gov)

**Subject:** US 220 Agency Materials

Attached are revised minutes that incorporates MDSHAs edits from our December 3, 2013 agency meeting in Cumberland, MD. Also attached is a list of Tier Two commitments that will be in the Tier One Final EIS. Please provide me with any comments on either list by Friday January 10, 2014 in order to be addressed in the Final EIS expected to be submitted to FHWA for approval by the end of January, 2014.

Ben L Hark

Environmental Section Head

Engineering Division

WV Division Of Highways

Charleston, WV

[Ben.L.Hark@wv.gov](mailto:Ben.L.Hark@wv.gov)

304-558-9670

## Romano, Joe

---

**From:** Hark, Ben L <Ben.L.Hark@wv.gov>  
**Sent:** Friday, January 10, 2014 11:33 AM  
**To:** Romano, Joe  
**Subject:** FW: US 220 Agency Materials

Not sure if you got this.

**From:** Li, Ray [[mailto:ray\\_li@fws.gov](mailto:ray_li@fws.gov)]  
**Sent:** Friday, January 10, 2014 11:18 AM  
**To:** Hark, Ben L  
**Cc:** [ginger.mullins@usace.army.mil](mailto:ginger.mullins@usace.army.mil); Anderson, Roger J; Anne Elrays; Elizabeth Stout; Joseph Kresslein; [BScott@sha.state.md.us](mailto:BScott@sha.state.md.us); [BKiedrowski@sha.state.md.us](mailto:BKiedrowski@sha.state.md.us); [DEdmonds@sha.state.md.us](mailto:DEdmonds@sha.state.md.us); Dennis Atkins; [Jeanette.Mar@dot.gov](mailto:Jeanette.Mar@dot.gov); Facemire, Lovell R; [anna.price@dot.gov](mailto:anna.price@dot.gov); [bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us); [ttamburrino@mdp.state.md.us](mailto:ttamburrino@mdp.state.md.us); Scott Hansen; [BXu@mdp.state.md.us](mailto:BXu@mdp.state.md.us); Frazier, Mary A NAB; Redman, Tony; Greg Golden; Hurt, Steve; John Schmidt; Benedict, John A; Reip, Wilma; McClung, Lisa A; Jezioro, Frank J; [jromano@skellyloy.com](mailto:jromano@skellyloy.com); [alison.rogers@dot.gov](mailto:alison.rogers@dot.gov); Pierce, Susan M; [Jitesh.Parikh@dot.gov](mailto:Jitesh.Parikh@dot.gov); [eghigiarelli@mde.state.md.us](mailto:eghigiarelli@mde.state.md.us); [DSparklin@sha.state.md.us](mailto:DSparklin@sha.state.md.us); Bob Zepp; [pwettlaufer@rkk.com](mailto:pwettlaufer@rkk.com); [Sarah.M.Workman@usace.army.mil](mailto:Sarah.M.Workman@usace.army.mil); Bennett, Danny A; [JDuan@sha.state.md.us](mailto:JDuan@sha.state.md.us); [DHayes2@sha.state.md.us](mailto:DHayes2@sha.state.md.us); [Susan.A.Porter@usace.army.mil](mailto:Susan.A.Porter@usace.army.mil); [sbucy@sha.state.md.us](mailto:sbucy@sha.state.md.us); [Pamela denmon@fws.gov](mailto:Pamela_denmon@fws.gov); Devin Ray; [mstauss@dnr.state.md.us](mailto:mstauss@dnr.state.md.us); Wakeford, Anne M; [dblack@sha.state.md.us](mailto:dblack@sha.state.md.us); [Jason.workman@dot.gov](mailto:Jason.workman@dot.gov); [lzerbee@sha.state.md.us](mailto:lzerbee@sha.state.md.us); McCurdy, Alaina  
**Subject:** Re: US 220 Agency Materials

Ben -

We have reviewed the proposed changes (dated Dec 18, 2013) to the preliminary U.S. 220 Tier One Final EIS and table of Tier Two commitments (dated Dec 19, 2013), and have no further comment for Maryland portions of the project. Separate comments may be submitted for West Virginia portions of the project from the Service's West Virginia Field Office.

We look forward to continued coordination with the MD SHA within the preferred corridor, and beyond if needed to avoid and fully minimize resource impacts.

Thank you for the opportunity to provide comment on fish and wildlife resources.

Raymond Li

Biologist / Transportation Liaison

U.S. Fish and Wildlife Service

Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21401  
Phone: 410-573-4522

On Fri, Dec 20, 2013 at 9:58 AM, Hark, Ben L <[Ben.L.Hark@wv.gov](mailto:Ben.L.Hark@wv.gov)> wrote:

Attached are revised minutes that incorporates MDSHAs edits from our December 3, 2013 agency meeting in Cumberland, MD. Also attached is a list of Tier Two commitments that will be in the Tier One Final EIS. Please provide me with any comments on either list by Friday January 10, 2014 in order to be addressed in the Final EIS expected to be submitted to FHWA for approval by the end of January, 2014.

Ben L Hark

Environmental Section Head

Engineering Division

WV Division Of Highways

Charleston, WV

[Ben.L.Hark@wv.gov](mailto:Ben.L.Hark@wv.gov)

304-558-9670

## Rogers, Alison (FHWA)

---

**From:** McCurdy, Alaina <McCurdy.Alaina@epa.gov>  
**Sent:** Tuesday, January 14, 2014 3:26 PM  
**To:** Li, Ray; Hark, Ben L  
**Cc:** ginger.mullins@usace.army.mil; Anderson, Roger J; Anne Elrays; Elizabeth Stout; Joseph Kresslein; BScott@sha.state.md.us; BKiedrowski@sha.state.md.us; DEdmonds@sha.state.md.us; Dennis Atkins; Mar, Jeanette (FHWA); Facemire, Lovell R; Price, Anna (FHWA); bcole@mdp.state.md.us; ttamburrino@mdp.state.md.us; Scott Hansen; BXu@mdp.state.md.us; Frazier, Mary A NAB; Redman, Tony; Greg Golden; Hurt, Steve; John Schmidt; Benedict, John A; Reip, Wilma; McClung, Lisa A; Jezioro, Frank J; jromano@skellyloy.com; Rogers, Alison (FHWA); Pierce, Susan M; Parikh, Jitesh (FHWA); eghigiarelli@mde.state.md.us; DSparklin@sha.state.md.us; Bob Zepp; pwettlaufer@rkk.com; Sarah.M.Workman@usace.army.mil; Bennett, Danny A; JDuan@sha.state.md.us; DHayes2@sha.state.md.us; Susan.A.Porter@usace.army.mil; sbucy@sha.state.md.us; Pamela\_denmon@fws.gov; Devin Ray; mstauss@dnr.state.md.us; Wakeford, Anne M; dblack@sha.state.md.us; Workman, Jason (FHWA); lzerbee@sha.state.md.us  
**Subject:** RE: US 220 Agency Materials

Hello US 220 Team,

EPA has reviewed the revised materials and environmental commitments. We feel the environmental commitments would be strengthened by adding additional detail to the current language, particularly for agency coordination moving forward beyond Tier 1 and regarding the level of NEPA documentation anticipated in future study. We understand that FHWA thinks this current language is adequate. EPA can provide examples of more detailed language that might be appropriate for inclusion in FHWA's decision document. Information about anticipated level of study, and hence the level of public and agency involvement and input, for future NEPA is important. Based on the agency and public comments received on the Tier 1 study, EPA encourages FHWA to consider a higher level of agency and public involvement than may be typical, regardless of the level of study ultimately selected, including Categorical Exclusions. This may be particularly important to memorialize in either the FEIS or the decision document in WV as there are currently no identified funds to move into Tier 2 and it is uncertain when coordination will resume. We recommend a commitment to re-engage the resource agencies at the outset of a new segment or breakout project, regardless of the anticipated level of NEPA evaluation. It may also be beneficial to update agencies while the corridor's logical termini are being determined or operationally independent segments are being identified. Consider adding that for Maryland portions of the corridor, MDSHA will use the Maryland's Programmatic Agreement for Streamlining the Environmental and Regulatory Process. EPA also suggests adding a bullet noting that Tier 2 will consider requesting relevant state and federal resource agencies to be either participating agencies or cooperating agencies. We also suggest clarifying that future cumulative impact assessment will include other segments and breakouts of the Tier 1 US 220 study, including segments being considered under a categorical exclusion. The aquatic resource commitments should also include that ephemeral channels will be included in the Tier 2 study, as EPA had commented in our comments on the DEIS that these types of channels were not included in the Tier 1 study.

