Environmental Assessment
Lower Musconetcong River Restoration Project
Finesville Dam Vicinity

USDA Natural Resources Conservation Service
Cooperating Agencies

NOAA, National Marine Fisheries Service Restoration Center
National Park Service
U.S. Fish and Wildlife Service
Sponsor: Musconetcong Watershed Association
December, 2010

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Environmental Assessment for Musconetcong River Restoration
Finesville Dam Vicinity

Hunterdon and Warren Counties, New Jersey

June 2010

Abstract

This environmental assessment is to assess the impacts on the human environment as it relates to river restoration on the Musconetcong River. Specifically, assessment of the impact on three alternatives, namely, no action, partial dam removal and full dam removal of the Finesville Dam is made. Assessments were made of the impact of these three alternatives relative to air quality, noise, water resources, sediment, vegetation, aquatic resources, wetland resources, threatened and endangered species, cultural resources, environmental justice, hazardous waste and materials.

Authority

Under the National Environmental Policy Act (NEPA), Federal agencies that propose major actions are required to prepare a detailed statement on the impact that the Federal action may have on the quality of the human environment. The Natural Resources Conservation Service (NRCS), an agency within the U.S. Department of Agriculture (USDA), has prepared this Environmental Assessment (EA) pursuant to implementing regulation for NEPA (40 CFR parts 1500-1508), USDA Departmental Policy for the NEPA (7 CFR part 1b), NRCS Regulations for implementation of NEPA (7CFR Part 650), and NRCS Policy (General Manual Title 190, Part 410).

The Federal Agricultural Improvement and Reform Act of 1996 (Section 387) and the Farm Security and Rural Investment Act of 2002 and the Food, Conservation and Energy Act of 2008 authorized the NRCS to work with landowners to develop wildlife habitat on their property through the Wildlife Habitat Incentive Program (WHIP). WHIP is a voluntary program that provides technical and financial assistance to landowners and others for the creation of high-quality wildlife habitats that support wildlife populations of National, State, Tribal, and local significance.

Sponsor:

Musconetcong Watershed Association

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Contents

Abstract ... 3
Contents ... 4
List of Figures and Tables ... 6
List of Acronyms ... 7
Introduction ... 8
- Scope of Document ... 8
- Cooperating Agencies ... 9
- Background ... 9
- Description of the Proposed Project ... 12
- Purpose and Need ... 12
  - Impaired Aquatic Ecosystems ... 12
  - Impaired Public Health and Safety ... 12
  - Increasing Operation, Maintenance and Liability Costs ... 12
  - Request for Assistance ... 13
- Scoping and Public Participation ... 15
  - Regulatory Approval ... 16
- Alternatives Removed From Further Consideration ... 16
  - Conversion of Dam to Generate Hydroelectric Power ... 16
  - Divesting Ownership ... 17
  - Fish Ladder ... 17
  - Installing signs, buoys, cables, fences, portages and rescue facilities ... 19
  - Reshaping Downstream Face of the Dam ... 19

Description of Alternatives ... 19
- No Action Alternative ... 20
- Partial Dam Removal ... 21
- Full Dam Removal ... 22
- Affected Environment ... 23
- Land Use ... 23
- Air Quality ... 25
- Noise ... 25
- Geology and Soils ... 26
- Water Resources ... 28
  - Flooding ... 28
  - Groundwater ... 28
  - Fire Protection Water Supply ... 30
- Sediments ... 30
- Vegetation ... 30
- Wildlife Resources ... 31
- Aquatic Resources ... 32
- Wetland Resources ... 32
- Threatened and Endangered Species ... 33
- Cultural Resources ... 33
- Environmental Justice ... 34
- Socioeconomic Resources ... 35
- Environmental Consequences and Mitigation Measures ... 36

Air Quality 36
Noise 37
Water Resources 37
Sediments 41
Vegetation 42
Aquatic Resources 43
Wetland Resources 43
Threatened and Endangered Species 44
Cultural Resources 44
Environmental Justice 46
Socioeconomic Resources 46
Hazardous Materials and Waste 48
Cumulative Impacts 48
Comparison of Alternatives 49
No Action Alternative 49
Comparison of Alternatives 49
Contributors to this Environmental Assessment 51
References 52
APPENDIX 56
Musconetcong River Alewife/Blueback Herring 57
Habitat Suitability Index 57
Musconetcong River Summary Data 59
Freshwater Fish Management Database Report 59
Threatened, Endangered, Species of Concern and 61
Rare Plant Species and Ecological Communities 61
Public Participation and Comments-December 2, 2008 Meeting 65
Public Participation and Comments-December 1, 2009 Meeting 85

List of Figures and Tables

Number **Title**

FIGURE 1 - MUSCONETCONG RIVER WATERSHED AREA 11
FIGURE 2 – FISH LADDER SIMULATION 18
FIGURE 3 – FINESVILLE DAM (EXISTING) 20
FIGURE 4 – PARTIAL DAM REMOVAL SIMULATION 21
FIGURE 5 – DAM REMOVAL SIMULATION 22
TABLE 1 - MUSCONETCONG WATERSHED LAND USE 23
FIGURE 6 – LAND USE IN MUSCONETCONG RIVER WATERSHED 24
FIGURE 7 – SOILS MAP IN FINESVILLE DAM VICINITY, MUSCONETCONG RIVER WATERSHED 27
FIGURE 8 – FEMA FLOOD MAP FOR FINESVILLE DAM VICINITY 29
TABLE 2 –SOCIOECONOMIC CONCERNS FOR EACH ALTERNATIVE 47
TABLE 3 – ALTERNATIVES SUMMARY AND COMPARISON 50

List of Acronyms

BMP	Best management practices
CEQ	Council on Environmental Quality
EA	Environmental Assessment
EFH	Essential Fish Habitat
FERC	Federal Energy Regulatory Commission
FONSI	Finding of No Significant Impact
MWA	Musconetcong Watershed Association
NEPA	National Environmental Policy Act
NJDEP	New Jersey Department of Environmental Protection
NOAA	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NPS	National Park Service
NRCS	Natural Resources Conservation Service
SHPO	State Historic Preservation Office
USFWS	U.S. Fish and Wildlife Service
WHIP	Wildlife Habitat Incentive Program

Introduction

Scope of Document

Under the National Environmental Policy Act (NEPA), Federal agencies that propose major actions are required to prepare a detailed statement on the impact that the Federal action may have on the quality of the human environment. The Natural Resources Conservation Service (NRCS), an agency within the U.S. Department of Agriculture (USDA), has prepared this Environmental Assessment (EA) pursuant to implementing regulation for NEPA (40 CFR parts 1500-1508), USDA Departmental Policy for the NEPA (7 CFR part 1b), NRCS Regulations for implementation of NEPA (7CFR Part 650), and NRCS Policy (General Manual Title 190, Part 410). This EA evaluates the No Action Alternative and two other alternatives, namely Partial and Full Dam Removal.

