



Environmental Assessment

DCNR Loyalsock State Forest Alternate Project, DR-4292

Sullivan and Lycoming Counties

April 2020

Prepared by

Tanner Adamson, Environmental Protection Specialist

FEMA Region III, Disaster 4292, Project ID #105, 109, 114, 115, 119

615 Chestnut Street, 6th Floor

Philadelphia, PA 19106



FEMA

List of Acronyms, Chemical Formulas, and Abbreviations

ACS – American Community Survey	NHPA–National Historic Preservation Act
APE – Area of Potential Effect	NO ₂ – Nitrogen Oxide
BMP – Best Management Practice	NPDES – National Pollutant Discharge Elimination System
CAA – Clean Air Act	NRCS – Natural Resources Conservation Service
CEQ – Council on Environmental Quality	NRHP – National Register of Historic Places
CFR – Code of Federal Regulations	O ₃ – Ozone
CO – Carbon monoxide	OSHA – Occupational Safety and Health Administration
CRGIS – Cultural Resources Geographic Information Systems	PA – Public Assistance
CWA – The Clean Water Act	PAAP – Public Assistance Alternative Procedures Pilot Program
dB – Decibels	PASPGP – Pennsylvania State Programmatic General Permit
DCNR – Pennsylvania Department of Conservation & Natural Resources	PA Code – Pennsylvania Code
E&S – Erosion and Sedimentation	PA DEP – Pennsylvania Department of Environmental Protection
EA – Environmental Assessment	PA FBC – Pennsylvania Fish and Boat Commission
EIS – Environmental Impact Statement	PA GC – Pennsylvania Game Commission
EO – Executive Order	PA SHPO – Pennsylvania State Historic Preservation Office
EPA – Environmental Protection Agency	Pb – Lead
ESA – Endangered Species Act	PEMA – Pennsylvania Emergency Management Agency
EV – Exceptional Value Water	PM ₁₀ – Particulate Matter
FEMA – Federal Emergency Management Agency	PNDI – Pennsylvania Natural Diversity Inventory
FIRM – Flood Insurance Rate Map	PW – Project Worksheet
FONSI – Finding of No Significant Impact	SFHA – Special Flood Hazard Area
FPPA – Farmland Protection Policy Act	SHPO – State Historical Preservation Officer
HQ-CWF – High Quality-Cold Water Fishes	SO ₂ – Sulfur Dioxide
JPA – Joint Permit Application	THPO – Tribal Historic Preservation Officer
LDG – Larson Design Group	USACE – United States Army Corps of Engineers
LESA – Land Evaluation and Site Assessment	USFWS – United States Department of the Interior Fish and Wildlife Service
MBTA – Migratory Bird Treaty Act	VOCs – Volatile Organic Compounds
MF – Migratory Fishes	
NAAQS – National Ambient Air Quality Standards	
NCA – Noise Control Act	
NEPA – National Environmental Policy Act	
NFIP – National Flood Insurance Program	

Table of Contents

SECTION ONE: BACKGROUND	1
1.1 Project Authority	1
1.2 Project Location.....	1
1.3 Purpose and Need	1
1.4 Existing Facility	2
SECTION TWO: ALTERNATIVE ANALYSIS	2
2.1 Alternative 1 – No Action	3
2.2 Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)	3
2.3 Alternatives Considered and Eliminated from Further Consideration	4
SECTION THREE: AFFECTED ENVIRONMENT AND CONSEQUENCES	5
Preliminary Screening of Assessment Categories.....	5
3.1 Physical Environment	5
3.1.1 Geology, Seismicity and Soils	5
3.1.2 Water Resources and Water Quality.....	8
3.1.3 Floodplain Management (Executive Order 11988)	11
3.1.4 Air Quality.....	14
3.2 Biological Environment	14
3.2.1 Terrestrial and Aquatic Environment.....	14
3.2.2 Wetlands (Executive Order 11990)	15
3.2.3 Threatened and Endangered Species.....	17
3.2.4 Migratory Birds.....	17
3.3 Socioeconomics	18
3.3.1 Noise.....	18
3.3.2 Public Services and Utilities.....	18
3.3.3 Traffic and Circulation	19
3.3.4 Environmental Justice (Executive Order 12898)	19
3.3.5 Safety and Security	21
3.4 Historic and Cultural Resources	22
3.5 Comparison of Alternatives.....	23
SECTION FOUR: CUMULATIVE IMPACTS	25
SECTION FIVE: PUBLIC PARTICIPATION	26
SECTION SIX: MITIGATION MEASURES AND CONDITIONS.....	26
SECTION SEVEN: CONSULTATIONS AND REFERENCES	28
SECTION EIGHT: LIST OF PREPARERS	28

APPENDICES	29
Appendix A Maps and Figures.....	29
Appendix B Technical Reports.....	29
Appendix C Agency Correspondence	29
Appendix D Public Notice.....	29
Appendix E Public Comments	29

SECTION ONE: BACKGROUND

1.1 Project Authority

The Pennsylvania Department of Conservation & Natural Resources (DCNR) has applied through the Pennsylvania Emergency Management Agency (PEMA) to the Federal Emergency Management Agency (FEMA) Public Assistance (PA) grant program for funding assistance, under the Presidentially declared disaster FEMA-4292-DR-PA, for the reconstruction of five road sites in Sullivan and Lycoming Counties, Pennsylvania. The project proposes to use Public Assistance Alternative Procedures pursuant to Section 428 of the Stafford Act, to construct the roads in a new alignment. In accordance with FEMA Directive 108-1 and FEMA Instruction 108-1-1, this Environmental Assessment (EA) is being prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ) in 40 Code of Federal Regulations (CFR) Parts 1500-1508. The purpose of the EA is to analyze the potential environmental impacts of the proposed project, and to determine whether to prepare a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS).

1.2 Project Location

The project location is in the State of Pennsylvania, located within Loyalsock State Forest. Loyalsock State Forest is 114,552 acres in size and includes parts of Sullivan, Lycoming, and Bradford Counties. The forest is primarily northern hardwoods forest type. Over 200 miles of hiking trails are located within the forest, and it has areas for camping, sightseeing, hunting, fishing, horseback riding, canoeing/kayaking, and winter recreation. Loyalsock State Forest is classified as a 'working forest,' which utilizes management practices such as timber harvests, deer fences, natural gas drilling sites, prescribed fires, and gypsy moth spraying. The project is located approximately eighty-four miles west of Scranton, Lackawanna County and thirty-eight miles north of Williamsport, Lycoming County. General location maps of the project area and Loyalsock State Forest are included in **Appendix A**.

1.3 Purpose and Need

The north-central region of Pennsylvania experienced severe storms and flooding during the period of October 20-21, 2016. The intense rainfall and storms caused flooding throughout a four-county area that caused substantial damages to public infrastructure. The counties of Bradford, Centre, Lycoming, and Sullivan received a federal disaster declaration on December 2, 2016 making Public Assistance funds available within those four counties.

Five sites within close proximity were damaged in the DCNR owned and maintained Loyalsock State Forest. These sites were previously damaged in 2011 due to flooding from Tropical Storm Lee and rebuilt in-kind. The frequency and severity of flooding in the area demonstrates the need to consider an alternative to rebuilding the sites in the same location. The proposed alternate project would relocate transportation infrastructure to reduce the potential for severe flood

damages in the future. One of the sites would rebuild a damaged bridge over the new stream alignment which moved during the storm event. The other four would rebuild roads in a new alignment north of their current locations. These five sites are being evaluated together in one EA, as they are connected actions, within close proximity to one another. DCNR is proposing the alternate projects as a long-term solution to avoid future flood damages in the area. The infrastructure repairs are necessary to allow full access through the state forest, for all the previously listed activities and economic activities.

In accordance with federal laws and FEMA regulations, the EA process for a proposed federal action must include an evaluation of alternatives and a discussion of the potential environmental impacts. This EA was prepared in accordance with FEMA's regulations as required under NEPA. As part of this NEPA review, the requirements of other environmental laws and executive orders are addressed.

1.4 Existing Facility

Currently the damaged roads are closed to traffic, requiring people visiting that area of Loyalsock State Forest to utilize a detour route. The state forest has experienced economic loss due to the loss of access to forest land in the Pleasant Stream and Mill Creek Valleys. Approximately 21,000 acres of state forest land has severely limited vehicular access for recreation and harvesting forest products resulting from the flood damages. The destruction of these roads has increased travel distances by around 23 miles for the majority of the project area. If the detour route was utilized long-term, 7,000 acres of state forest land would have no vehicular access for emergencies, fire control, recreation, and timber harvesting. See the attached map in **Appendix A**, showing the location of the damaged facilities.