Thank you for your continued consideration of EPA comments.

Sincerely,

Alaina

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**From:** Li, Ray <[ray\\_li@fws.gov](mailto:ray_li@fws.gov)>

**Sent:** Friday, January 10, 2014 11:18 AM

**To:** Hark, Ben L

**Cc:** [ginger.mullins@usace.army.mil](mailto:ginger.mullins@usace.army.mil); Anderson, Roger J; Anne Elrays; Elizabeth Stout; Joseph Kresslein; [BScott@sha.state.md.us](mailto:BScott@sha.state.md.us); [BKiedrowski@sha.state.md.us](mailto:BKiedrowski@sha.state.md.us); [DEdmonds@sha.state.md.us](mailto:DEdmonds@sha.state.md.us); Dennis Atkins; [Jeanette.Mar@dot.gov](mailto:Jeanette.Mar@dot.gov); Facemire, Lovell R; [anna.price@dot.gov](mailto:anna.price@dot.gov); [bcole@mdp.state.md.us](mailto:bcole@mdp.state.md.us); [ttamburrino@mdp.state.md.us](mailto:ttamburrino@mdp.state.md.us); Scott Hansen; [BXu@mdp.state.md.us](mailto:BXu@mdp.state.md.us); Frazier, Mary A NAB; Redman, Tony; Greg Golden; Hurt, Steve; John Schmidt; Benedict, John A; Reip, Wilma; McClung, Lisa A; Jezioro, Frank J; [jromano@skellyloy.com](mailto:jromano@skellyloy.com); [alison.rogers@dot.gov](mailto:alison.rogers@dot.gov); Pierce, Susan M; [Jitesh.Parikh@dot.gov](mailto:Jitesh.Parikh@dot.gov); [eghigiarelli@mde.state.md.us](mailto:eghigiarelli@mde.state.md.us); [DSparklin@sha.state.md.us](mailto:DSparklin@sha.state.md.us); Bob Zepp; [pwettlaufer@rkk.com](mailto:pwettlaufer@rkk.com); [Sarah.M.Workman@usace.army.mil](mailto:Sarah.M.Workman@usace.army.mil); Bennett, Danny A; [JDuan@sha.state.md.us](mailto:JDuan@sha.state.md.us); [DHayes2@sha.state.md.us](mailto:DHayes2@sha.state.md.us); [Susan.A.Porter@usace.army.mil](mailto:Susan.A.Porter@usace.army.mil); [sbucy@sha.state.md.us](mailto:sbucy@sha.state.md.us); [Pamela\\_denmon@fws.gov](mailto:Pamela_denmon@fws.gov); Devin Ray; [mstaus@dnr.state.md.us](mailto:mstaus@dnr.state.md.us); Wakeford, Anne M; [dblack@sha.state.md.us](mailto:dblack@sha.state.md.us); [Jason.workman@dot.gov](mailto:Jason.workman@dot.gov); [lzerbee@sha.state.md.us](mailto:lzerbee@sha.state.md.us); McCurdy, Alaina

**Subject:** Re: US 220 Agency Materials

Ben -

We have reviewed the proposed changes (dated Dec 18, 2013) to the preliminary U.S. 220 Tier One Final EIS and table of Tier Two commitments (dated Dec 19, 2013), and have no further comment for Maryland portions of the project. Separate comments may be submitted for West Virginia portions of the project from the Service's West Virginia Field Office.

We look forward to continued coordination with the MD SHA within the preferred corridor, and beyond if needed to avoid and fully minimize resource impacts.

Thank you for the opportunity to provide comment on fish and wildlife resources.

Raymond Li

Biologist / Transportation Liaison

U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21401  
Phone: 410-573-4522

On Fri, Dec 20, 2013 at 9:58 AM, Hark, Ben L <[Ben.L.Hark@wv.gov](mailto:Ben.L.Hark@wv.gov)> wrote:

Attached are revised minutes that incorporates MDSHAs edits from our December 3, 2013 agency meeting in Cumberland, MD. Also attached is a list of Tier Two commitments that will be in the Tier One Final EIS. Please provide me with any comments on either list by Friday January 10, 2014 in order to be addressed in the Final EIS expected to be submitted to FHWA for approval by the end of January, 2014.

Ben L Hark

Environmental Section Head

Engineering Division

WV Division Of Highways

Charleston, WV

[Ben.L.Hark@wv.gov](mailto:Ben.L.Hark@wv.gov)

304-558-9670

## Romano, Joe

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**From:** McCurdy, Alaina <McCurdy.Alaina@epa.gov>  
**Sent:** Thursday, January 16, 2014 3:22 PM  
**To:** Anne Elrays; Rudnick, Barbara  
**Cc:** 'Ben.L.Hark@wv.gov'; Romano, Joe; Joseph Kresslein; Dennis Atkins  
**Subject:** RE: updated Preface to address Alaina's comments

Anne,

Thank you for adding language about using the MD Streamlined process and considering appropriate cooperating and participating agencies. I believe those additions address my comments. The addition the language including ephemeral streams addresses my comment. Thank you for making additions to the cumulative impact descriptions for Tier 2. The current language is a big improvement, especially bullet four. I would further suggest that the third bullet, which currently reads "Cumulative impact assessment will include impact information about prior Tier Two breakout projects", be revised to read "...will include past, present and reasonably foreseeable Tier Two breakout projects." I suggest this revision as the cumulative impact assessment should not be limited to prior/past actions from Tier Two break out projects, but also include present and reasonably foreseeable actions.

Bullet #4 in the public and agency involvement Tier Two commitments may want to be expanded to read: provide regular resource coordination meetings to give project updates, and solicit discussion, analysis and development of aspects of the project. Propose revising bullet #2 to read: develop updated proactive and collaborative agency coordination plan. I further suggest additional bullets in the public and agency involvement Tier Two commitments; my suggestions are below.

- Provide updates on project breakouts and anticipated level of NEPA studies
- Will continue to coordinate with and present information to public and agencies for all levels of NEPA study, including Categorical Exclusion Evaluations.
- Notify agencies early in Tier Two process, including break out projects of Tier 2.
- Will share Tier 2 or Tier 2 break out CEE's, EA's and EIS's with agencies.
- Will address Agency remaining comments provided on Tier 1 that were noted to as being addressed in Tier Two.

We greatly appreciate SHA's and DOH's consideration of these additions in order to better address EPA's comments. Please keep EPA informed as to whether the circulated changes, and those proposed above, will be included in the Final EIS.