The Federal Agricultural Improvement and Reform Act of 1996 (Section 387) and the Farm Security and Rural Investment Act of 2002 and the Food, Conservation and Energy Act of 2008 authorized the NRCS to work with landowners to develop wildlife habitat on their property through the Wildlife Habitat Incentive Program (WHIP). WHIP is a voluntary program that provides technical and financial assistance to landowners and others for the creation of high-quality wildlife habitats that support wildlife populations of National, State, Tribal, and local significance.

The format of this EA follows the guidelines set forth in the National Environmental Compliance Handbook (NRCS, 2003). The Descriptions of Alternatives section provides a thorough description of the No Action alternative, the proposed action and several other alternatives. The Affected Environment description outlines existing environmental conditions, including land use, air quality, noise, geology and soils, water resources, sediments, vegetation, wildlife resources, aquatic resources, wetland resources, threatened and endangered species, cultural resources, environmental justice, and socioeconomic resources. The Environmental Consequences section reviews the consequence of each of the proposed alternatives. A list of the preparers who aided in the preparation of this EA is included. Additionally, a Scoping and Public Participation section outlines the federal, state and local agencies and persons consulted in the preparation of the document.

Cooperating Agencies

The USDA Natural Resources Conservation Service, as the lead Federal agency, has primary responsibility for meeting requirements of NEPA including the preparation of the EA for the Musconetcong River Restoration Project – Finesville Dam.

It is in the interest of and beneficial to the Federal government and the public to fully satisfy the NEPA compliance requirements of the NRCS, National Marine Fisheries Service (NOAA), National Park Service (NPS), US Fish and Wildlife Service (USFWS) for the proposed Musconetcong River Restoration – Finesville Dam project through the development of a single EA. This cooperation serves the mutual interest of the parties and the public. The four Federal agencies have signed memoranda/letters of understanding to coordinate efforts in order to maximize use of available resources and minimize duplication in those areas of overlapping agency responsibilities. NRCS, NOAA, NPS and USFWS have identified each party's responsibilities to implement or assist with implementation of NEPA for the Musconetcong River Restoration project – Finesville Dam prior to issuance of the EA and the public review processes. NRCS has consulted with NOAA, NPS and USFWS regarding the EA issues of concern, range of EA alternatives considered, and associated mitigation measures to be analyzed in the EA. In consultation with the NOAA, NPS and USFWS, the NRCS has revised a preliminary draft and final draft of the EA in response to comments/concerns/issues identified by NOAA, NPS and USFWS and the public.

Background

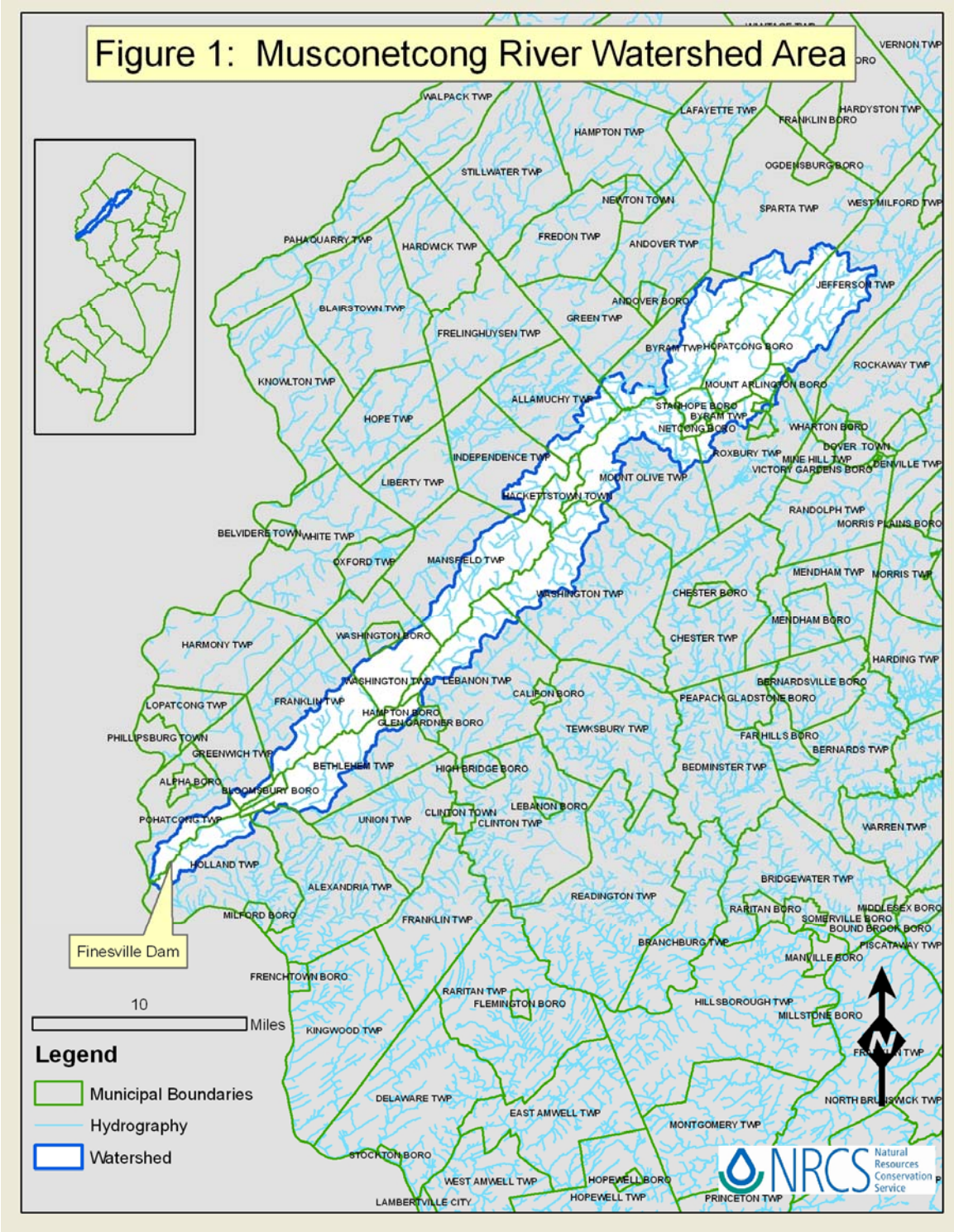
The Musconetcong River flows 42 miles from Lake Hopatcong to the Delaware River through a watershed area of approximately 160 square miles. Although the watershed is predominantly forested, the "Musky" flows through parts of 25 municipalities in Sussex, Morris, Warren and Hunterdon Counties in New Jersey. More than 30 dams occur along the river, most of which were built for industrial use in the 1900's. Many of the river's tributaries are classified as "Category 1", the highest water quality classification given by the New Jersey Department of Environmental Protection, and portions of the Musconetcong have been designated as part of the National Wild and Scenic River System.