SECTION TWO: ALTERNATIVE ANALYSIS

To determine a path forward for the damaged roads and bridge in Loyalsock State Forest, several options were evaluated, including no-action and redevelopment in a new alignment. Focus was placed on rebuilding the damaged infrastructure with reduced risk for severe flood damage. DCNR hired the Larson Design Group (LDG) to develop plans to rebuild the damaged sites with a reduced risk of flood damage. Due to the frequency and severity of recent flooding, DCNR is proposing to construct a long-term solution to avoid future reconstruction projects in this area. The applicant will utilize the Public Assistance Alternative Procedures (PAAP) Pilot Program for Permanent Work to fund this project, based off of a fixed cost estimate for the repair of the facilities in-kind, back to pre-disaster condition. The applicant submitted the request on September 14, 2017 and it was approved by FEMA on January 4, 2018. The fixed cost estimate sub awards for the five projects (Project Worksheet (PW)'s 105, 109, 114, 115, and 119) will be consolidated into one sub award, PW 115. The Applicant may share funding across any of the facilities or sites within the Consolidated Project to meet its post-disaster recovery needs. The Consolidated Fixed Estimate Subgrant will have a total value of \$5,332,670.22 for the five combined PWs.

2.1 Alternative 1 – No Action

Under the No Action Alternative, repairs to the damaged roads and bridge in Loyalsock State Forest would not occur. Visitors and patrons of Loyalsock State Forest would have to continue to use the detour routes in place.

2.2 Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Under the Proposed Action Alternative, the five damaged sites, one bridge and four roads, would be rebuilt in new locations to reduce the risk of future flood damages. A map is provided in **Appendix A**, showing the location of the Proposed Action sites as well as the damaged sites. Engineering and design plans for all the sites are included in **Appendix B**. The Proposed Action Alternative was selected by the applicant, as it reduced the flood risk for the infrastructure and minimized construction costs and impacts, compared to other possible alignments. The start/stop coordinates (latitude/longitude) for the five sites are:

- Site 105 – Big Hollow Rd (SLD022): 41.469557, -76.740158 to 41.470667, -76.739246
- Site 109 – Mill Creek Rd (SLD018): 41.486933, -76.768736 to 41.482523, -76.753670
- Site 114 – Pleasant Stream Rd (SLD062): 41.483301, -76.945204 to 41.497150, -76.900622
- Site 115 – Pleasant Stream Rd (SLD058): 41.495257, -76.851932 to 41.495298, -76.846038
- Site 119 – Pleasant Stream Rd (SLD059): 41.492605, -76.853992 to 41.495257, -76.851932

Site 105 is located within Hillsgrove Township and Site 109 within Fox Township, both in Sullivan County. Sites 114, 115, and 119 are located within McIntyre Township, Lycoming County.

At Site 105, the proposed scope of work would involve building a new bridge over Mill Creek at its post-flood location and leaving the old bridge in place as an overflow channel. The upstream bank would be protected from further erosion using log deflectors and the deposited material in the upstream and downstream channel would be removed. Roadway repairs to Big Hollow Road would be performed in the footprint of the existing roadway.

At Site 109, the proposed scope of work would involve installing a new roadway segment for Mill Creek Road from a point just to the west of the East Mill Creek Bridge and connecting into Camels Road to the west. The new road would run to the north of the current damaged roadway, would be sixteen feet wide with two-foot wide shoulders, and would include new culverts, ditches, and roadway surfacing material. One of the new culverts would be a metal pipe arch structure on an Unnamed Tributary to West Branch Mill Creek. The box culverts and plastic culvert pipes would be removed from the currently damaged roadway. Additionally, rock protection would be installed at the existing bridge on Mill Creek Road, crossing over East Branch Mill Creek.

At Site 114, the proposed scope of work would involve installing a new roadway segment for Pleasant Stream Road on an old railroad grade to the north of Pleasant Stream and a single radius aluminum bottomless arch culvert (fifteen feet by seven feet by nine inches) over an Unnamed Tributary to Pleasant Stream. Riprap would be placed along the footings and wingwalls of the

culvert. The realigned road would be 16 feet wide with 2-foot shoulders, and would also include twenty-two new pipe culverts, ditches, and roadway surfacing material.

At Site 115, the proposed scope of work would involve installing a new roadway segment for Pleasant Stream Road from a point to the east of the slide area, running to the west ending at Short Run. The new road would be moved to the north, away from Pleasant Stream. The new road would be sixteen feet wide with two-foot wide shoulders, and would include new culverts, ditches, and roadway surfacing material. Additionally, existing stormwater pipes would be removed along the damaged section of Pleasant Stream Road.

At Site 119, the proposed scope of work would involve replacing the large corrugated metal culvert (Span = nine feet four inches, Height = five feet six inches, Length = thirty-four feet) over Short Run with a new precast reinforced concrete rigid frame culvert structure north of its current location and relocating the Pleasant Stream Road to the north to match the relocated road in PW 115. The road would be sixteen feet wide with two-foot wide shoulders, and would include new culverts, ditches, and roadway surfacing material. The large metal culvert would be removed from the currently damaged segment of Pleasant Stream Road. The remaining work in this PW would remain in-kind repairs, including replacing damaged smaller culverts, cleaning out clogged culverts, rebuilding damaged headwalls, and repairing roadway washouts and road surface.

From **Section 3: Affected Environment and Consequences** onward, Sites 115 and 119 are evaluated as one site, since they connect to one another. All permit application documents also combined Sites 115 and 119 together for one permit. Detailed engineering plans and drawings for all the sites can be found in **Appendix B**.

2.3 Alternatives Considered and Eliminated from Further Consideration

The alternative considered and eliminated from further consideration involved in-kind repair to the damaged facilities and reconstructing the sites in an area other than the Proposed Action Alternative. In 2011, Tropical Storm Lee caused damage in the same area and money was spent to repair the sites in-kind. Due to the frequency and severity of recent flood events and the location of the sites within the Special Flood Hazard Area (SFHA), DCNR eliminated consideration of reconstructing the sites again in the same capacity and location. The proposed action was selected to allow for the construction of new roads in the same general area, but to reduce environmental impacts and the development of natural, undeveloped forest. The location of the damaged sites within a state forest significantly reduced alternative alignment options. Other alignment options were eliminated from further discussion due to higher costs and greater development of natural forested area.

SECTION THREE: AFFECTED ENVIRONMENT AND CONSEQUENCES

Preliminary Screening of Assessment Categories

A preliminary screening of assessment categories was utilized to narrow the list of categories for which detailed assessments needed to be performed. The screening was based on available information on the Proposed Alternative and general project area. The assessment categories that were identified as not significant to the proposed project or the project area were Hazardous Materials and Zoning and Land Use.

Regarding hazardous materials, the project occurs within Loyalsock State Forest. The DCNR project applications prepared for the Proposed Action did not identify any potential hazardous material concerns within the project area. A Phase 1 Environmental Site Assessment has not been performed for the project area and hazardous materials are not anticipated to be present, as they are not consistent with historical or current land use, no obvious signs of contamination were observed, and there are no contaminated sites near the project area. Subsequently, the Hazardous Materials assessment category was eliminated from detailed assessment.

No changes to zoning and land use would result from implementation of this project. Forestry and transportation are the identified primary land uses in the project area. Because all the land is located within a State Forest and there is no change in land use at the sites, the category was eliminated from detailed assessment.

3.1 Physical Environment

3.1.1 Geology, Seismicity and Soils

Sullivan and Lycoming Counties are located within the Appalachian Plateau Province of Pennsylvania. The Natural Resources Conservation Service (NRCS) Web Soil Survey (**Appendix B**) was consulted for detailed soil information. While the general soil association varies throughout the counties, the dominant soil types in the project area are listed below:

- **Lordstown-Oquaga-Wurtsboro Association:** The soils are nearly level to very steep, moderately deep and deep, and excessively drained to moderately well drained. They are located on broad mountaintops and on mountainsides.
- **Oquaga-Lackawanna-Wellsboro Association:** The soils are nearly level to very steep, moderately deep and deep, and excessively drained to moderately well drained. They are located on broad mountaintops and on mountainsides.

The Farmland Protection Policy Act (FPPA – Public Law 97-98, 7 U.S.C. 4201) is intended to minimize the extent to which federal programs unnecessarily and irreversibly convert farmland to nonagricultural uses. Implementing procedures included in associated regulations found in Title 7 of the CFR, Section 658, established the farmland conversion impact rating system to evaluate the impacts Federal programs have on the conversion of farmland to nonagricultural uses. Projects

are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are implemented or assisted by a Federal agency.

Seismic activity in the central region of Pennsylvania is negligible because the area is not tectonically active (USGS Seismic Hazards Map). Therefore, seismic concerns for all the alternatives are relatively low and will not be discussed further in this assessment.

Alternative 1 – No Action

Under the No Action Alternative, there would be no impacts to geological features or soils. Normal geomorphological erosional processes would occur on a long-term basis. There would be no FPPA compliance requirements.