Thanks,

Alaina

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Alaina McCurdy

Office of Environmental Programs

U.S. EPA Region 3

1650 Arch Street

Philadelphia, PA 19103

phone: (215)814-2741

fax: (215)814-2783

**From:** Anne Elrays [<mailto:AElrays@sha.state.md.us>]

**Sent:** Thursday, January 16, 2014 11:02 AM

**To:** Rudnick, Barbara; McCurdy, Alaina

**Cc:** Anne Elrays; 'Ben.L.Hark@wv.gov'; 'jromano@skellyloy.com'

**Subject:** FW: updated Preface to address Alaina's comments

Hi Alaina (and Barb). I just sent a revised US 220 Preface to address EPA comments submitted on 1/14/14 to the agencies. We are seeking your input by COB today. We want to submit the revised Preface with your blessing to WVA by tomorrow.

Thank you!

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### Guide to US 220 DEIS/FEIS Responses to Comments

Comment letters from the federal, state, and local agencies on the DEIS are found in Appendix D of the FEIS. Complete responses to those agency comments are found within Chapter 7 of the FEIS, specifically Section 7.6.1 and 7.6.2. In some cases, the response to comments required additional analysis and text to be included in the FEIS. Table 1 summarizes the agency comments and responses to assist with a review of the changes FEIS and serves as a guide for reviewing specific comments and responses. Table 2 serves as a guide to changes made after the Preliminary FEIS was distributed to the resource agencies.

**TABLE 1**  
**Changes from the Circulated DEIS to the Preliminary (Agency Review) FEIS**

| Agency<br>(Date)                              | Comment | Summary of Comment  | Response/Outcome  | Initial<br>Document<br>Location          |
|---|---------|---|---|--|
| ACHP<br>(9/13/11)                             | 1       | Coordinate Section 106 process with NEPA compliance by notifying SHPO and/or Tribal Historic Preservation Officer, Indian tribes, and other consulting parties. | The Executive Summary indicates who was invited to be a cooperating/participating agency, one of which was the Delaware Nation. Appendix B includes the Delaware Nation response to the invitation and also shows other cultural resource agency coordination. Appendix E lists all the agencies invited to be cooperating/participating agencies. Commitments for Tier Two are established in the Preface in The Tier One and Tier Two Study Methodologies and Commitments table. Section 4.2 of the FEIS describes all cultural resources activities, including consultation with the MD and WV SHPOs, that occurred during Tier One. | ES-1, P-7, 4-38, Appendix B, Appendix E. |
| USACE,<br>Baltimore<br>(3/28/11;<br>10/26/11) | 2       | Discuss opportunity for avoidance and minimization of impacts within each corridor.   | Mitigation strategies, including avoidance and minimization activities, have been deferred until Tier Two and the development of actual alternative alignments. Commitments for Tier Two are briefly noted in the Executive Summary, but established in detail in the Preface in The Tier One and Tier Two Study Methodologies and Commitments table. Permit requirements are also discussed in Permits section of Preface.   | ES-17, P-5.                              |

| Agency<br>(Date)                   | Comment | Summary of Comment   | Response/Outcome   | Initial<br>Document<br>Location  |
|------------------------------------|---------|--|--|----------------------------------|
|                                    | 3       | Impacts to Dans Mountain should be avoided and minimized, not all of the streams on the eastern slope of Dans Mountain have been assessed for brook trout habitat. | Section 2.8.3 and Appendix G (the crossover corridor analysis) contains additional discussion of Dans Mountain avoidance strategies. The aquatic resources section of the Preface's Tier One/Tier Two table contains a full list of environmental commitments, including a commitment to assess brook trout populations within the Dans Mountain WMA. Besides being significant environmental resources, Dans Mountain WMA and Dans Mountain State Park are also Section 4(f) resources. Any impacts to them will also require a complete Section 4(f) evaluation. Section 4(f) requires an analysis of avoidance, minimization, and mitigation for any potential impacts. A preliminary discussion of Section 4(f) resources is found in Chapter 5.0. | P-7, 2-32, 5-1, 6-1, Appendix G. |
|                                    | 4       | A Potomac River Crossing has not been addressed.   | Specific commitments to do this are found in the Preface under the Tier One/Tier Two table and under the Unresolved Issues section.  | P-4, P-7, P-8, P-15.             |
|                                    | 5       | A joint federal/state permit is required for activities that impact Waters of the U.S.   | A permit application will be prepared at the conclusion of Tier Two.   | P-14.                            |
|                                    | 6       | A discussion of mitigation for unavoidable adverse impacts to Waters of the U.S. should be included.   | The aquatic resources section of the Preface's Tier One/Tier Two table contains a full list of environmental commitments for aquatic resources, including impacts to Waters of the U.S. Mitigation will be addressed during Tier Two and in any related permits.   | P-4, P-7, P-8, P-14, P-15.       |
| USACE,<br>Huntington<br>(11/22/11) | 7       | A jurisdictional determination is required before a permit application can be processed.   | Coordination with USACE will continue during Tier Two. Once potential alignments are developed, an aquatic resources report will be prepared and distributed. A jurisdictional determination for Waters of the U.S. will occur after the aquatic resources report is prepared, but prior to the preparation of a joint permit application.   | P-7, P14.                        |
|                                    | 8       | WVDOH and FHWA should continue to  | Alternative corridors were studied and evaluated during Tier   | P-5, 2-4, 2-                     |

| Agency<br>(Date)    | Comment | Summary of Comment  | Response/Outcome   | Initial Document Location                         |
|---------------------|---------|---|--|---|
|                     |         | narrow the Tier One evaluation, especially as it pertains to aquatic resources.                           | One while actual alternatives will be developed and refined during Tier Two. Avoidance, minimization, and mitigation strategies will also be developed in accordance with federal and state laws, regulations, and guidelines. The aquatic resources section of the Preface's Tier One/Tier Two table contains a full list of environmental commitments for aquatic resources. Also, five corridors were initially studied. These were narrowed to three. After three corridors were evaluated, a crossover corridor was examined, which resulted in selection of one corridor to be carried into Tier Two. During Tier Two, a full range of actual alternatives will be investigated. If necessary, the preferred corridor will be expanded in width to allow for additional avoidance r minimization of impacts. | 11, 2-30, 2-40, 6-1, 6-5, Appendix G.             |
| USEPA<br>(10/28/11) | 9       | USEPA recommends that multiple corridors, as well as the no-action alternative, be retained for Tier Two. | Corridor B has been recommended for carrying into Tier Two. During Tier Two, a full range of actual alternatives will be investigated. If necessary, the preferred corridor will be expanded in width to allow for additional avoidance r minimization of impacts.   | P-5, 2-4, 2-11, 2-30, 2-40, 6-1, 6-5, Appendix G. |
|                     | 10      | Potential alternatives in Tier Two could have an objectionable amount of environmental impact.            | Alternative corridors were studied and evaluated during Tier One while actual alternatives will be developed and refined during Tier Two. Avoidance, minimization, and mitigation strategies will also be developed in accordance with federal and state laws, regulations, and guidelines.  | P-5, 6-1, 6-5, Appendix G.                        |
|                     | 11      | USEPA is concerned about potential adverse impacts to aquatic resources.                                  | During Tier Two, the following studies will be undertaken on alternative alignments: identify and delineate sensitive aquatic habitat; assess eastern slope of Dans Mountain for brook trout populations; identify watershed boundaries; identify impacts in each watershed; conduct more detailed analysis of potential impacts to water quality and study area   | P-5, P-16.  |