In 1992, The Musconetcong Watershed Association (MWA) was incorporated to protect and enhance the Musconetcong River and its related resources. This non-profit organization also strives to educate the public on the importance of river stewardship and has a strong base of local community volunteers.

NRCS has been working with federal, state, and local agencies and organizations on restoration of ecological functions in the Musconetcong River. These agencies include the National Marine Fisheries Service of NOAA, U.S. Fish and Wildlife Service (USFWS), National Park Service (NPS), New Jersey Department of Environmental Protection Division of Fish and Wildlife and Bureau of Dam Safety, Musconetcong Watershed Association, American Rivers, Trout Unlimited, and others. Figure 1 shows the Musconetcong River Watershed area.

The Finesville Dam is the first dam on the Musconetcong River, located 1.65 river miles upstream from the confluence with the Delaware River. Originally constructed for an iron forge around 1751, the Finesville Dam has been reconstructed at least one time in 1953. The construction is of cast-in-place concrete with an ogee spillway. It is identified by NJDEP as a Low Hazard structure (Class III). The dam is 9 feet in height and 109 feet in length. Its impoundment is approximately 4.4 acres (approximately 2300 feet long by 80 feet wide) in aerial extent. While this impoundment has the capacity to hold 17 acre-feet during normal conditions, it is a run of the river structure, with no ability to attenuate flood flows (NJDEP, 2009a).

Figure 1 - Musconetcong River Watershed Area



Description of the Proposed Project

Purpose and Need

The purpose of the proposed action is the restoration of a section of the Musconetcong River in the vicinity of the Finesville Dam in order to meet the following underlying needs.

Impaired Aquatic Ecosystems

There is a need to restore the connectivity of the Musconetcong River for the benefit of aquatic species including native diadromous fish species (such as American eels), and improve habitat for other native and naturalized fish populations (such as trout and bass). The Finesville Dam is an obstruction to aquatic organism passage and movement of materials (sediments, nutrients and woody debris) down the river except during high flood flows.

Impaired Public Health and Safety

There is also a need to address public safety and liability issues associated with the aging dam. The dam structure poses a hazard to those who navigate the River. Three boys ages 7 to 10 lost their lives when falling through the ice on Shunt's Mill Pond at Finesville on December 15, 1900 (Philadelphia Inquirer, 1900). A 29 year old man lost his life when his canoe went over the dam on May 21, 1989 (Yurconic, 1989). On August 15, 2000, following a heavy rainfall of 14 inches, a 58 year old man who was kayaking lost his life in the hydraulic roller effect at the Finesville Dam (American Whitewater, 2000).

Additionally the dam raises the hydraulic level of the River during flood events which increases the vulnerability of people and property to flooding.

Increasing Operation, Maintenance and Liability Costs

The dam structure is privately owned and regulated by the State of New Jersey. The owner would like to reduce the liability associated with this structure that is

currently being borne by him. Although the full extent and nature of deficiencies is unknown, the dam does not currently meet State Dam Safety requirements and as a result, the owner is faced with significant expenses to bring the dam into compliance (Shaffer, 2009).

In addition, the availability and cost of insurance for a dam owner is a major concern. For a risk to be attractive to an insurer, namely, one that the insurer believes will be profitable to cover; it would ideally have several characteristics:

1. Events exposing the risk would have occurred and provided sufficient extant data on losses to estimate the likelihood of future, similar occurrences and the likelihood of future losses.
2. Past losses would be quantifiable.
3. The potential for catastrophic loss would not be so great as to threaten the financial stability of the underwriting company.
4. Occurrences that expose the insured risk must be accidental.

The risk of dam failure does not meet all of these characteristics. Future losses cannot be predicted adequately based on the past record; losses, particularly indirect or ripple effect losses, are not quantifiable; the scope of each event is different in terms of magnitude and impact; and external factors that affect losses, such as population density, change over time (FEMA, 1999). At least one insurer (Blair, 2009) has indicated that, given the loss of life that has occurred at this structure, it would be very unlikely that any liability insurance would be available to the dam owner.

The Alliance of American Insurers has stated that “any insurance company willing to consider liability insurance on a dam could spend a great deal of time engineering the risk, in other words, determining the structural safety of the dam, maintenance schedules, and potential liability to life and property downstream from the dam. The result of the engineering survey, along with the limits of insurance requested and several other factors would influence the willingness of an insurance company to write the policy (FEMA, 1999).” This discussion does not include the risks and liability costs associated with general public recreational use of the river in the dam vicinity for fishing, canoeing, kayaking and other uses.