Alternative 2 – Loysock State Forest Consolidated Project (Proposed Action)

For the Proposed Action Alternative, the site elevations are approximately:

- Site 105: 1,291 feet (ft);
- Site 109: 1,546 ft;
- Site 114: 921-1130 ft;
- Site 115/119: 1376-1465 ft.

Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off towards nearby streams. The Alternative 2 Base Maps in **Appendix A** are the USGS PA, 7.5-minute topographic Hills Grove, Barbour, and Bodines quadrangles. The NRCS Web Soil Survey (located in **Appendix B**) of the subject property was consulted for soil information. The web soil survey for the proposed sites showed the following soils in the project areas:

- | | |
|--|--|
| • Barbour fine sandy loam (Ba & Bb) | • Tunkahannock gravelly loam (TuB) |
| • Basher silt loam (Bd) | • Tunkahannock gravelly loam (TuD) |
| • Dystrudepts, deep-Wellsboro-Oquaga association (DyF) | • Udfluvents (Uc & Ud) |
| • Ochrepts-Rock outcrop complex (OcF) | • Wellsboro channery silt loam (WgB) |
| • Oquaga channery silt loam (OsD) | • Wellsboro channery silt loam (WbC) |
| • Oquaga and Lordstown very stony loams (OxB, OxD, & OxE) | • Wellsboro channery silt loam (WmD) |
| • Lackawanna channery silt loam (LbD) | • Wellsboro channery silt loam (WgD) |
| • Morris channery silt loam (MsB) | • Wyoming very stony sandy loam (WoC) |

Area soils would be moderately disturbed during short-term construction and site grading activities. Soil loss may occur directly from construction activities or indirectly via high wind or rain events. To reduce soil erosion, appropriate Best Management Practices (BMPs) would be required at the construction location and would be identified through the PA DEP National Pollutant Discharge Elimination System (NPDES) permitting process. BMPs may include an erosion and

sedimentation (E&S) control plan utilizing silt fences, re-vegetation of disturbed soils, and maintenance of site soil stockpiles during construction to prevent soils from eroding and dispersing off-site. Erosion control fiber mesh would be utilized for disturbed and seeded lawn impact areas. Additional E&S measures may be implemented from the attached Erosion and Sedimentation Control Plan (**Appendix B**). All short-term soil storage would not occur within floodplain areas and work within the floodplain would be coordinated and permitted by the local floodplain administrator.

Performance of soils, rock staging, placement, and compaction activities would be pursuant to the engineering and design plans found in **Appendix B**. Provided that the recommendations and designs made in the plans were followed entirely, minor long-term impacts to soils and geology would be anticipated. These impacts would result from an increase in impervious surface from the new roadways, which would diminish natural soil infiltration. However, the damaged facilities would return to natural space, resulting in a very minimal to negligible increase in impervious surface in the general project vicinity. The NRCS Web Soil Survey was used to determine whether any prime or other important farmland is present. Prime farmland was identified within the project areas of Sites 114 and 115/119. There would be no FPPA compliance requirements due to no prime farmland or other important farmland occurring in the development area at Sites 105 and 109.

For Site 114, subject to FPPA requirements, a consultation was conducted with NRCS, with the determination that the project does convert prime or other important farmland and is subject to the FPPA, thus requiring completion of AD-1006 by the federal agency. FEMA completed the AD-1006 form, requested a land evaluation on December 17, 2019, and received the land evaluation response from NRCS on December 27, 2019. The Proposed Action Alternative converts 4.5 acres of Prime Farmland and 0 acres of statewide or local important farmland. The relative value of farmland to be converted (on a scale of 0 to 100) was rated 5.9, with the total site assessment points equaling 32 (out of 160). For projects where the total is 160 or greater (out of 260), federal agencies must consider alternative actions that could reduce adverse impacts. At this site, the total was 37.9. Thus, the completion of AD-1006 meets the compliance requirements for FPPA. The final Land Evaluation and Site Assessment (LESA) form and correspondence with NRCS can be found in **Appendix C**.

For Sites 115/119, subject to FPPA requirements, a consultation was conducted with NRCS, with the determination that the project does convert prime or other important farmland and is subject to the FPPA, thus requiring completion of AD-1006 by the federal agency. FEMA completed the AD-1006 form, requested a land evaluation on December 17, 2019, and received the land evaluation response from NRCS on December 27, 2019. The Proposed Action Alternative converts 9.4 acres of Prime Farmland and 0 acres of statewide or local important farmland. The relative value of farmland to be converted (on a scale of 0 to 100) was rated 2.6, with the total site assessment points equaling 53 (out of 160). For projects where the total is 160 or greater (out of 260), federal agencies must consider alternative actions that could reduce adverse impacts. At this site, the total was 55.6. Thus, the completion of AD-1006 meets the compliance requirements for FPPA. The final LESA form and correspondence with NRCS can be found in **Appendix C**.

3.1.2 Water Resources and Water Quality

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into waters of the United States. It also established requirements associated with dredging and filling waters of the United States. Section 404 of the CWA established the United States Army Corps of Engineers (USACE) permit requirements for discharging dredged or fill materials into waters of the United States and traditional navigable waterways. In addition, Executive Order (EO) 11990 (Protection of Wetlands) requires Federal agencies to avoid, to the extent possible, adverse impacts to wetlands.

Alternative 1 – No Action

Under the No Action Alternative, no adverse impacts to water resources near the damaged sites would occur.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Navarro & Wright Consulting Engineers Inc. performed a Wetland and Watercourse Identification and Delineation for Sites 105, 109, 114, and 115 and ASC Group and LDG performed delineations for Site 119. This desktop review and field reconnaissance delineated, identified, and evaluated wetlands and surface water resources at each site. The Wetland and Watercourse Identification and Delineation Reports and the aquatic resource impact tables for the subject sites are attached in **Appendix B**. The assessment identified the following water resources at each site:

- Site 105: Two watercourses and three drainage features were identified within the project area. The primary surface water feature is Mill Creek, which flows from northwest to southeast through the site. Mill Creek is classified as a riverine, upper perennial, unconsolidated bottom, permanently flooded system and contains highly eroding and slumping banks. A second perennial stream, a tributary to Mill Creek, is in the northwest portion of the site and discharges into Mill Creek just upstream of the existing bridge. According to Pennsylvania Code (PA Code) Title 25, Chapter 93, Mill Creek has the designated uses of High Quality-Cold Water Fishes (HQ-CWF) and Migratory Fishes (MF). The existing use classification is Exceptional Value Water (EV). Furthermore, Mill Creek is stocked with trout from Big Hollow Road Bridge downstream to its mouth and is listed as a Pennsylvania Wild Trout Water (Natural Reproduction) and an Approved Trout Water; therefore, instream construction restrictions would be required March 1 through June 15 and October 1 through December 31. Overall, the project would temporarily and/or permanently impact 23,301 square feet (0.53 acre) of Mill Creek. The placement of fill for bridge abutments and wingwalls and streambank protection/stabilization would permanently impact approximately 375 linear feet of Mill Creek for a total impact of approximately 7,818 square feet (0.18 acre). Excavation activities and aerial work would temporarily impact approximately 508.4 linear feet and 70.5 linear feet of Mill Creek, respectively, for a total impact of approximately 15,483 square feet (0.36 acre). The applicant applied for a Standard Joint Pennsylvania Water Obstruction and Encroachment

Permit and USACE Section 404 Permit under the Pennsylvania State Programmatic General Permit (PASPGP) program.