| Agency<br>(Date) | Comment | Summary of Comment  | Response/Outcome   | Initial<br>Document<br>Location |
|------------------|---------|---|--|---------------------------------|
|                  |         |   | wetlands; identify natural and beneficial floodplain values; and conduct hydrology/hydraulic studies to determine potential effects to floodplains. Specific commitments are found in the Preface under the Tier One/Tier Two table and under the Unresolved Issues section.   |                                 |
|                  | 12      | Clarify what is meant by modest fill structures.  | Additional engineering studies will be completed during Tier Two that will identify construction limits and the actual impact of fill material on valley streams. Text was deleted from Section 4.4.2 to eliminate confusion about the intent of this statement. Text was also added to Section 4.11.3 to help clarify it.   | 4-113, 4-150.                   |
|                  | 13      | The USEPA would like to see a commitment in the FEIS to study alignment alternatives that avoid resources and minimize impacts. | This commitment is made in the Preface and Section 6.1.  | P-5, 6-3.                       |
|                  | 14      | The USEPA has rated the environmental impacts as Environmental Objections (EO) and the DEIS as 2, Insufficient Information.     | Additional analysis has occurred on crossover corridors, but those options have been determined to be unfeasible. A copy of the crossover analysis is found in Appendix G. More detailed studies have been deferred until Tier Two, which when completed may elevate the rating. A comparison of Tier One studies completed and the proposed Tier Two commitments is found in the Preface of the FEIS. | P-5, 6-1, Appendix G.           |
|                  | 15      | USEPA remains concerned about possible impacts to environmental justice populations.  | Section 4.1.3 of the FEIS was re-written to include available updated information about environmental justice populations in the project area. Additionally, that same section of the FEIS establishes a commitment it develop an extensive outreach program for environmental justice populations during Tier Two.  | 4-18.                           |
|                  | 16      | It is not clear how impacts to community cohesion will be addressed in Tier Two.  | Specific methodologies for assessing potential impacts to community cohesion will be developed in the early stages of Tier Two. As part of Tier Two, a specific community effects  | P-5.                            |

| Agency (Date) | Comment | Summary of Comment   | Response/Outcome  | Initial Document Location                         |
|---------------|---------|--|---|---|
|               |         |  | assessment will be completed, including public outreach to identify potentially impacted communities. A commitment is found in the Preface.   |   |
|               | 17      | USEPA is concerned about potential residential and business displacements.                             | The socioeconomic analyses used in Tier One were based on an examination of land use and land cover. Quantitative analyses will be conducted during Tier Two to identify specific residential and business displacements.   | P-5, 4-110.                                       |
|               | 18      | The USEPA is concerned about the magnitude of potential impacts to RTE species.                        | Sections 2.8.3 and 4.3.3.2 and Appendix G provide updated information on RTE species and habitat. Methodologies for determining the potential impacts on RTE species will be developed early in Tier Two in consultation with the resource agencies.  | 2-32, 4-85, Appendix G.                           |
|               | 19      | The USEPA is concerned about potential wildlife passages for all species.                              | Studies to determine potential wildlife passages will be conducted during Tier Two.   | P-13.   |
|               | 20      | Additional studies on aquatic resources will be necessary.   | Limited information was conducted during Tier One with the understanding that Tier Two would include considerable additional analysis once alternative alignments were developed.   | P-5, 2-4, 2-11, 2-30, 2-40, 6-1, 6-5, Appendix G. |
|               | 21      | Tier Two should include avoidance and minimization of impacts to farmlands and agricultural resources. | Although coordination with local agriculture officials began in Tier One, additional coordination will be necessary during Tier Two. The internal operations of potentially impacted farms will be determined and modifications to the alternatives will be considered to avoid or minimize agricultural impacts. | P-8.  |
|               | 22      | A more detailed analysis of indirect and cumulative impacts will be necessary during Tier Two.         | The indirect and cumulative effects studies expected in Tier Two are noted in the Tier One/Tier Two comparison table in the Preface of the FEIS and Sections 4.8.1.4 and 4.8.2.3.   | P-9, P-10, 4-128, 4-135.                          |
|               | 23      | USEPA understands that the project is  | Coordination efforts will continue during Tier Two, however,  | P-10, 7-1,  |

| Agency<br>(Date) | Comment   | Summary of Comment  | Response/Outcome  | Initial<br>Document<br>Location |
|------------------|-----------|---|---|---------------------------------|
|                  |           | <p>complex because of its geographic location and the large number of agencies involved in the planning and development process and suggests that coordination improve.</p> | <p>it is recognized that some efforts to date have not been successful because the project does not resemble a traditional highway development project. Agency coordination has been an ongoing process throughout the project. Formal requests for information have occurred throughout the project and a coordination plan (WVDOH 2011) was prepared in accordance with SAFETEA-LU. Formal coordination began with interagency field reviews in May 2006. Field reviews with the Maryland and West Virginia SHPOs also occurred in February-March 2007. Interagency meetings were also held with the Maryland resource agencies and federal agencies with jurisdiction in Maryland on February 15, 2006, January 17, 2007, June 20, 2007, May 19, 2010, April 18, 2012, November 28, 2012, and December 3, 2013, to provide additional opportunities to review and comment on the project as it evolved. All but the November 28, 2012, and December 3, 2013, meetings were routine, regularly scheduled interagency meetings. The November 28th and December 3rd meetings were scheduled specifically to report on the findings and recommendations anticipated to be included in this FEIS. A meeting was also held with the West Virginia agencies and federal agencies with jurisdiction in West Virginia on February 27, 2007, and with the NPS at its Hagerstown headquarters for the Chesapeake and Ohio Canal National Historical Park on April 16, 2007.</p> | <p>7-3, 7-4, 7-64.</p>          |
|                  | <p>24</p> | <p>The USEPA felt comments on the preliminary DEIS were not addressed.</p>  | <p>Although they were addressed, some comments on the preliminary DEIS submitted in an email message were not specifically identified in the DEIS. Rather, they were distributed in an errata sheet to the federal and state review agencies prior to circulation of the DEIS. The comments were raised by the USEPA in an email message of November 18,</p>  | <p>7-19.</p>                    |

| Agency<br>(Date)    | Comment | Summary of Comment  | Response/Outcome   | Initial<br>Document<br>Location         |
|---------------------|---------|---|--|---|
|                     |         |   | 2010, and the response was provided at that time. That has been noted in Section 7.6.1 of the FEIS. Those comments are numbered 24a through 24s in the FEIS.   |   |
| USFWS<br>(10/31/11) | 25      | The USFWS has identified several species of concern that may occur in the area.   | The Preface, Sections 2.8.3 and 4.3.3.2 , Chapter 6, and Appendix G provide updated information on RTE species and habitat. Commitments to study RTE species during Tier Two are found in the Preface of the FEIS, but other methodologies for determining the potential impacts on RTE species will also be developed early in Tier Two in consultation with the resource agencies.   | P-5, 2-28, 2-32, 4-85, 6-5, Appendix G. |
|                     | 26      | The USFWS identified aquatic resources as an area of concern.   | During Tier Two, the following studies will be undertaken on alternative alignments: identify and delineate sensitive aquatic habitat; assess eastern slope of Dans Mountain for brook trout populations; identify watershed boundaries; identify impacts in each watershed; conduct more detailed analysis of potential impacts to water quality and study area wetlands; identify natural and beneficial floodplain values; and conduct hydrology/hydraulic studies to determine potential effects to floodplains. | P-5.                                    |
| USGS<br>(10/31/11)  | 27      | The USGS suggests utilizing the USGS Breeding Bird Survey and its representative list of birds in the study area to analyze likely effects of the project on trends in the status of avian species. | During Tier Two, the USGS Breeding Bird Survey and the USGS representative list of birds in the study area will be used to analyze the effects of the project on avian species.  | P-6, 4-90.                              |
| NPS<br>(10/31/11)   | 28      | Corridor C would negatively impact several resources associated with the C&O Canal National Historical Park.  | Corridor C is not expected to be carried into Tier Two.  | 6-1.                                    |
|                     | 29      | The NPS asks for clarification on project costs.  | An alignment in Corridor B could cost between \$482 million and \$500 million; an alignment in Corridor C could cost at least \$651 million; and, an alignment in Corridor D could cost  | 2-24                                    |