Request for Assistance

NRCS, under the Wildlife Habitat Incentives Program (WHIP), has received a request from the dam owner and the Musconetcong Watershed Association for technical and financial assistance in planning and implementing river restoration practices at the Finesville Dam including tree/shrub establishment, stream channel stabilization, fish passage improvement, stream habitat improvement and stream bank protection. The proposed action would further the objectives of

WHIP and NRCS, as well as assisting other agencies such as NOAA and USFWS in achieving their goals of restoring aquatic habitat and connectivity.

During the process of choosing an alternative NRCS will consider initial and long-term operation and maintenance costs, mitigation costs for cultural and other issues as well as the extent to which a given alternative addresses the needs of aquatic ecosystems, public health and safety, and increasing operation, maintenance and liability costs.

Scoping and Public Participation

The following stakeholder agencies and entities have been contacted in order to solicit input concerning the environmental assessment:

- American Rivers
- Holland Township Historic Preservation Commission
- Musconetcong Watershed Association
- NOAA, National Marine Fisheries Service Restoration Center
- National Park Service
- New Jersey Geological Survey
- NJDEP Division of Fish and Wildlife
- NJDEP Bureau of Dam Safety
- NJDEP Bureau of Site Remediation, Office of Dredging
- NJDEP State Historic Preservation Office
- North Jersey RC&D Council
- Pohatcong History and Heritage Society
- Preservation New Jersey, Inc.
- Princeton Hydro, LLC
- Trout Unlimited
- U.S. Fish and Wildlife Service
- Warren County Health Department

Coordination letters and comments received (if any) are provided in Appendix A.

A Public Scoping Meeting was held on December 2, 2008 in the vicinity of the Finesville Dam. The scoping meeting for the NRCS environmental assessment is required by the National Environmental Policy Act (NEPA). Also, the NOAA Feasibility Study for Dam Removal used this. Written public comments were accepted through January 30, 2009. A summary of the Scoping Meeting and written comments is provided in the Appendix. Concerns identified included:

- "Legacy sediments" and Impoundment pool sediment quality
- Impacts of dam alteration and associated complementary structures and features on the process of designation of Finesville village as a National and State Historic District
- Impacts of partial or full dam removal on private wells in Finesville
- Costs of the various alternatives
- Change in ambient "noise" of existing dam structure
- Revision of the flood zone mapping as it may relate to the partial or full dam removal alternatives
- Availability of monitoring results from other areas to determine impacts on water quality and other criteria for the partial or full dam removal alternatives

- Impacts of partial or full dam removal on downstream flooding at County bridge (Mount Joy Road) and the Delaware River
- Impacts of dam alteration on property values
- Pre-existing lease agreements threatened by potential State ownership
- Loss of opportunities for future restoration of historic and cultural resources resulting from current best intentions
- Post implementation monitoring of downstream sediment movement and upstream passage of the target fish species

Regulatory Approval

The following is a list of the expected permits, regulatory approvals, and consultations that may be needed for the project. Specific permitting requirements would be identified prior to the start of construction:

- NJDEP Dam Safety Construction Permit
- NJDEP Land Use Regulation Program (Bureau of Freshwater Wetlands)
- NJDEP Division of Fish and Wildlife
- State and Federal Historic Preservation Acts Review
- County Soil Conservation District Approval
- Highlands Planning and Protection Area Review
- Local Approvals from Holland and Pohatcong Townships for Soil Removal and Soil Disturbance Permits

Alternatives Removed From Further Consideration

The following section includes alternatives that were considered but were either not found to be feasible or do not meet the need for the project. Therefore, the following alternatives are not considered further in this EA.

Conversion of Dam to Generate Hydroelectric Power

This alternative was suggested by a member of the public during the scoping meeting and again in writing during the comment period. Low head hydroelectric plants are power plants which utilize heads of only a few meters or less. Power plants of this type may utilize a low dam or weir to channel water, or no dam and simply use the "run of the river". Run of the river generating stations cannot store water, thus their electric output vary with seasonal flows of water in a river. The key to the usefulness of such units is their ability to generate power near where it is needed, reducing the power inevitably lost during transmission. Although this alternative would provide a useful purpose for the dam, it would not relieve the dam owner of liability. It would greatly increase the financial burden of the dam owner in terms of upgrading the dam to current NJDEP and FERC specifications,

modifying the dam to generate power, maintaining the dam and installing power components and enforcing greater security around the dam. There would need to be a demand in the immediate areas of the structures for electricity and additional trained staff to run the dam and facilities. A substation and facilitating structure would need to be constructed for delivery of generated power onto the power grid. The owner has stated that he is not interested in going into the hydroelectric business or doing any of these activities. In addition this alternative does not meet the aquatic restoration goal. Thus, this alternative is neither practical, justifiable or cost efficient, nor does it meet the needs of the project. It has been eliminated from further consideration.

Divesting Ownership

This alternative may satisfy the purpose of eliminating the liability from the dam owner, although there is question as to whether judicial scrutiny would completely absolve liability. This is certainly the most cost effective alternative. However, it does not meet the need for restoration of the aquatic corridor or resolve public safety needs. This alternative has been eliminated from further consideration.

Fish Ladder

This alternative would involve the installation of a permanent fish ladder to the existing Finesville Dam (Figure 2) and would, if functioning according to design, permit limited connectivity of the River for specific species. A fish ladder does not allow passage of all fish species. In addition, passage is not provided for bivalves and micro and macro invertebrates whose populations are critical for a healthy river ecosystem. Fish ladders also do not restore other important river functions such as nutrient cycling, sediment transport and a natural hydrologic regime. This alternative would not eliminate dam owner responsibility for operation and maintenance of the structure nor its liability. Instead, the dam owner might be required to expend additional funds to “rehabilitate” the dam prior to installation of the fish passage and operation and maintenance of the fish ladder would be required. Also, there would be additional costs for maintenance of the fish ladder (cleaning debris, repairs, etc.) with a life span of approximately 20-50 years. Assuming the majority of the structure (dam) remains unchanged, public safety would continue to be threatened for those who use the River for recreational and other purposes. Stream restoration would not be achieved. The visual resource associated with the mill dam would be altered. This alternative has been eliminated from further consideration because it does not fully meet the aquatic restoration needs, public safety needs and it does not address owner liability, operation and maintenance.