- Site 109: Six watercourses were identified and delineated within the road realignment project area. The streams (three perennial, one intermittent, and two ephemeral) include West Branch Mill Creek, East Branch Mill Creek, and unnamed tributaries to West Branch Mill Creek to the south. West Branch Mill Creek, East Branch Mill Creek, and unnamed tributaries to West Branch Mill Creek have the designated uses of HQ-CWF/MF and an existing use of EV. Furthermore, each perennial watercourse is listed as a Pennsylvania Wild Trout Water (Natural Reproduction) from its headwaters downstream to its mouth. Therefore, the instream construction restrictions would be required from October 1 to December 31. Overall, the project activities would temporarily and/or permanently impact 9,995 square feet (0.23 acre) of East Branch Mill Creek, West Branch Mill Creek, and an unnamed tributary to West Branch Mill Creek. The placement of fill and riprap; installation of pipe/apron, culvert, and spillway; and removal of culverts, pipes/inlets, debris, and gravel would permanently impact 8,185 square feet (0.19 acre) of watercourses or floodways. Activities associated with temporary cofferdams and watercourse crossings would temporarily impact 1,770 square feet (0.04 acre) of watercourses. The applicant applied for a Small Projects Joint Pennsylvania Water Obstruction and Encroachment Permit and USACE Section 404 Permit under the PASPGP program.
- Site 114: Thirty-three watercourses (one perennial, twenty-five intermittent, and seven ephemeral), and four spring seeps were identified and delineated within the project area. Most of the streams are Unnamed Tributaries to Pleasant Stream to the south. Two of the spring seeps are located on the former railroad bed and two are adjacent. The Unnamed Tributary to Pleasant Stream, a perennial stream, is not listed in the PA Code Title 25, Chapter 93 for water quality standards or for any trout classifications. Pleasant Stream parallels the road realignment but is located outside of the project site; the confluence of Pleasant Stream and the Unnamed Tributary to Pleasant Stream is located approximately 400 feet downstream from the southern study area boundary. Pleasant Stream is classified as a Pennsylvania Wild Trout Waters (Natural Reproduction) from its headwaters downstream to its mouth; therefore, the October 1 to December 31 channel work restriction would apply to any tributaries of Pleasant Stream (tributary linkages rule). Furthermore, the Pleasant Stream reach from Potash Hollow Road to its mouth, is stocked with trout. This includes the reach of Pleasant Stream that parallels the project area; therefore, the March 1 to June 15 stocked trout channel work restriction would also apply to any tributaries within 0.5 miles upstream of the stocked segment of Pleasant Stream. Overall, the project activities would temporarily and/or permanently impact 6,506 square feet (0.15 acre) of twenty-three Unnamed Tributaries to Pleasant Stream. The installation of an arch culvert over an Unnamed Tributary to Pleasant Stream and twenty-two pipe culvert crossings would permanently impact 744 linear feet of watercourses for a total of 4,739 square feet (0.11 acre). The installation and operation of a diversion pipe during construction of the arch culvert would temporarily impact thirty-one linear feet of the

watercourse for a total of 1,767 square feet (0.04 acre). The applicant applied for a Pennsylvania Water Obstructions and Encroachment General Permit (GP-11).

- Site 115/119: Two roadside drainage features, eight watercourses, and two spring seeps were identified and delineated within the project area. The perennial streams include Short Run, Long Run, and Unnamed Tributary to Pleasant Stream. These watercourses have the designated uses of HQ-CWF/MF and existing use classification of EV. Short Run and Long Run are listed as a Pennsylvania Wild Trout Waters (Natural Reproduction) from their headwaters downstream to their mouths. Therefore, the October 1 to December 31 channel work restriction would apply. According to the Pennsylvania Fish and Boat Commission (PA FBC), Trout Water Classifications webpage, Short Run qualifies for the Exceptional Value (EV) special protected water use classification because it is a Wild Trout Waters. Overall, the proposed project activities would temporarily and/or permanently impact 10,652 square feet (0.24 acre) of Short Run, Long Run, and three unnamed tributaries to Pleasant Stream. The installation of culverts, pipe and rock apron, and riprap would permanently impact 213 linear feet of watercourses for a total of approximately 3,750 square feet (0.09 acre) of permanent impacts. Culvert and debris removal, temporary diversions and crossings, and pipe replacement would temporarily impact 258 linear feet of the watercourses for a total of approximately 4,865 square feet (0.11 acre) of temporary impacts. The applicant applied for a Standard Joint Pennsylvania Water Obstruction and Encroachment Permit and USACE Section 404 Permit under the PASPGP program.

Under the Proposed Action Alternative, moderate short-term and minor long-term impacts to water resources and water quality would occur. Short-term, adverse impacts to surface water and water quality would result from temporary fill associated with temporary crossings, diversions, and/or cofferdams and from increased erosion and sedimentation of streams associated with terrestrial ground disturbance and in-water excavation and removal activities. Long-term, adverse impacts to surface water resources would result from discharge of fill and placement of structures on the stream bed and banks. Bank stabilization work would reduce erosion and sedimentation over time resulting in long-term, beneficial impacts. The foundation depths and grading for site development would vary according to geotechnical investigations. Due to seasonal changes and rain events, fluctuations in groundwater would be expected. However, groundwater impacts would not be a major consideration at these sites because there would be no construction below the water table. To reduce impacts to surface water and water quality, the applicant would implement appropriate BMPs, such as installing compost filter socks, rock filters, concrete washouts, wetland protective fence, and rolled erosion control products during construction, permanent rock aprons and rock lined channels, infiltration basins or berms, and mulching and revegetation of disturbed areas following construction.

For Sites 105, 109, and 115/119, the applicant applied for and received a Pennsylvania State Programmatic General Permit (PASPGP-5), which provides Federal authorization pursuant to Section 10 of the Rivers and Harbors Act and Section 404 of the CWA in conjunction with State authorization pursuant to 25 PA Code, Chapter 105. The PASPGP-5 is obtained through a Joint

Application for a Pennsylvania Chapter 105 Water Obstruction and Encroachment Permit and a Federal USACE Section 404 Permit. For Site 114, the applicant applied for and received a Pennsylvania Water Obstruction and Encroachment General Permit (GP-11) and also received Federal authorization through a PASPGP-5. The issuance of the PASPGP-5 or GP-11 also constitutes approval of a State Water Quality Certification as required under Section 401 of the CWA. A list of conditions were provided and must be followed for the PASPGP-5, and a permit compliance and self-certification form must be completed and returned to the appropriate USACE office following the completion of construction. Project specific conditions from the permits are included in **Section 6: Mitigation Measures and Conditions**.

3.1.3 Floodplain Management (Executive Order 11988)

EO 11988 (Floodplain Management) requires that a Federal agency avoid direct or indirect support of development within the SFHA, whenever there is a practicable alternative. FEMA's regulations for complying with EO 11988 and EO 11990 are promulgated in 44 CFR Part 9. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify properties located within the SFHA. FIRM maps for all alternative sites are attached in **Appendix A**.

Floods and flood-related damages are common in Lycoming and Sullivan Counties. Sullivan County experienced 17 federally declared flood related disasters between 1972 and 2019, more than half of which occurred since 2000. Lycoming County experienced thirteen federally declared flood related disasters between 1972 and 2019. Lycoming and Sullivan Counties participate in the National Flood Insurance Program (NFIP) and floodplain development permits would be required at all sites prior to beginning any work within the SFHA. As all alternatives are located either partially or completely within the SFHA, the Eight-Step Planning Process for Floodplains and Wetlands has been included below.

Eight-Step Planning Process for Floodplains and Wetlands	
<p>Step 1: Determine whether the Proposed Action is located in a wetland and/or the 100-year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.</p>	<p>Project Analysis: The No Action Alternative, would no longer use the facilities located within the 100-year floodplain (Zone A).</p> <p>For the five sites included in the Proposed Action Alternative:</p> <p>According to FIRM Panel 42113C0180C, effective 3/3/2014, Site 105 is within the 100-year floodplain (Zone A). The site is functionally dependent on being located within the floodplain, as it is a bridge.</p> <p>According to FIRM Panel 42113C0160C, effective 3/3/2014, Site 109 is outside of the SFHA.</p> <p>According to FIRM Panel 42081C0150F, effective 6/2/2016, Site 114 is mostly outside of the SFHA, with only the west</p>

	<p>and east ends connecting to the existing road network within the 100-year floodplain (Zone A).</p> <p>According to FIRM Panel 42081C0155F, effective 6/2/2016, Site 115 is mostly outside of the SFHA, with only the west and east ends connecting to the existing road network within the 100-year floodplain (Zone A). According to FIRM Panel 42081C0155F, effective 6/2/2016, Site 119 is outside of the SFHA. Excavation associated with proposed work at Sites 115 and 119 would result in permanent impacts to 796.5 square feet of wetland.</p>
Step 2: Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland and involve the affected and interested public in the decision-making process.	Project Analysis: An initial Public Notice regarding the potential for work to occur within the floodplain or wetland was published following the declaration of DR-4292-PA, in October 2016.
Step 3: Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.	<p>Project Analysis: The following alternatives were considered in selecting the proposed action:</p> <p><i>No Action Alternative:</i> Under the No Action Alternative, redevelopment of the damaged infrastructure would not be conducted. Visitors to the State Forest would continue to use detour routes.</p> <p><i>Proposed Action Alternative:</i> Under the Proposed Action Alternative, the damaged infrastructure would be rebuilt in a new alignment, close to the damaged sites. The new sites would be built in an area with a lower flood risk and less area within the SFHA, but still would have portions within the SFHA.</p>
Step 4: Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands, and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.	Project Analysis: Most of the development for the Proposed Action Alternative would occur outside the SFHA. The project would move most of the redeveloped sites to locations outside the SFHA. There would be permanent impacts to 796.5 square feet of wetland from excavation work, at sites 115 and 119.
Step 5: Minimize the potential adverse impacts from work within floodplains and wetlands (identified under Step 4), restore and preserve the natural and beneficial values served by wetlands.	Project Analysis: Most of the development for the Proposed Action Alternative would occur outside the SFHA. The project would move most of the redeveloped sites to locations outside the SFHA. To minimize impacts to the floodplain, appropriate drainage would be constructed/upgraded to manage all stormwater. The Proposed Action would result in 796.5 square feet of wetland impacts, which would be permitted through USACE.