| Agency<br>(Date) | Comment | Summary of Comment   | Response/Outcome  | Initial<br>Document<br>Location |
|------------------|---------|--|---|---------------------------------|
|                  |         |  | between \$630 million and \$648 million. Cost information was also clarified in Chapter 2 of the FEIS.  |                                 |
|                  | 30      | The NPS is concerned about possible negative economic impacts as a result of carrying Corridor C forward.  | Corridor C is not expected to be carried into Tier Two.   | P-6, 4-90.                      |
|                  | 31      | The DEIS indicated that a mid-nineteenth and early twentieth century canal tunnel, lockhouse, and boat-building and repair yard can be found in Corridor D. The NPS believes that the C&O Canal was the only canal within the project area and asks for additional information on this potential resource. | The NPS is correct and Section 4.2.1.2 of the FEIS was corrected to indicate this.  | 4-43                            |
|                  | 32      | The NPS is concerned about potential impacts to Mexico Farms within Corridor C.  | Corridor C is not expected to be carried into Tier Two.   | P-6, 4-90, 6-1.                 |
|                  | 33      | The NPS asks that a copy of its September 24, 2010, comment letter be included in the FEIS.  | The letter has been included in Appendix D of the FEIS.   | Appendix D.                     |
|                  | 34      | The NPS is unclear on the intent of a proposed MOA for Tier Two (page P-7 of the DEIS).  | The MOA will be developed during Tier Two to address adverse effects to any significant cultural resources identified during the detailed studies. It will include all resources adversely impacted by the project. This has been clarified in Section 4.2.3 of the FEIS, and is also noted in the Preface in the Tier One/Tier Two comparison table and the Unresolved Issues section. | P-6, P-7, P-12, 4-61.           |
|                  | 35      | The Tier One DEIS infers impacts to the Chesapeake and Ohio Canal National Historical Park will be analyzed in Tier Two.   | Corridor C will not be carried into Tier Two and, consequently, there would not be any impacts to the Chesapeake and Ohio Canal National Historical Park as a result of the project.  | 6-1.                            |

| Agency<br>(Date) | Comment | Summary of Comment   | Response/Outcome   | Initial<br>Document<br>Location |
|------------------|---------|--|--|---------------------------------|
|                  | 36      | The proposed MOA is also mentioned in the DEIS on page P-11, Unresolved Issues. The NPS believes that this statement is inappropriate because it presumes that Corridor C will be carried into Tier Two. | Corridor C was carried through the detailed analysis stage of Tier One and was not recommended for dismissal until the conclusion of the study. As a result of the Tier One findings and conclusions, Corridor C will not be carried into Tier Two. The wording of the Preface has been changed in the FEIS.                               | P-12, 6-1.                      |
|                  | 37      | The Chesapeake and Ohio Canal National Historical Park is a Section 4(f) resource and Corridor C has the potential for irreversibly and irretrievably impacting the Park.                                | Corridor C will not be carried into Tier Two.  | 6-1.                            |
|                  | 38      | The NPS notes that it would be inappropriate for project sponsors to act on any new alternatives without public review.  | A complete public and agency participation plan will be developed during the early stages of Tier Two. An integral part of that process will be the presentation of potential alternative alignments. Both the Preface and Section 6.1 of the FEIS includes a discussion of possible Tier Two alternatives and how they will be developed. | P-12, 6-3,<br>6-11.             |
|                  | 39      | The NPS is concerned about the mitigation activities identified in the DEIS.   | Although many commitments have been made for Tier Two, some of the mitigation activities listed in the DEIS are preliminary suggestions and will be expanded during Tier Two after alternatives are developed and analyzed.  | P-5.                            |
|                  | 40      | The NPS asks that Section 4-12 of the DEIS be modified.  | This section was re-written to clarify its meaning.  | 4-151.                          |
|                  | 41      | The NPS does not believe that the expenditure of funds should be noted as an irreversible commitment of resources.   | The discussion on the expenditure of funds was removed from the FEIS.  | 4-151.                          |
|                  | 42      | The NPS notes that the Western Maryland Rail Trail does not extend as far west as the project area, but there  | Much of the information used in the development of the DEIS was provided by other agencies. In terms of trails, both existing and planned trails were shown when that  | 4-31, 5-1.                      |

| Agency (Date)  | Comment | Summary of Comment  | Response/Outcome  | Initial Document Location                   |
|----------------|---------|---|---|---|
|                |         | are plans to extend it further west.  | information was made available  |   |
|                | 43      | Page 4-26 of the DEIS noted that information on NPS resources was collected from agencies in West Virginia. There is no mention of NPS data from Maryland agencies. | Information on NPS resources was collected from a variety of sources and the DEIS failed to make that clear. It has been revised in Section 4.1.4.1.1 of the FEIS.  | 2-26.                                       |
|                | 44      | The NPS asked why some information from the DEIS was not summarized in the public hearing brochure.   | Both the DEIS and the brochure were widely distributed in the community so that information on the project would be available. The decision on what information to present in the brochure was based on past experience. Copies of the public hearing brochure and the public meeting informational workshop are included in Appendix F of the FEIS.          | Appendix F.                                 |
|                | 45      | The NPS is concerned about the width of future highway alignments.  | The actual width of future highway alignments is not known, but could be between 300 and 500 feet.  | 2-1, 2-2, 2-7, 2-11.                        |
|                | 46      | The NPS expressed further concern about whether or not an alignment within Corridor C that avoids Mexico Farms.   | Corridor C is not expected to be carried into Tier Two.   | 6-1.  |
| MDE (10/28/11) | 47      | MDE is concerned about Pinto Marsh and Dans Mountain WMA  | Section 2.8.3 and Appendix G contains additional discussion of Pinto Marsh and Dans Mountain avoidance strategies.  | P-5, P-6, P-13, 2-32, 6-1, 6-5, Appendix G. |
|                | 48      | MDE requests that a modified Corridor C (as a crossover alternative) be retained for Tier Two.  | Additional analysis of crossover corridors was conducted and is discussed in Section 2.8.3, Chapter 6, and Appendix G of the FEIS. The aquatic resources section of the Preface's Tier One/Tier Two comparison table contains a commitment to assess brook trout populations within the Dans Mountain WMA. Section 7.6.3 and Response #74 provides additional | 2-32, 6-1, 6-5, 7-46, Appendix G.           |