Figure 2 – Fish Ladder Simulation

Installing signs, buoys, cables, fences, portages and rescue facilities

The intent of this alternative is to increase public awareness and reduce risk, but in reality, it has been shown to be relatively ineffective at other locations. The dam owner retains full liability with regard to the structure. In other locations, signs have been vandalized and buoys and signs have been removed. Furthermore, this alternative does not meet the aquatic restoration goal. This alternative has been removed from further consideration.

Reshaping Downstream Face of the Dam

This alternative involves placement of rock on the downstream side at sufficient spacing to break up the hydraulic roller effect thus improving public safety. This alternative does not result in a restoration of the connectivity of the river or improvement of aquatic habitat. In addition, it does not fully address the liability and operation and maintenance costs which the owner would continue to bear. This alternative has been eliminated from further consideration.

Description of Alternatives

The following section describes the proposed alternatives for river restoration at the Finesville Dam that have been evaluated for this EA. The proposed alternatives include the No Action alternative, Partial Dam Removal and Full Dam Removal.

No Action Alternative

Under this alternative (Figure 3), no further modifications would be made to the Finesville Dam. Aquatic organism passage, aquatic habitat and ecological connectivity would continue to be restricted by a manmade structure. The private dam owner would continue to bear the maintenance, inspection and liability costs and risks associated with the structure. Under the “No Action” alternative, the private dam owner will be required to maintain the dam according to requirements set forth by the New Jersey Department of Environmental Protection Bureau of Dam Safety and the Dam Safety Act. Pursuing this “No Action” alternative would create a long term financial liability for the private dam owner. Public safety concerns would continue for those using the River for swimming and boating due to the hydraulic roller effect at the dam. The visual resource of the area would remain unchanged.

Figure 3 – Finesville Dam (Existing)

Partial Dam Removal

Partial dam removal (Figure 4) would entail the removal of a portion of the dam leaving the ends of the existing structure to provide support to the streamside walls that extend downstream and also serve as the abutments for the Mount Joy Road Bridge. This alternative would largely restore the connectivity and aquatic integrity of the Musconetcong River from a distance of 1.65 miles from its confluence with the Delaware River to the next obstruction at the Hughesville Dam. Full passage would be restored for all fish and other aquatic species present in the river. Public safety will be improved by the elimination of the hydraulic roller effect on the downstream side of the structure. This alternative would eliminate owner responsibility for operation and maintenance of the structure as a dam and its liability. Cultural resource, on-site stream restoration and sediment concerns would need to be addressed. Stream habitat enhancement and tree and shrub planting and other practices would be part of the project. The dam would retain some of its historical perspective, as some of the dam structure would remain intact and the dam abutments would be undisturbed.

Figure 4 – Partial Dam Removal Simulation

Full Dam Removal

The full dam removal alternative (Figure 5) consists of the complete removal of the Finesville Dam. This alternative would restore, to the greatest extent possible, the connectivity and aquatic integrity of the Musconetcong River for a distance of 1.65 miles from its confluence with the Delaware River upstream to the next obstruction at the Hughesville Dam. Full passage would be restored for all fish and other aquatic species present in the river. Public safety will be improved by the elimination of the hydraulic roller effect on the downstream side of the structure as well as the “attractive nuisance” aspect of the structure itself. The liability and continued maintenance cost associated with the structure would be totally eliminated. Cultural resource, on-site stream restoration and sediment (behind the dam) concerns are associated with this alternative and would need to be addressed. Stream habitat enhancement and tree and shrub planting and other practices would be part of the project. The visual resource associated with the mill dam and the ambient sound of its waterfall would be lost.

Figure 5 – Dam Removal Simulation

Affected Environment

The following section describes the environmental and social resources and concerns that have the potential to be affected by the proposed project. These include ecological, cultural, aesthetic, and economic resources.

Land Use

The Musconetcong River Valley features an outstanding diversity of farms, hamlets and villages and secluded natural areas. State, county and local parklands within the river corridor provide significant opportunities for hiking, fishing, canoeing, camping, nature study and other outdoor activities (Heritage Conservancy, 2009). The watershed encompasses four counties and is located within the New Jersey Highlands, an area identified by The New Jersey State Planning Commission as a "Special Resource Area," where "individual decisions may have greater extra-regional impacts than most other areas of the state."