<p>Step 6: Re-evaluate the Proposed Action to determine: 1) if it is still practicable considering its exposure to flood hazards; 2) the extent to which it would aggravate the hazards to others; 3) its potential to disrupt floodplain and wetland values.</p>	<p>Project Analysis: The Proposed Action remains the most practicable due to it relocating most of the new facilities outside of the SFHA.</p>
<p>Step 7: If the agency decides to take an action in a floodplain or wetland, prepare and provide the public with a finding and explanation of any final decision that the floodplain or wetland is the only practicable alternative. The explanation should include any relevant factors considered in the decision-making process.</p>	<p>Project Analysis: Public notice of the Proposed Action Alternative would be given as a function of this EA, informing the public of a potential FEMA funded action, occurring partially within the SFHA.</p>
<p>Step 8: Review the implementation and post-implementation phases of the Proposed Action to ensure that the requirements of the EOs are fully implemented. Oversight responsibility shall be integrated into existing processes.</p>	<p>Project Analysis: This step is integrated into the NEPA process and FEMA project management and oversight functions.</p>

Alternative 1 – No Action

Under the No Action Alternative, no additional impacts to the floodplain would occur. The damaged facilities would not be repaired and visitors to the state park would continue to use the detour routes currently in place. The damaged roads are located within the 100-year floodplain (Zone A), but they would not be repaired or utilized, therefore having no impact on the floodplain.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Under the Proposed Action Alternative, most of the work would occur outside the floodplain except for Site 105, the new bridge construction, and parts of Sites 114 and 115 where they connect into the existing road network. Site 105 is functionally dependent on being located within the floodplain, as a bridge is needed to cross over Mill Creek. However, at Site 105 the proposed action would increase the hydraulic opening at the bridge crossing and protect the bridge abutments from damage from future flood events resulting in no adverse effects on public safety, public health or the surrounding environment and no increased risk due to flooding. The parts of Sites 114 and 115 that would be located within the floodplain are the sections that would connect into the existing road network. The majority of the damaged facilities would be relocated outside of the SFHA, therefore having a minor cumulative impact on the floodplain and floodplain values. The applicant/contractor would coordinate with the local floodplain administrator to receive a permit to conduct the activities that would occur within the floodplain.

3.1.4 Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards to protect the public from potentially harmful amounts of air pollutants. Primary and secondary air quality standards are established by the Environmental Protection Agency (EPA). Primary air quality standards protect the public health, including the health of sensitive populations, such as people with asthma, older adults, and children. Secondary air quality standards protect public welfare by implementing and promoting healthy ecosystems, preventing poor visibility, and preventing damage to crops and buildings. The EPA has set national ambient air quality standards for six of the following criteria pollutants: Ozone (O₃), Nitrogen Dioxide (NO₂), Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Inhalable Particulate Matter (PM_{2.5} and PM₁₀), and Lead (Pb). The Pennsylvania Department of Environmental Protection (PA DEP) Bureau of Air Quality enforces and monitors air quality standards in the State of Pennsylvania. PA DEP monitors the above-mentioned pollutants, meteorology, and air toxic pollutants such as metals, carbonyls, and Volatile Organic Compounds (VOCs). According to the EPA and PA DEP, Lycoming and Sullivan Counties are classified as attainment areas, defined as an area that meets the National Ambient Air Quality Standards (NAAQS).

Alternative 1 – No Action

Under the No Action Alternative, no impacts to air quality would result from not rebuilding the facilities and requiring park users to continue to utilize the detour routes.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Under the Proposed Action Alternative, minor, short-term impacts to air quality would occur during construction activities. To reduce impacts, the construction contractors would be required to wet down construction areas as needed to mitigate fugitive dust. Emissions from fuel-burning engines (e.g. heavy machinery and earthmoving machinery) could also temporarily increase the levels of some of the criteria pollutants, such as CO, NO₂, O₃, PM₁₀, and noncriteria pollutants such as VOCs. To mitigate these emissions, BMPs such as management of run times and maintenance for fuel burning equipment would be implemented. Air Quality Permitting through PA DEP may be required and would be pursued according to state requirements. Long-term impacts to local air quality near the new road sites, including from the new traffic patterns, would be negligible.

3.2 Biological Environment

3.2.1 Terrestrial and Aquatic Environment

Alternative 1 – No Action

Under the No Action Alternative, there would be no impacts to terrestrial and aquatic habitats or species.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

The Commonwealth of Pennsylvania has approximately 67 mammal species, 432 bird species, 67 mussel species, and 197 fish species. Per the Pennsylvania DCNR, animal species in the area include the Silver-haired Bat (*Lasionycteris noctivagans*), Little Brown Bat (*Myotis lucifugus*), Appalachian Cottontail (*Sylvilagus obscurus*), Great Blue Heron (*Ardea Herodias*), Yellow-bellied Flycatcher (*Empidonax flaviventris*), Timber Rattlesnake (*Crotalus horridus*), Eastern Box Turtle (*Terrapene carolina carolina*), Swainson's Thrush (*Catharus ustulatus*), White-tailed deer, (*Odocoileus virginianus*), River otter (*Lontra canadensis*), Eastern chipmunk (*Tamias striatus*), Eastern Lampmussel (*Lampsilis radiata*), Elktoe (*Alasmidonta marginata*), Largemouth Bass (*Micropterus salmoides*), Smallmouth Bass (*Micropterus dolomieu*), and Yellow Perch (*Perca flavescens*). Additional transient species may be observed in the area.

Pennsylvania has approximately 2,100 native plant species in the state. Per the Pennsylvania DCNR, plant species in the area include the Red maple (*Acer rubrum*), American wisteria (*Wisteria frutescens*), Mountain laurel (*Kalmia latifolia*), Common milkweed (*Asclepias syriaca*), Royal fern (*Osmunda regali*), Bull Sedge (*Carex bullata*), Dwarf Juniper (*Juniperus communis var. depressa*), White Twisted-stalk (*Streptopus amplexifolius*), Balsam Fir (*Abies balsamea*), Rough Cotton-grass (*Eriophorum tenellum*), Jacob's-ladder (*Polemonium vanbruntiae*), and Hemlock Palustrine Forest.

Impacts to terrestrial and aquatic species resulting from the Proposed Action Alternative are expected to be minor, on the scale of the entire community. During construction, terrestrial and aquatic habitat could be impacted by temporary land disturbance and water quality degradation. Mobile species could relocate to nearby areas not affected by construction. Non-mobile species could be killed in terrestrial and aquatic areas cleared or filled, which are minor in the project area. Therefore, the Proposed Action Alternative is anticipated to have minor, adverse short and long-term impacts to the terrestrial and aquatic habitats. Over the long-term, the proposed streambank stabilization could reduce bank erosion and increase instream habitat.

3.2.2 Wetlands (Executive Order 11990)

The USACE regulates the discharge of dredged or filled material into waters of the United States, including wetlands, pursuant to Section 404 of the CWA. In addition, EO 11990 (Protection of Wetlands) requires Federal agencies to avoid, to the extent possible, adverse impacts on wetlands that may result from federally funded actions.

Alternative 1 – No Action

Under the No Action Alternative, no impacts to wetlands would occur.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Navarro & Wright Consulting Engineers Inc. performed a Wetland and Watercourse Identification and Delineation for Sites 105, 109, 114, and 115 and ASC Group and LDG performed delineations for Site 119 in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE, 1987) as amended by the *Regional Supplement to the Corps of Engineers Wetland Delineation*

Manual: Northcentral and Northeast Region, Version 2.0 (USACE, 2012). This desktop review and field reconnaissance identified and evaluated wetlands and surface water resources at each site. Wetlands were classified according to the Cowardin System as described in *A Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). The results identified:

- Site 105: One wetland was identified and delineated within the southwest portion of the project area. The wetland, approximately 0.012 acre, is classified as a palustrine emergent, persistent, seasonally flooded/saturated (PEM1E) system. The wetland receives stormwater runoff from the surrounding hillside through a drainage swale. The wetland would not be directly impacted by the proposed project activities. Wetland protective fencing would be installed around the wetland during construction to prevent any potential wetland impacts.
- Site 109: One wetland was identified and delineated within the southeast portion of the project area. The palustrine emergent wetland (PEM1E) is approximately 0.01 acre and is hydrologically connected to a seep spring to the north. The wetland would not be impacted by the project. Wetland protective fencing would be utilized during construction to prevent any potential wetland impacts.
- Site 114: No wetlands were identified and delineated within the project area.
- Site 115/119: Two wetlands were identified and delineated within the project area. These wetlands are classified as PEM1E systems. The wetlands, approximately 0.03 acre and 0.02 acre, are located west and east, respectively, of the proposed Short Run crossing of Pleasant Stream Road. The wetland to the west of the crossing is associated with Short Run and is considered to be Exceptional Value. Excavation for the road realignment and construction of the Short Run crossing would result in approximately 2,032 square feet (0.047 acre) of permanent impacts to wetlands. A Joint Permit Application (JPA) was necessary to cover project impacts anticipated to delineated wetlands. Additionally, avoidance and minimization measurements would be taken for to limit impacts to wetlands that are of exceptional value due to their connection with the Short Run. Wetland protective fencing would be utilized during construction to prevent any additional wetland impacts.