| Agency (Date)   | Comment | Summary of Comment   | Response/Outcome  | Initial Document Location             |
|-----------------|---------|--|---|---------------------------------------|
|                 |         |  | information on why Corridor C is not being recommended to be carried into Tier Two.   |                                       |
| MDNR (11/21/11) | 49      | MDNR recommends that multiple corridors be carried into Tier Two.                                  | Corridor B with the possibility of using the northern spur of Corridor D as an I-68 terminus was identified as the preferred corridor and is being advanced as the only corridor for many reasons. Detailed natural studies to identify and minimize impacts to natural resources will be completed in coordination with the resource agencies during Tier Two. | P-5, 6-1.                             |
|                 | 50      | MDNR supports the decision to drop Corridors A and E.  | No response is necessary.   | --                                    |
|                 | 51      | The DEIS accurately reflects issues and concerns regarding impacts to Dans Mountain WMA.           | No response is necessary.   | --                                    |
|                 | 52      | The reference to Dans Mountain being located within Dans Mountain WMA is incorrect.                | Sections 3.1.4 and 4.1.4.2.2 of the FEIS correct this.  | 3-19, 4-33.                           |
|                 | 53      | MDNR recommends that all streams on the eastern slope of Dans Mountain be sampled for brook trout. | The aquatic resources section of the Preface's Tier One/Tier Two comparison table contains a commitment to assess brook trout populations within the Dans Mountain WMA.   | P-7, 2-32, 5-1, 6-1, Appendix G.      |
|                 | 54      | MDNR is concerned about potential impacts to Pinto Marsh.  | Section 2.8.3 and Appendix G contains additional discussion of Pinto Marsh and Dans Mountain avoidance strategies.  | P-7, 2-32, 5-1, 6-1, Appendix G.      |
|                 | 55      | MDNR is concerned about potential impacts to RTE species.  | Sections 2.8.3 and 4.3.3.2 and Appendix G provide updated information on RTE species and habitat. Methodologies for determining the potential impacts on RTE species will be developed early in Tier Two in consultation with the resource agencies.  | P-6, P-7, 2-32, 5-1, 6-1, Appendix G. |
|                 | 56      | The project has the potential to impact several RTE species, sensitive habitats,                   | Methodologies for determining the potential impacts on RTE species will be developed early in Tier Two in consultation  | P-5,                                  |

| Agency (Date)          | Comment | Summary of Comment   | Response/Outcome   | Initial Document Location |
|------------------------|---------|--|--|---------------------------|
|                        |         | and a wildlife travel corridor between I-68 mile markers 34 and 42.  | with the resource agencies.  |                           |
| MDP (11/1/10; 7/26/11) | 57      | MDP fulfills the role of intergovernmental review and coordination agency.   | No response is necessary.  | --                        |
|                        | 58      | Maryland cannot fund growth-related capital projects outside PFAs.   | To date, there has been considerable coordination with local planning agencies on the project to address Smart Growth issues. That coordination will continue in Tier Two. | P-6, P-16.                |
|                        | 59      | MDP suggested changes in Table 4-8.1 and related text to indicate that some of the potential interchanges are only partially within a PFA.   | The changes have been made to the table and Sections 4.8.1.1 and 4.8.1.2.  | 4-128, 4-132.             |
| WVDEP (11/26/11)       | 60      | NAAQS status should be updated.  | Sections 4.6.1 and 4.6.2 of the FEIS have been updated.  | 4-124, 4-125.             |
|                        | 61      | The project is located in counties which are designated attainment for all transportation pollutants.  | No response is necessary.  | --                        |
|                        | 62      | The low design year ADT obviates the need for detailed air quality analyses at this time.  | No response is necessary.  | --                        |
|                        | 63      | WVDEP approval is necessary to burn land clearing debris.  | Specific language to this effect will be included in the Tier Two environmental document and any subsequent contract documents.  | --                        |
|                        | 64      | If the project entails the renovation, remodeling, or demolition of a structure, building or installation, a formal Notification of Abatement, Demolition, or Renovation must be approved before commencement of activities addressed in the Notification. | Specific language to this effect will be included in the Tier Two environmental document and any subsequent contract documents.  | --                        |
|                        | 65      | If the project involves demolition,  | Specific language to this effect will be included in the Tier  | --                        |

| Agency (Date)           | Comment | Summary of Comment   | Response/Outcome  | Initial Document Location |
|-------------------------|---------|--|---|---------------------------|
|                         |         | and/or excavation and transportation of soil/aggregates or the handling of materials that can cause dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied. | Two environmental document and any subsequent contract documents.   |                           |
| WVDNR (9/7/11)          | 66      | WVDNR deferred comments until Tier Two.  | No response is necessary.   | --                        |
| ASM (9/19/11; 10/14/11) | 67      | Based on comments made at the public hearing, the Archaeological Society is concerned that not enough preliminary archaeological work was conducted on the project.  | A considerable amount of preliminary archaeological work was completed during Tier One, as discussed in Section 4.2 of the FEIS. Based on that work, a complete Phase I survey has been recommended for Tier Two. | P-7, P-12, 4-38.          |
|                         | 68      | Corridor B could impact the Barton Site, an important archaeological resource.   | A complete Phase I archaeological survey will be conducted during Tier Two.   | P-7, P-12, 4-38.          |
| SGVFD (9/23/11)         | 69      | Corridor C would be a detriment to Mineral County.   | Corridor C has been recommended not to be carried into Tier Two.  | 6-1.                      |
| MCDA (10/13/11)         | 70      | Recommends Corridor B as the preferred alternative.  | Corridor B is being carried into Tier Two.  | 6-1.                      |
|                         | 71      | Believes Corridors C and D have significant negatives for future economic development.   | Corridor B is being carried into Tier Two.  | 6-1.                      |
| MCCC (10/12/11)         | 72      | Recommends Corridor B as the preferred alternative.  | Corridor B is being carried into Tier Two.  | 6-1.                      |
| CCMC (10/12/11)         | 73      | Recommends Corridor B as the preferred alternative.  | Corridor B is being carried into Tier Two.  | 6-1.                      |
|                         | 74      | Notes that there is strong community opposition to Corridor C.   | Corridor C has been recommended not to be carried into Tier Two.  | 6.1.                      |
| Gary Howell             | 75      | Submitted comments from citizens within his legislative district.  | Citizen comments are addressed in Section 7.6.3 of the FEIS.  | 7-46.                     |

| Agency (Date)             | Comment | Summary of Comment  | Response/Outcome  | Initial Document Location   |
|---------------------------|---------|---|---|-----------------------------|
| (10/19/11)                |         |   |   |                             |
| Margaret Stagers (1/1/12) | 76      | Corridor C would disturb the quiet community that lies within the surrounding community.  | Corridor C has been recommended not to be carried into Tier Two.  | 6-1.                        |
|                           | 77      | Options within the Potomac and New Creek Valleys would better serve citizens of the area.   | Corridor B lies within the Potomac and New Creek Valleys and is being carried into Tier Two.  | 6-1.                        |
| USEPA (1/2/13; 4/3/13)    | 78      | USEPA supports retaining one or more crossover options.   | Currently, only Corridor B with the possibility of using the northern stub of Corridor D as a connection to I-68 is being recommended for Tier Two. Additional analysis of crossover corridors was conducted and is discussed in Section 2.8.3 and Appendix G of the FEIS.  | 2-32, 6-1, Appendix G.      |
|                           | 79      | USEPA encourages carrying more than one corridor into Tier Two.   | Currently, only Corridor B with the possibility of using the northern stub of Corridor D as a connection to I-68 is being recommended for Tier Two.   | P-5, 2-32, 6-1, Appendix G. |
|                           | 80      | USEPA recommends that an upgrade of existing roadways throughout the entire corridor be carried forward.  | Section 6.1 of the FEIS discusses the recommendations for Tier Two in detail. Several alternatives will be developed and analyzed within the preferred corridor during Tier Two, including a system upgrade of existing roads and highways, transportation systems management strategies, and new highway alignments. | 6-1.                        |
|                           | 81      | EPA requests another project meeting prior to release of the FEIS.  | A meeting was held on December 3, 2013.   | 7-64.                       |
|                           | 82      | USEPA requests more information on the crossover corridors.   | Additional information on the crossover corridor is provided in Section 2.8.3 and Appendix G of the FEIS.   | 2-32, 6-1, Appendix G.      |
|                           | 83      | USEPA recommends carrying portions of Corridor C, or crossover options, into Tier Two because of the extent of sensitive species in Corridor B. | Currently, only Corridor B with the possibility of using the northern stub of Corridor D as a connection to I-68 is being recommended for Tier Two. Additional analysis of crossover corridors was conducted and is discussed in Section 2.8.3 and  | 2-32, 6-1, Appendix G.      |