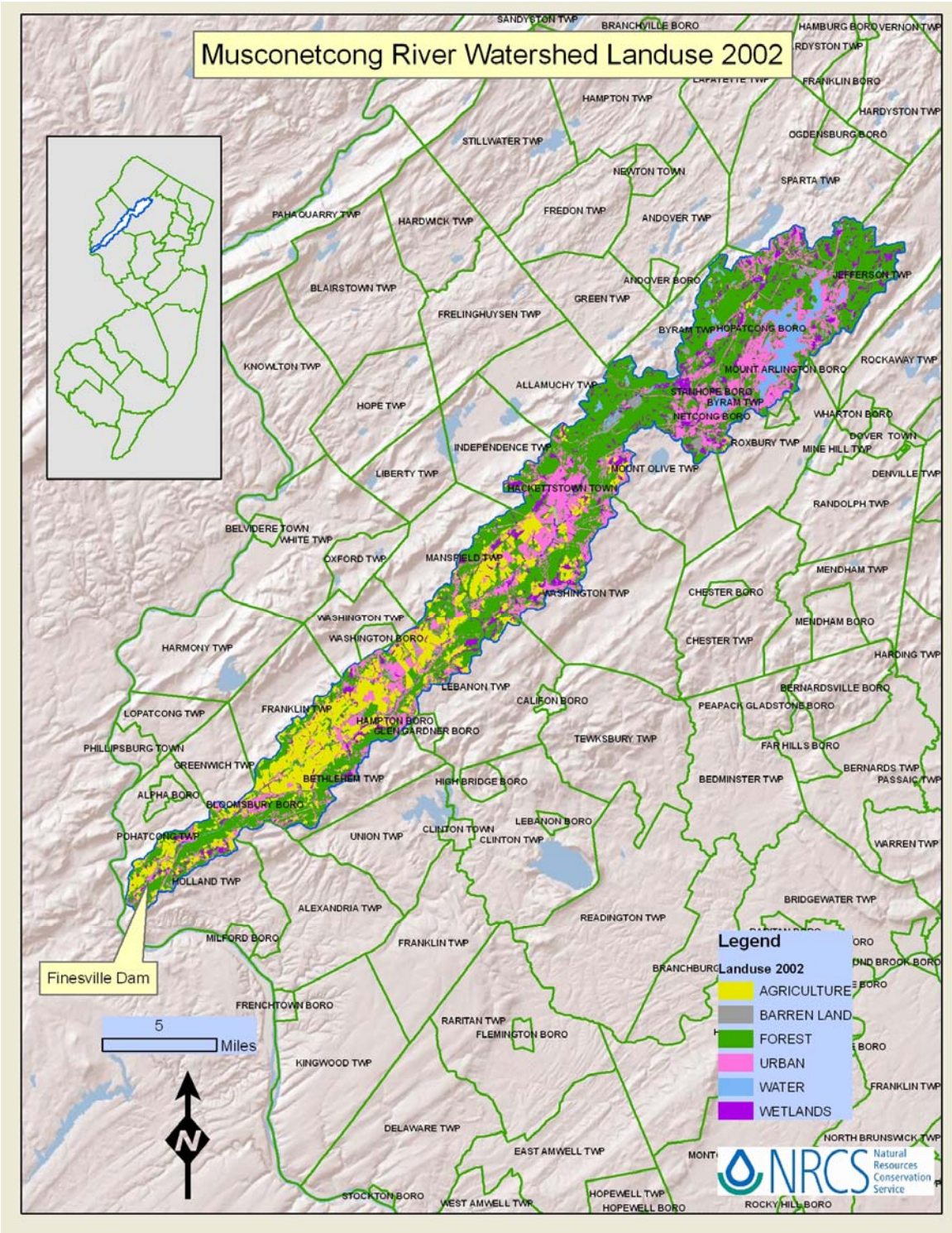
Table 1 shows the acres and percent of the watershed for each of the land use/cover types in the Musconetcong River watershed. Approximately 22 percent of the Musconetcong River watershed is located within urban areas. Figure 6 shows land use in the watershed.

Table 1 - Musconetcong Watershed Land Use

Land Use/Cover	Acres	Percent of Watershed
Agriculture	15,902	16.5
Barren Land	1493	1.6
Forest	46149	48.1
Urban	21146	22.0
Water	4376	4.5
Wetlands	7131	7.3
Total	96,197	100

Source: NJDEP 2002 Land Use/Land Cover Update, Upper Delaware Watershed Management Area, WMA01

Figure 6 – Land Use in Musconetcong River Watershed



Source: NJDEP 2002 Land use/Land cover Update, Upper Delaware Watershed Management Area, WMA-1

Since the Musconetcong River corridor is located in a more rural part of New Jersey, much of the corridor's historical and archeological resources remain intact. Dozens of culturally significant historic and archeological resources—many of which are registered in the State and National Registers of Historic places—can be found along the 24.2 miles of the river's federal designation as Wild and Scenic. Waterloo Village, Stanhope, Asbury and Finesville are places that bring visitors back to earlier times and underscore the importance of the Musconetcong River as the sustaining resource that established them.

The Musconetcong River also offers exemplary natural resources, often referred to as the best trout fishery in New Jersey. Wild, naturally reproducing, brook trout (Hamilton, 2009) can be found in the designated river's seven main tributaries, and anglers in the region have access to the river from hundreds of acres of publicly owned lands along the river's banks. Paddlers enjoy the river's rapid flows, and hikers trek the miles of hilly trails that flank the river, affording stunning views of the river corridor.

Air Quality

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered to be harmful to the environment and to public health. The State of New Jersey is designated as a moderate nonattainment area for ozone. Nonattainment areas refer to environments where air pollution levels persistently exceed the NAAQS. The project site is in the NY-NJ-CT nonattainment area in New Jersey for the 1997 8-hour Ozone NAAQS (Iavarone, 2009). For a map of the existing nonattainment areas of New Jersey, see http://www.state.nj.us/dep/bagp/images/8hro3map.gif The project site is designated "in attainment" for carbon monoxide, lead, nitrogen dioxide, particulate matter, and sulfur dioxide.

Noise

Sensitivity to ambient noise levels differs among land use types. For example, libraries, schools, churches, and hospitals are generally more sensitive to noise than commercial and industrial land uses. The majority of land uses along the river and within the project area are suburban and rural which generally have a higher sensitivity to ambient noise levels.

There is existing ambient or background noise or sound associated with the operation of the existing dam. Water falling over the structure creates this noise level with it varying depending on the volume of water flow over the structure.

Geology and Soils

The Finesville Dam is located in the New Jersey physiographic province known as the “Highlands”. This province is dominated by a nearly continuous mountain chain comprised of granite and gneiss bedrock types. The dam itself is situated in a narrow river valley at the base of Musconetcong Mountain, which is the southernmost mountain found within the Highlands province (NJGS, 1999).

There are two geologic formations that occur beneath the Finesville Dam. The dominant formation that underlies approximately three-fourths of the dam is called the Allentown Dolomite, which is a Lower Ordovician and Upper Cambrian-age formation comprised predominately of a light to dark gray colored dolomite with minor inclusions of quartzite and shale. The southern one-fourth of the dam is underlain by the Leithsville Formation, a Middle to Lower Cambrian-age dark gray dolomite that also contains beds of shaly dolomite and minor inclusions of sandstone, siltstone, and shale (NJGS, June 30, 2000).