Under the Proposed Action Alternative, moderate short-term impacts to wetland would occur at the Site 115/119, with minor long-term impacts. The wetland impacts would require a permit from USACE, as noted, however, no compensatory mitigation is required because the impact is less than or equal to 0.05 acres and considered *de minimis*. The other sites would not result in impacts to the wetlands, as they are outside the project area and wetland protective fencing would be utilized during construction to prevent potential impacts to nearby wetlands.

3.2.3 Threatened and Endangered Species

Section 7 of the Endangered Species Act (ESA) requires any federal agency that funds, authorizes, or carries out an action to ensure that its action is not likely to jeopardize the continued existence of any endangered or threatened listed species or result in the destruction or adverse modification of designated critical habitats.

Alternative 1 – No Action

Under the No Action Alternative, no impacts to listed species, their habitats, or designated critical habitat would occur.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

A Pennsylvania Natural Diversity Inventory (PNDI) report was run for each of the five project sites, to determine the potential for impacts to threatened and endangered species within the project areas (**Appendix C**). This system identifies the potential for impacts to species listed by the US Fish and Wildlife Service (USFWS), Pennsylvania Game Commission (PA GC), DCNR, and PA FBC. *No Known Impacts* to USFWS listed species were identified and no further review was required with their office, satisfying Section 7 of the Endangered Species Act. Two of the five sites were identified as having a *Potential Impact* to PA FBC listed species and all five sites were identified as having a *Potential Impact* to PA GC Listed species. Information was submitted to the agencies for further review and determination of impact on October 23, 2019.

Responses from the PA GC were received on October 24, 2019, with a determination of *no impact anticipated*. Responses were received from the PA FBC on October 31, December 4, and December 10, with *no impact anticipated* to the Timber Rattlesnake for Site 105. For the remaining sites, the PA FBC recommended that a Timber Rattlesnake habitat assessment be conducted in the project area by a qualified Timber Rattlesnake Surveyor. However, based on discussion between DCNR, PA FBC, and analysis of the projects, PA FBC determined that *no adverse impacts* to the Timber Rattlesnake are anticipated (March 2018 & May 2019), given that the avoidance measures listed in **Section 6** are followed (**Appendix B & C**). If any Timber Rattlesnakes are observed on-site during construction, the PA FBC office must be notified.

3.2.4 Migratory Birds

All native migratory birds, including waterfowl, shorebirds, passerines, hawks, owls, vultures, and falcons are afforded protection under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-712). The MBTA makes it illegal to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid Federal permit (50 CFR 10.13).

Alternative 1 – No Action

Under the No Action Alternative, no impacts to migratory birds would occur.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Under the Proposed Action Alternative, minor short-term impacts to migratory birds would occur during construction. Vegetation removal would occur during construction, but no critical wildlife habitat occurs within the project area. Some wildlife may be accidentally impacted if they are unable to leave the area during construction. But after construction, species could return to the general area. Long-term impacts to migratory birds would be negligible. The project is located within a forest and there would be suitable habitat in the general project vicinity for migratory birds to return to after construction is completed. Additionally, the damaged sites would eventually become natural space again, as redevelopment would not occur there.

3.3 Socioeconomics

3.3.1 Noise

Noise is generally defined as undesirable sound and is federally regulated by the Noise Control Act of 1972 (NCA). Although the NCA gives the EPA the authority to prepare guidelines for acceptable ambient noise levels, it only charges those federal agencies that operate noise-producing facilities or equipment to implement noise standards; the EPA's guidelines, and those of many federal agencies, state that outdoor sound levels in excess of 55 Decibels (dB) are "normally unacceptable" for noise-sensitive land uses such as residences, schools, and hospitals.

Alternative 1 – No Action

Under the No Action Alternative, negligible impacts to noise are anticipated on the roads being used as detour routes.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Under the Proposed Action Alternative, construction and developmental noise impacts would be temporary and limited to the duration of construction activities. Equipment and machinery utilized at the site would meet all state and Federal noise regulations. Over the long-term, the noise level at the immediate site is anticipated to be higher due to the operation of new roads, but should have minimal impact on existing noise levels in the area due to the proximity to the roads they are replacing.

3.3.2 Public Services and Utilities

Public services are provided by private industries, the local municipalities and the State of Pennsylvania. These include police, fire, water, sewer, utilities, and road connections.

Alternative 1 – No Action

Under the No Action Alternative, public services would continue to be provided with negligible impact. The only impact would be the continued increased travel time due to the detour in place and closed roadways.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Under the Proposed Action Alternative, public services would continue to be provided with negligible impact. Impacts would occur temporarily during construction, with overall long-term beneficial impacts resulting from the removal of the existing road detour. The project area is within a state forest, in a mostly undeveloped area.

3.3.3 Traffic and Circulation

As a result of the storm event in 2016, the damaged roads are closed to traffic and detour routes are being utilized. DCNR is responsible for planning, engineering, construction, reconstruction, and maintenance of the damaged roads and facilities, since they are within Loyalsock State Forest.

Alternative 1 – No Action

Under the No Action Alternative, moderate impacts to traffic patterns would remain. The damaged facilities would not be repaired, and people visiting the park would have to continue to use detour routes, adding travel time. This additional travel time could also impact maintenance and emergency vehicles that would otherwise use the damaged route.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

The Proposed Action Alternative would have beneficial impacts on traffic and circulation within Loyalsock State Forest. Vehicles would no longer have to use detour routes and the proposed action would construct facilities in an area less susceptible to flood damages. The new roads and bridges would handle the same traffic volume and have the same number of lanes as the damaged facilities. No traffic study was warranted for the Proposed Action Alternative, since it would have a beneficial impact on traffic and circulation, opening a route that is currently closed in the state forest.

3.3.4 Environmental Justice (Executive Order 12898)

EO 12898 (Environmental Justice in Minority Populations and Low-Income Populations) mandates that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project area were analyzed to determine if a disproportionate number of minority or low-income persons have the potential to be adversely affected by the proposed project.

United States Census Bureau data were used to assemble the following community profiles for Lycoming County, Sullivan County, and the Commonwealth of Pennsylvania. Information was gathered from the 2013-2017 American Community Survey (ACS) 5-year estimates. The ACS 5-year estimates for the percentages of the population of the project area based on race and ethnicity are provided in **Table 1** and **Table 2** below.

Pennsylvania has a population of 12,790,505, with 21% under 18 years of age. The state population has an educational attainment rate of 89.9% of high school graduate level or higher. The median

household income is \$56,951 and 13.1% of individuals are identified as living below the Federal Poverty Level. Of the state population, approximately 6.8% of individuals identify as being of Hispanic or Latino origin. 81.1% of the population identifies as white. Approximately 89% of the population is listed as predominantly English-speaking (2013-2017 ACS 5-Year Estimate).

In comparison, Lycoming County has a population of 115,398, with 20.6% under 18 years of age. The county population has an educational attainment rate of 89.5% of high school graduate level or higher. The median household income is \$50,634 and 14% of individuals are identified as living below the Federal Poverty Level. Of the county population, approximately 1.9% of individuals identify as being of Hispanic or Latino origin. Approximately 96.6% of the population is listed as predominantly English-speaking (2013-2017 ACS 5-Year Estimate).

In comparison, Sullivan County has a population of 6,192, with 12% under 18 years of age. The county population has an educational attainment rate of 88.7% of high school graduate level or higher. The median household income is \$45,519 and 13.1% of individuals are identified as living below the Federal Poverty Level. Of the county population, approximately 1.8% of individuals identify as being of Hispanic or Latino origin. Approximately 97.3% of the population is listed as predominantly English-speaking (2013-2017 ACS 5-Year Estimate). Appropriate plain language guidance would be made if requested, for limited-English speaking residents to access the EA and public notice.