| Agency<br>(Date)  | Comment | Summary of Comment   | Response/Outcome   | Initial<br>Document<br>Location   |
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|                   |         |  | Appendix G of the FEIS.  |                                   |
|                   | 84      | USEPA is concerned that an upgrade of existing US 220 is not being carried into Tier Two.  | Several alternatives within the preferred corridor, including a system upgrade of US 220 and existing roads, will be carried into Tier Two. Section 6.1 of the FEIS clarifies this.  | P-5, 6-1.                         |
|                   | 85      | USEPA is concerned about the extent of sensitive species in Corridor B.  | Several alternatives will be developed and analyzed during Tier Two within the preferred corridor, including a system upgrade of existing roads and highways throughout the corridor, transportation systems management strategies, and potential new highway alignments. As project planning activities continue, interagency meetings will be held to assist in providing direction for the project. Early consultation with each resource agency will be conducted with the initiation of Tier Two. This will aid in determining what specific activities, investigations, and/or studies may be required to address potential impacts to species of special concern. Foremost among these future studies will be to identify locations of these species and their critical habitat; to evaluate potential impacts to habitat, and to develop strategies to avoid, minimize, or mitigate impacts. | P-5, P-13, 2-32, 6-1, Appendix G. |
| MDNR<br>(3/20/13) | 86      | The process being followed for the development of the EIS has been less transparent and provided less interaction than the typical MDSA project.             | It is recognized that some efforts to date have not been successful because the project does not resemble a traditional highway development project, but the project team has tried to keep the federal and state resource agencies, as well as local planning agencies and the public, apprised of developments on the project. Coordination efforts will be intensified as the project moves into Tier Two.  | P-1, P-13, 7-62.                  |
|                   | 87      | It was MDNR's impression that the results of the crossover analysis would be provided to the resource agencies for review before the final EIS was released. | Analysis of crossover corridors is discussed in Section 2.8.3 and Appendix G of the FEIS. A preliminary copy of the FEIS was distributed to the resource agencies for review and comment prior to public distribution.   | 2-32, 6-1, 7-62, Appendix G.      |

| Agency (Date) | Comment | Summary of Comment  | Response/Outcome  | Initial Document Location |
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|               | 88      | Three optional crossovers were provided to MDSHA for analysis.  | Analysis of crossover corridors is discussed in Section 2.8.3 and Appendix G of the FEIS.   | 2-32, 6-1, Appendix G.    |
|               | 89      | MDNR's analysis of Corridor B suggests that a new highway alignment cannot be built within it without impact to Section 4(f) resources. | Section 6.1 of the FEIS includes the following statement: If necessary to avoid environmental, cultural, and socioeconomic resources, the 4,000-foot corridor studied during Tier One will be expanded in width during Tier Two to accommodate alternatives and avoid, or minimize impacts to, resources. | 6-3.                      |

**TABLE 2**  
**Changes to the May 2013 Preliminary FEIS**

| Chapter           | Comment                                 | Page  | Para. | Change/Revision  |
|-------------------|---|-------|-------|--|
| Executive Summary | --                                      | ES-13 | 1     | Added new discussion about the role public and agency coordination played in the decision-making process.  |
|                   | 108, 109                                | ES-17 | 4     | Inserted new language about PFAs and Smart Growth.   |
|                   | 90, 110                                 | ES-17 | 3     | Added new discussion about crossover corridors, Dans Mountain WMA, and Tier Two commitments.   |
| Preface           | --                                      | P-1   | --    | Inserted introductory information from Chapter 1.  |
|                   | --                                      | P-2   | 4     | Inserted: "operationally" to independent utility.  |
|                   | 101                                     | P-3   | 1     | Inserted: The preferred corridor carried forward from Tier One could be widened to allow for the development of more environmentally sensitive alignments in Tier Two.   |
|                   | 92, 93, 95, 96, 101, 110, 113, 114, 115 | P-6   | Table | Added purpose and need, alternatives development, historic context to Cultural Resources Tier One. For Tier Two, specifically added Mountain Ridge Legacy Area to alternatives development and parks and recreation sections; noted analysis of brook trout streams/habitat in aquatic resources and vegetation and wildlife sections; added Indiana bat, Northern long-eared bat, and brook trout to vegetation and wildlife section; added development of potential wildlife corridors and passageways to vegetation and wildlife section; added karst topography to soils |

| Chapter | Comment  | Page | Para. | Change/Revision   |
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|         |          |      |       | and geology section; added additional mitigation to air quality section; and added four new bullets to Public and Agency Coordination Tier Two. Clearly stated that the Tier Two column contains commitments.   |
|         | --       | P-14 | 1     | Inserted: The Northern long-eared bat may also be present in the area. This species, though not federally-protected at the time of this writing, is expected to be a federally-listed species by the time Tier Two commences.   |
|         | --       | P-14 | 1     | Inserted: The MDNR is especially concerned about potential impacts on the Dans Mountain Wildlife Management Area and habitat suitable for forest interior dwelling species (FIDS) and brook trout. FIDS habitat is a relatively scarce landscape feature and is vulnerable to destruction as land is converted to agricultural or, more common in recent decades, urban uses. Fragmentation or reduction in size of large forest blocks needs to be minimized as part of the land development process (MDNR 2003).  |
|         | --       | P-14 | 2     | Inserted: Mitigation could include the development of protected wildlife corridors or passageways from Dans Mountain to the Potomac River.  |
|         | 92       | P-14 | 3     | Inserted: The results of the sampling may lead to further studies of brook trout populations.   |
|         | 94       | P-15 | 4     | Inserted: Specifically, a Joint (federal/state) Permit Application will be submitted to meet the combined federal/state requirements for activities that impact Waters of the U.S. in Maryland. The MDSHA must demonstrate that any proposed impacts to streams and wetlands are necessary and unavoidable and that all minimization measures have been fully exhausted. Avoidance and minimization measures could include the use of compressed medians, reduced safety grading widths, design alternatives, bridging floodplains and wetlands, free-span structures, and bottomless arch culverts, among other possibilities. |
|         | 93       | P-15 | 5     | Inserted: Although the Potomac River is a navigable waterway to its confluence with Wills Creek near Cumberland, the proposed crossing area for the project is farther west. As a result, the USCG informed the FHWA on April 20, 2007, that the project is not subject to Section 10 of the Rivers and Harbor Act. Should the proposed crossing location change, the USCG will be informed and a new determination on the applicability of Section 10 will be made.  |
|         | 108, 109 | P-16 | 2     | Inserted: <u>Priority Funding Areas Act and Smart Growth</u><br><br>The Priority Funding Areas Act capitalizes allows capital expenditures in Maryland to focus on economic growth and development. This legislation directs state funds to Priority Funding Areas  |