The soils (Figure 7) that occur in the vicinity of the Finesville Dam include the Hazen and Hoosic series on the Warren County side of the dam and the Gladstone series on the Hunterdon County side of the dam. The Hazen series consists of very deep, well drained soils formed in sandy and gravelly glaciofluvial deposits derived predominately from slate, shale, and sandstone bedrocks, but also include limestone. The Hoosic series consists of very deep, somewhat excessively drained soils formed in sandy and gravelly glaciofluvial deposits derived from sandstone, shale, and slate. The Gladstone series is a very deep, well drained soil formed in residuum and colluvium derived from granite and gneiss bedrock types (Soil Survey Staff).

Figure 7 – Soils Map in Finesville Dam Vicinity, Musconetcong River Watershed

Soils Map
Lower Musconetcong River Restoration Project
Finesville Dam Vicinity

Scale=1:1,500

N

Map Unit Legend:

HdxAb - Hazen-Hoosic complex, 0 to 3 percent slope, very stony
GkaoC2 - Gladstone gravelly loam, 8 to 15 percent slopes, eroded

Water Resources

The 157.6 square mile Musconetcong River Valley Watershed includes parts of Morris, Hunterdon, Warren and Sussex counties and all or part of 25 municipalities. The River runs 42 miles from Lake Hopatcong to the Delaware River. The Highlands provides the water supply source for the state's major urban areas and the river's recreational and historic resources are important to the local economy.

In addition, this watershed is identified as the New Jersey Trout Unlimited "Home River." On December 22, 2006, the President signed into law bill S1096, the "Musconetcong Wild and Scenic Rivers Act," which designates portions of the Musconetcong River as a component of the National Wild and Scenic Rivers System (National Park Service, 2009). The portions of the River that have been so designated do not include the Finesville Dam vicinity but are located upstream of this area covering the stream reach upstream of Bloomsbury.

Flooding

Flooding from the Musconetcong River occurs in the Finesville vicinity. There has been no structural damage to date. Most damage is to the contents in basements during flooding along Musconetcong Drive (Sickels, 2008). According to the National Flood Insurance Program flood claims database there have been no insured losses here since the Program's inception in 1978. Figure 8 shows the FEMA Flood Map for this vicinity. A significant portion of Finesville is currently mapped as in the moderate to high risk flood hazard area.

Groundwater

According to the New Jersey Geological Survey (NJGS), the overall difference in elevation of the dam and the Musconetcong River bottom (center of bridge) is about five (5) feet. Finesville is an old village and there may be vintage dug wells or very shallow wells (Boyle, 2008). A review of available existing well information (Warren County Health Department, 2009) found that the static water level elevations in the wells correspond to the surface water elevation of the impoundment. In short, the wells and impoundment share some part of the same aquifer. Based on the Warren County Health Department information, there are several wells where there is not much of a water column in the well (Static water level elevation nearly equals the well depth elevation). These wells present a concern (Boyle, 2009) and will be discussed later in this document under Environmental and Mitigation Measures.