Table 1 – Demographics in the Commonwealth of Pennsylvania, Lycoming County, and Sullivan County

Race	Commonwealth of Pennsylvania	Lycoming County	Sullivan County
White Alone	81.1%	92.0%	94.0%
Black or African American Alone	11.1%	4.9%	2.6%
Asian Alone	3.3%	0.6%	0.5%
Some other Race Alone	2.2%	0.7%	1.1%
Two or More Races	2.3%	1.8%	1.8%

Table 2 – Low-Income Populations in the Commonwealth of Pennsylvania, Lycoming County, and Sullivan County

Income	Commonwealth of Pennsylvania	Lycoming County	Sullivan County
Above the Federal Poverty Level	86.9%	86.0%	86.9%

Below the Federal Poverty Level	13.1%	14.0%	13.1%
--	-------	-------	-------

Alternative 1 – No Action

Under the No Action Alternative, the repairs to the damaged roadway infrastructure in Loyalsock State Forest would not be conducted, and FEMA would not be providing funding. There would be no disproportionate and adverse impacts on low-income or minority populations. The people who utilize the state forest would have to continue to use the detour routes in place to access areas in the state forest.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Under the Proposed Action Alternative, there would not be any environmental justice concerns related to the selected project sites. The Proposed Action Alternative would construct new roadway infrastructure in an area less susceptible to severe flooding and is close to the damaged infrastructure. The Proposed Action Alternative would not have disproportionately high and/or adverse effects on minority or low-income populations. The Proposed Action Alternative would comply with EO 12898 and would not result in long-term adverse socioeconomic impacts. Positive long-term benefits of the project would include providing roadways with a lower flood risk and reduced service interruptions and costs associated with potential repetitive flooding at the existing sites.

3.3.5 Safety and Security

To minimize risks to safety and human health, all construction activities would be performed using qualified personnel trained in the proper use of equipment, including all safety precautions. Additionally, all activities would be conducted in accordance with the standards specified in Occupational Safety and Health Administration (OSHA) regulations. EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks) mandates that Federal agencies identify and assess health risks and safety risks that may disproportionately affect children. Environmental health and safety risks include those that are attributable to products or substances that the child is likely to encounter or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to).

Alternative 1 – No Action

Under the No Action Alternative, there would be no change to the status quo and no impact to safety and security. There are no known security or safety concerns for the public using the state forest.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

The Proposed Action Alternative would require extensive construction activities associated with development. Construction activities would require all personnel to have appropriate OSHA certifications and knowledge associated with their profession. Appropriate counter measures would be taken along with Health Site and Safety Plans. The proposed project sites are surrounded by state forest, so there would not be any major risks to the area residents or public. During construction activities, appropriate signage and fencing would be implemented to ensure the public does not enter an active construction zone. It is recommended that the workers responsible for implementing the project be advised that timber rattlesnakes may be encountered, and that avoidance is the best means of minimizing risks to personal safety. Safety concerns for this alternative are minor because they would be limited to short-term development of the site and facilities and would not have a long-term negative effect on safety or security. Long-term safety impacts would be beneficial, due to the relocation of transportation infrastructure to a less flood-prone location.

3.4 Historic and Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, 54 U.S.C. §306108, requires Federal agencies to consider the impact an undertaking has on historic properties. The review activities required under NHPA are referred as the Section 106 process. According to 36 CFR 60.4, historic properties are defined as districts, sites, buildings, structures, and/or objects that are listed in or eligible for listing in the National Register of Historic Places (NRHP). In accordance with the 36 CFR 800.4, Federal agencies are required to identify historic resources within an undertaking's Area of Potential Effect (APE). As defined in 36 CFR Part 800.16(d), the APE "is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist." In consultation with the appropriate State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), Federal agencies must evaluate the identified historic resources for NRHP eligibility and assess the potential effects to those historic properties resulting from the proposed undertaking. If the undertaking is determined to have an adverse effect on historic properties, then the agency must attempt to avoid, minimize, or mitigate that adverse effect.

For each of the proposed alternatives, FEMA conducted an archives search utilizing Pennsylvania's Cultural Resources Geographic Information Systems (CRGIS). A summary of those results and subsequent consultation is provided in the below paragraphs. With regards to tribal resources, there are five tribes with known cultural areas of interest in Sullivan and Lycoming Counties: Delaware Nation of Oklahoma, Delaware Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, Seneca Nation, and Seneca-Cayuga Nation. FEMA sent the tribes consultation letters on December 18, 2019. Per the 2018 *Programmatic Agreement Among FEMA, the Pennsylvania State Historic Preservation Officer, the Pennsylvania Emergency Management Agency Nation, the Seneca Nation of Indians of New York*, FEMA requested that the Seneca Nation of Indians of New York respond to the consultation letter within fifteen (15) days of receipt. The remaining tribes were given thirty (30) days to respond. On February 3, 2020, the Delaware Nation opined that the project would

not endanger cultural or religious sites of interest to the Tribe. No other tribes expressed concerns with this project. Copies of correspondence between FEMA and the tribes can be found in **Appendix C** of this report.

Alternative 1 – No Action

Under the No Action Alternative, repairs to the damaged roads and bridge in Loyalsock State Forest would not occur. Therefore, no new impacts to historic properties would result from the continued use of detour routes in place.

Alternative 2 – Loyalsock State Forest Consolidated Project (Proposed Action)

Because the proposed construction is in undisturbed areas, Larson Design Group (LDG), on behalf of DCNR, consulted with the Pennsylvania State Historic Preservation Office (PA SHPO) for each of the five sites as part of this undertaking. The consultation, which occurred between September 2017 and April 2019, included the submission of Cultural Resources Notices, descriptions of the proposed work, and maps and drawings. Upon receipt of LDG's Cultural Resource Notices for PWs 105, 109, and 114, the PA SHPO determined the scope of work for these PWs would result in No Effect to Historic Properties or No Historic Properties in the APE. For PWs 115 and 119, the PA SHPO requested LDG conduct a Phase I archaeology survey to locate potentially significant archaeological resources within the APE. Kevin Eric Sheridan of the Public Archaeology Facility, Binghamton University, on behalf of LDG, submitted a Phase I Cultural Resource Survey for a 4.9-hectare (12.2 acre) area encompassing the APE, to the PA SHPO. Upon review of this survey, PA SHPO agreed with the survey's analysis that there are No Historic Properties in the APE.

In November 2019, FEMA synthesized these consultations in correspondence with the PA SHPO to assess potential impacts to historic properties. FEMA's evaluation ultimately determined that the proposed work will have No Historic Properties Affected. On December 9, 2019, the PA SHPO concurred with FEMA's determination. This concluded the Section 106 Process for the Proposed Action Alternative. Copies of correspondence between FEMA and PA SHPO can be found in **Appendix C** of this report.

3.5 Comparison of Alternatives

The following two tables summarize the potential impacts analyzed for the No Action and Proposed Action Alternatives and the impact intensity thresholds used in determining impact.

Table 3 – Impact Intensity Thresholds & Impact Duration Definitions

Impact Intensity Threshold	
Negligible	Changes in the resource or resource related values would be below or at the level of detection. If detected, effects would be considered slight with no perceptible consequences to health or visibility.
Minor	Changes in resources or resource related values would be measurable; although the changes would be small, effects on the resource or the environment would be localized.
Moderate	Changes in the resource or resource related values would be readily apparent. The effects would be sufficient to cause concern, although effects would be relatively local and short-term.
Major	Changes in resources or resource related values would be obvious, the effects would have substantial consequences to the resource and environment and be noticed regionally.
Impact Duration Definitions:	
Short-term effect	Recovers in less than three years and contributes to a beneficial effect.
Long-term effect	Takes more than three years to recover and does not contribute to the long-term beneficial effect.
Long-term beneficial effect	Takes more than three years to recover and contributes to the long-term beneficial effect.

Table 4 – Summary of Environmental Impacts

Affected Environment	No Action Alternative	Proposed Action Alternative
Soils and Geology	• No impact	• Minor long-term impact
Water Resources and Water Quality	• No impact	• Moderate short-term, minor long-term impact
Floodplain Management	• No impact	• Minor impact
Air Quality	• No impact	• Minor short-term, negligible long-term
Terrestrial and Aquatic Environment	• No impact	• Minor impact
Wetlands	• No impact	• Moderate short-term, minor long-term impact at Site 115/119. No impact at other sites.
Threatened and Endangered Species	• No impact	• No known impact to USFWS species. No adverse impacts to Timber Rattlesnake.

Affected Environment	No Action Alternative	Proposed Action Alternative
Migratory Birds	• No impact	• Minor short-term impact
Noise	• Negligible impact	• Minor impact
Public Service and Utilities	• Negligible impact	• Negligible impact
Traffic and Circulation	• Moderate impact	• Beneficial impact
Environmental Justice	• No impact	• No impact
Safety and Security	• No impact	• Minor short-term, beneficial long-term
Historic Structures	• No historic properties affected	• No historic properties affected
Archaeological Resources	• No archaeological resources affected	• No archaeological resources affected
Tribal and Religious Sites	• No effect	• No effect

SECTION FOUR: CUMULATIVE IMPACTS

Cumulative effects are defined by the CEQ as the impact on the environment, resulting from the incremental impacts of the evaluated actions when added to other past, present, and reasonably foreseeable future actions, regardless of the source, Federal or non-Federal. Per 40 CFR §1508.7, cumulative impacts can result from individually minor but collectively significant actions taken over time. The actions at the five Proposed Action project sites were deemed a connected action due to their proximity to one another within Loyalsock State Forest.