| Chapter | Comment | Page | Para. | Change/Revision  |
|---------|---------|------|-------|--|
|         |         |      |       | <p>(PFAs), which consist of existing communities and places where infrastructure is in place and public investment can better support growth. Growth-related projects covered by the legislation include most State programs that encourage or support growth and development, including highways, sewer and water construction, economic development assistance, and State leases or construction of new office facilities. Beginning in October 1, 1998, the State of Maryland directed funding for projects that support growth should go to PFAs and receive priority over other projects.</p> <p>One of the major factors used in the development of the Tier One corridors was an analysis of how potential highway improvements within the corridors will support the PFAs in the future. As the project progresses into Tier Two, all potential highway improvements will be further evaluated in terms of how effective the improvements are in encouraging “smart growth” and continuing to support the economic goals of communities within PFAs. Smart growth advocates communities with housing and transportation choices near jobs, shops and schools.</p>  |
|         | 112     | P-16 | 4     | <p>Inserted: <u>Rural Legacy Program</u></p> <p>The Rural Legacy Program was created in 1997 to protect large, contiguous tracts of cultural and natural resource lands within Maryland from the effects of sprawl. Allegany County has participated in this program by designating over 31,000 acres as the Mountain Ridge Rural Legacy Area. Much of the rural legacy area in Allegany County is coterminous with Dans Mountain, but the rural legacy area extends farther north to the state line of Pennsylvania.</p> <p>Situated within the Ridge &amp; Valley Physiographic Province where it meets the Allegheny Front, the first rural legacy area in Allegany County includes large blocks of unbroken forest, pristine ecologically significant areas and historic sites. It includes exemplary plant and wildlife habitat, an important migration corridor and perhaps the most significant golden eagle flyway in the state. The Area is delineated around 10,163 acres of existing protected lands which may be further connected and consolidated, forming a greenway potentially linking ridgetops in West Virginia with Pennsylvania, as well as westward into the Allegheny Plateau (Allegany County Planning Commission 2013).</p> |

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|                  |               |      |       | Strategies for addressing the state and local requirements of the program will be developed in Tier Two. Local coordination efforts will continue in Tier Two to minimize impacts to these protected lands.   |
|                  | --            | P-17 | 4     | Moved Document Organization section.  |
|                  | --            | P-19 | 1     | Added a new section, Differences Between This Document And The DEIS.  |
| Purpose and Need | --            | 1-1  | 1     | Removed "Introduction" section and placed this information on page 1 of the Preface. This resulted in the renumbering of all subsequent sections and tables in this chapter.  |
|                  | 108           | 1-19 | 1     | Revised paragraph to read: Allegany County Transit provides fixed-route bus service in Cumberland and the surrounding Maryland communities of Barton, Cresaptown, Frostburg, LaVale, Lonaconing, Luke, Midland, and Westernport. This public agency operates 11 fixed-routes and a related demand-responsive service for its member communities, dubbed Alltrans. Alltrans operates two components, a demand response service for persons 65 years of age and older, and the Americans with Disabilities Act paratransit service for persons with disabilities. |
|                  | 108           | 1-29 | 2     | Inserted: The following areas qualify as Priority Funding Areas: every municipality, as they existed in 1997; areas inside the Washington Beltway and the Baltimore Beltway; and areas already designated as enterprise zones, neighborhood revitalization areas, heritage areas and existing industrial land. The Smart Growth legislation managing growth and determining the locations most suitable for recognizes the important role local governments play in State-funded projects.  |
|                  | 108, 109, 111 | 1-30 | --    | Updated PFAs figure.  |
| Alternatives     | 91            | 2-2  | 2     | Inserted: The preferred Tier Two corridor may be expanded in width to allow the development of more alignments, and/or avoidance and mitigation strategies. The MDSHA is willing to work closely with MDNR in order to develop avoidance strategies or corridor crossings for sensitive species due to the sensitive nature of the preferred corridor.  |
|                  | 106           | 2-31 | 2     | Inserted: This would lessen the possibility of avoiding Dans Mountain, result in a roadway profile with major earthwork balancing, and require additional valley fills that could further impact Dans Mountain.   |
|                  | 90, 100, 106  | 2-33 | 3     | Inserted: Although no habitat analysis has been done on Knobley Ridge, it is considered to have habitat and wildlife as important to the ecological vitality of the region as Dans Mountain. Both   |

| Chapter                    | Comment               | Page | Para. | Change/Revision  |
|----------------------------|-----------------------|------|-------|--|
|                            |                       |      |       | Dans Mountain and Knobley Ridge have similarities in terms of topography, land cover, terrestrial habitat, wildlife, streams, wetlands, and other natural resources. Crossovers in this area would require considerably large cuts and earthwork that would have significant environmental impacts, especially to existing stream valleys. Following an informal fieldview of the potential crossover area by representatives of the MDE and USACE Baltimore District, the engineering and environmental constraints of the area also became more apparent, as did the great potential for creating additional environmental impacts if this corridor were carried forward to construction.  |
|                            | 90                    | 2-36 | 3     | Inserted: Although a preliminary analysis of the aquifer has indicated that highway alignments might be able to be developed above the aquifer without damaging it, additional analysis would have to be undertaken to confirm that. It is unlikely, however, that any amount of scientific research could convince the public that a new highway in this vicinity would not impact the aquifer. WVDOH has also encountered serious post-construction problems in other parts of the state where engineering studies had shown that development could occur on land underlain with extensive aquifers. As a result, it is hesitant to proceed with Corridor C and potentially create future groundwater problems in Mineral County where they can be avoided with advancement of a different corridor. |
|                            | --                    | 2-44 | 3     | Inserted new Conclusions section.  |
| Affected Environment       | 108                   | 3-5  | --    | Updated Figure 3-2 for Allegany County using MDP data from its 2010 Land Use/Land Cover Update.  |
|                            | --                    | 3-55 | 3     | Inserted a discussion on the potential federal-listing of the northern long-eared bat.   |
| Environmental Consequences | --                    | 4-86 | 3     | Added the following information: On October 2, 2013, the USFWS proposed adding the northern long-eared bat to the list of species protected by the ESA. The species is likely to be listed by the time the project enters Tier Two. The project area is within the range of the northern long-eared bat.   |
| Findings and Conclusions   | 90, 91, 101, 106, 116 | 6-3  | 4     | Added mitigation to the following sentence: It is thoroughly understood that there are significant environmental resources within the preferred corridor, resources that will require considerable stewardship, enhancement measures, and mitigation as the project progresses to Tier Two.<br><br>Also, the sentences in the paragraph were rearranged to provide clarity in defining potential Tier Two alternatives.  |

| Chapter                   | Comment                             | Page | Para.          | Change/Revision   |
|---------------------------|-------------------------------------|------|----------------|---|
| Comments and Coordination | 90, 96, 99, 102, 103, 104, 105, 107 | 7-64 | 1              | Added new Section 7.7 as a discussion on the development of the FEIS and the comments received on Preliminary FEIS.   |
|                           | --                                  | 7-75 | 2              | Added new Section 7.8 on the continuing agency coordination after the December 2013 agency meeting.   |
| Appendix G                | 3, 14, 48, 78, 82, 83, 87, 88       | --   | New Appendix G | Added a new appendix that contains an analysis of potential crossover corridors that was performed by FHWA, MDSHA, and WVDOH at the request of MDE, MDNR, and USEPA. Some inconsistencies with wording in the crossover analysis and the FEIS concerning the preferred alternative were corrected to indicate that improvements to US 220 are not part of the preferred alternative but would progress with their own NEPA documentation. |
| Appendix H                | 90, 100, 106                        | --   | New Appendix H | Added a new appendix that contains the agency comment letters on the Preliminary FEIS and minutes from the December 2013 agency coordination meeting in Cumberland.   |