Due to the location of the project within Loyalsock State Forest, there is little development currently occurring around the project areas. Reasonably foreseeable future actions in the area include future flood recovery projects and continued recreational use of Loyalsock State Forest. There is not any planned future development in the immediate area of the proposed project area. Past, present, and future actions are not expected to result in increased long-term development or population growth, as the goal is to restore pre-disaster services to the community while mitigating against future flood related damages. Impacts to the soils would be minimized using Erosion and Sedimentation Control Plans. Projects proposed in the floodplain are managed through the requirement to obtain permits from the local floodplain manager and projects proposed to impact waterways and wetlands would obtain all necessary permits through PA DEP and USACE. Because frameworks are in place to manage potential environmental impacts, no significant impacts are anticipated from the incremental impact of the proposed action in combination with other past, present, and reasonably foreseeable future actions near the Proposed Action Alternative project sites.

SECTION FIVE: PUBLIC PARTICIPATION

The NEPA process requires that opportunities be provided for public review and comment. Shortly after the DR-4292 flood event received a federal disaster declaration, a public notice was published in newspapers in the affected communities. The publication of the draft EA kicked off a 30-day public comment period, offering an additional formal opportunity for public involvement. FEMA advertised the Draft EA, as per NEPA requirements. The 30-day comment period began from initial publication of the Public Notice on February 26, 2020 in the *Sun Gazette* and *Sullivan Review* Newspapers. The Draft EA Document was made available and posted online at the FEMA website at <https://www.fema.gov/disaster/4292>. Comments were submitted by email to FEMA-R3-EHP-PublicComment@fema.dhs.gov or by mail, addressed to FEMA Region III, Disaster 4292, 615 Chestnut Street, Sixth Floor Philadelphia, PA 19106, ATTENTION: DCNR Loyalsock State Forest Alternate Project DR-4292 NEPA Comments. No substantive comments were received during the public comment period. The Draft EA became final and the initial Public Notice served as the final Public Notice. The public notice is attached in **Appendix D**.

SECTION SIX: MITIGATION MEASURES AND CONDITIONS

Mitigation measures and conditions applicable to all sites:

- If deviations from the proposed scope of work result in substantial design changes, the need for additional ground disturbance, additional removal of vegetation, or any other unanticipated changes to the physical environment, prior to the start of work the applicant (DCNR) must contact FEMA so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws.
- The applicant (DCNR) is responsible for obtaining and complying with all required local, State and Federal permits and approvals.
- The applicant/contractor must coordinate with the local floodplain administrator to receive a permit to conduct the any activities that would occur within the SFHA.
- For each site, all work authorized under the PASPGP-5 must be performed in compliance with the General Conditions noted in the permit and if applicable, any Procedural, and Special Conditions. General Conditions include but are not limited to compliance with time-of-year restrictions in spawning areas, erosion and sedimentation controls, and requirements for the discharge suitable material and temporary fill.
- The applicant (DCNR) will monitor ground disturbance during the construction phase; should human skeletal remains, or historic or archaeological materials be discovered during construction, all ground-disturbing activities on the project site shall cease and the applicant shall notify the coroner's office (in the case of human remains), FEMA, and the PA SHPO.
- Erosion controls will be in place prior to any ground disturbing activity.
- Work must be conducted in the fashion it is proposed in any permit applications. Changes to project design would require reopening consultations with regulatory agencies.
- Heavy machinery and equipment to be used for the proposed action will meet federal clean air standards. In addition, all equipment used shall have sound control devices no

less effective than those provided on the original equipment. No equipment shall have unmuffled exhaust.

- All equipment shall comply with pertinent equipment noise standards of the U.S. Environmental Protection Agency.
- An E&S Pollution Control Plan has been prepared in accordance with PA DEP Chapter 102 regulations and requirements. The contractor will be required to adhere to the E&S plan during construction in order to minimize erosion and sedimentation impacts to the surrounding environment.
- Wetland protective fence will be utilized during construction in order to prevent any potential impacts to nearby wetlands, if applicable.
- Any and all necessary PA DEP 105 and USACE 404 permits will be obtained prior to the start of construction. Any permit special conditions will be adhered to as part of construction.
- Construction equipment will be well maintained and non-polluting.
- It is recommended that the applicant follow conservation measures for the timber rattlesnake. These measures include conducting a timber rattlesnake habitat assessment in the project area to avoid critical habitat. Additionally, tree clearing and timbering within critical habitat should be conducted from October 16 to April 14. A PA FBC representative should be on site prior to and during construction between April 15 and October 15 to inspect and clear the area of any rattlesnakes that may interfere with construction activities.
- It is recommended that the workers responsible for implementing this project be advised that timber rattlesnakes may be encountered, and that avoidance is the best means of minimizing risks to personal safety. Workers should also be advised that the timber rattlesnake is a state protected species and is not to be harmed. If any timber rattlesnakes are observed on-site, please notify PA FBC.

Site-specific mitigation measures and conditions:

Site 105

- Instream construction restrictions would be required from March 1 to June 15 and October 1 to December 31 due to trout water classifications. No work would be allowed in the stream channel during this timeframe.

Site 109

- Soil limitations and the proposed construction activities warrant special consideration. The Dystrudepts, Morris Channery Silt Loam, and Oquaga Channery Silt Loam soils have a poor rating for roadway fill material. To address this, an additional layer of subbase will be placed under the typical roadway material used for stabilized roadway construction.
- Instream construction restrictions would be required from October 1 to December 31 due to trout water classifications. No work would be allowed in the stream channel during this timeframe.

Site 114

- The soils present at the project site, Oquaga and Lordstown and Udifluents, have limitations (i.e., classified as poor roadway fill and not rated). Therefore, neither soil will be used as embankment material.
- Instream construction restrictions would be required from March 1 to June 15 and October 1 to December 31 due to trout water classifications. No work would be allowed in the stream channel during this timeframe.

Site 115/119

- Soil limitations and the proposed construction activities warrant special consideration. Oquaga and Lordstown Very Stoney Loams have a poor rated for roadway fill material. To address this, an additional layer of subbase will be placed under the typical roadway material used for stabilized roadway construction.
- Instream construction restrictions would be required from October 1 to December 31 due to trout water classifications. No work would be allowed in the stream channel during this timeframe.

SECTION SEVEN: CONSULTATIONS AND REFERENCES

NRCS Soil Survey of Lycoming and Sullivan County.

Pennsylvania Conservation Explorer. PNDI Environmental Review. <https://conservationexplorer.dcnr.pa.gov/>

Pennsylvania Department of Environmental Protection – Bureau of Air Quality

Pennsylvania Department of Conservation & Natural Resources

Pennsylvania Department of Transportation

Pennsylvania Natural Heritage Program. PNHP Species Lists. <http://www.naturalheritage.state.pa.us/Species.aspx>

U.S. Census Bureau. American Fact Finder. 2013-2017 American Community Survey 5-Year Estimates. <http://factfinder.census.gov>

USFWS Migratory Bird Treaty Act. 2018. <https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>

USGS Seismic Hazards Map. 2014. <https://earthquake.usgs.gov/hazards/hazmaps/>.

USGS Store. 2019 USGS Topographic Quadrangle Maps. <https://store.usgs.gov/map-locator>

SECTION EIGHT: LIST OF PREPARERS

- Tanner Adamson, Environmental Protection Specialist, FEMA Region III
- Arielle Harris, Historic Preservation Specialist, FEMA Region III
- Erin Hagan, Environmental Protection Specialist, FEMA Region III
- Kelly E. Wiles, Historic Preservation Specialist, FEMA Region III

- Stephanie Everfield, Regional Environmental Officer, FEMA Region III
- Tessa Nolan, Deputy Regional Environmental Officer, FEMA Region III

List of Contributors/Agencies & Individuals Consulted

- Bradley M. Greenaway, PE, Project Manager, Larson Design Group
- Christopher A. Urban, Natural Diversity Section Chief, PA Fish & Boat Commission
- Charles D. Lutter, PE, Senior Civil Engineer, DCNR
- Daniel Laurich, Public Assistance Closeout Team Lead, FEMA Region III
- Tracey Librandi Mumma, Wildlife Biologist/Habitat Protection Section Chief, PA GC
- Yuri Plowden, State Soil Scientist, NRCS
- Hathaway Jones, Management Analyst, USDA/NRCS

APPENDICES

Appendix A Maps and Figures

Appendix B Technical Reports

Appendix C Agency Correspondence

Appendix D Public Notice

Appendix E Public Comments