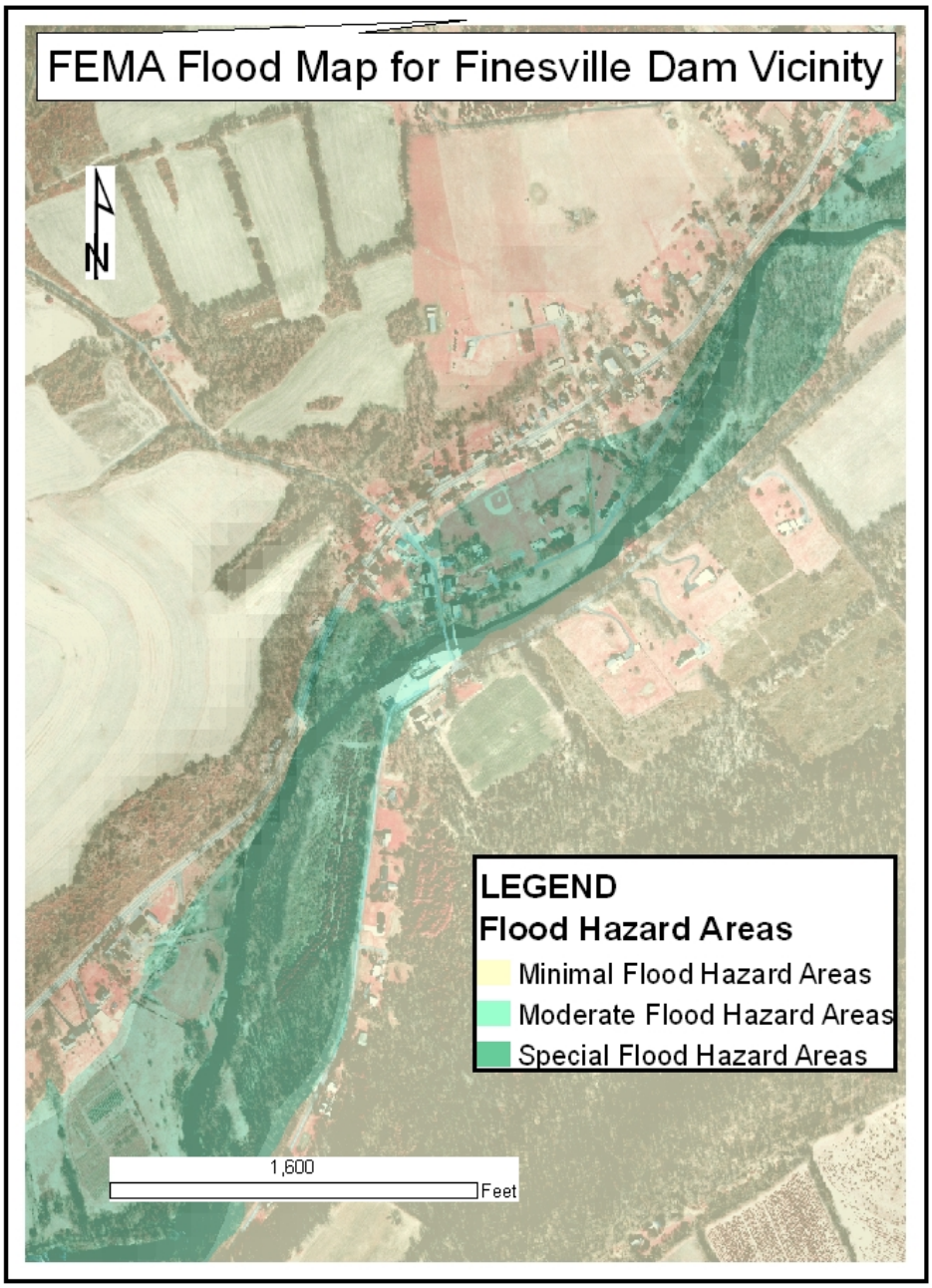


Figure 8 – FEMA Flood Map for Finesville Dam Vicinity

Fire Protection Water Supply

The existing impoundment is made use of occasionally by the Pohatcong Township Fire Department and, in the event of the loss of the Finesville Dam impoundment; water would need to be drafted from nearby Warren Glen Frey, 2009).

Sediments

Due to the low-energy environment that generally occurs upstream of dams, finer sediments being carried in the river tend to settle and accumulate behind the dam. Consequently, contaminants that are common in urban stormwater runoff that enters the river can bind to the finer sediments and accumulate in the low-energy environment upstream of the dam. The Feasibility Study Finesville Dam Removal Musconetcong River (Princeton Hydro, 2009) documented that the sediments impounded behind the Finesville Dam are approximately 90% sand size or larger, and therefore would not be considered “fine” sediments.

Preliminary sampling of the sediment in the pool upstream of Finesville dam has been performed. Princeton Hydro, LLC, completed an assessment of impact to human health and an ecological risk screening evaluation on two sediment samples collected August 26, 2008. The samples were analyzed for a broad suite of pollutant parameters including volatile organic compounds (VOC), base neutral/acid extractable (BNA or semi-volatile organic compounds; SVOC), polychlorinated biphenyls (PCB), pesticides, metals/organics, total cyanide, hexavalent chromium, grain size distribution and organic matter content (Princeton Hydro, 2009).

Due to the historic presence of paper mills on the Musconetcong River, partner agencies suggested that dioxin and furan be considered as additional parameters for analysis. The Princeton Hydro study indicated that additional analysis for these potential contaminants was not recommended due to the coarse grained nature of the sediments. In addition, dioxin and furan are not part of the NJDEP SRS List, nor is there any soil remediation standards established for these parameters (Princeton Hydro, 2009a). The NJDEP Office of Site Remediation (Risilia, 2009) has agreed with the Princeton Hydro assessment and has stated that no further sampling and testing is required (Risilia, 2009).

Vegetation

The portion of the river corridor that lies within the project area is located in the hamlet of Finesville and the surrounding rural residential community. Plant communities located in the vicinity of the project area consist of deciduous

hardwood upland forests. Wetlands around the project site consist of deciduous forested floodplain, deciduous scrub/shrub, herbaceous, and modified agricultural wetlands.

Upland deciduous forests consist of oak (*Quercus spp*.), hickory (*Carya spp.*) and red maple (*Acer rubrum*) tree species. The understory is made up of spice bush (*Lindera benzoin*) and arrowwood (Viburnum spp.). Poison ivy (*Toxicodendron radicans*), Virginia creeper (*Parthenocissus quinquefolia*) and various grasses and sedges make up the herbaceous layer.

Wetland plant communities in proximity to the project site consist of American sycamore (*Platanus occidentalis*), white ash (*Fraxinus americana*), green ash (*Fraxinus pennslyvanica*), silver maple (*Acer saccharinum*) and box elder (*Acer negundo*) in the tree layer. Shrub species consist of spice bush, red osier dogwood (*Cornus sericea*), silky dogwood (*Cornus amomum*), and arrowwood (Viburnum spp.). Various grasses and sedges make up the herbaceous layer.

Invasive species also pose a threat to native plant communities in the area. Common invasive species found in the project area include Japanese stilt-grass (*Microstegium vimineum*), wineberry (*Rubus phoenicolasius*), Norway maple (*Acer platanoides*), multiflora rose (*Rosa multiflora*), oriental bittersweet (*Celastrus orbiculatus*), phragmites (*Phragmites australis*), lesser celandine (*Ranunculus ficaria*), autumn olive *(Elaeagnus umbellate*), Japanese barberry (*Berberis thunbergii*) and several others. In particular a thick dense stand of bamboo (*Phyllostachys aurea*) is present on the State Wildlife Management Area, approximately 1,000 feet upstream of the dam.

Wildlife Resources

Wildlife in the project area is consistent with those species found throughout northern New Jersey and the Highlands region. Common mammal species include white-tailed deer (*Odocoileus virginianus*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), eastern cottontail rabbit (*Sylvilagus floridanus),* white-footed mouse (*Peromyscus leucopus*), beaver (*Castor canadensis*) and muskrat (*Ondatra zibethicus*).

Reptiles commonly found in the project site area consist of common garter snake (*Thamnophis sirtalis*), black racer (*Coluber constrictor*), eastern ribbon snake (*Thamnpphis sauritus*), northern water snake (*Nerodia sipedon*), snapping turtle (*Chelydra serpentine*) and painted turtle (Chrysemys picta).

Common amphibians to the project site area include American bullfrog (*Rana catesbeiana*), wood frog (*Lithobates sylvaticus*), American toad (*Bufo americanus*), spring peeper (*Pseudacris crucifer*), pickerel frog (*Lithobates*

palustris), wood frog (*Lithobates sylvaticus),* red backed salamander (*Plethodon cinereus*), northern red salamander (*Pseudotriton rubber*) and spotted salamander (*Ambystoma maculatum*).

New Jersey and its water bodies serve a vital role in the eastern flyway. Many species of birds are found throughout this region, including both resident and migratory species ranging from song birds and waterfowl to raptors and wading birds.

Aquatic Resources

The Musconetcong is a well known trout fishing destination in the region. According to the New Jersey Division of Fish and Wildlife website, 50,260 trout will have been stocked by the end of the 2009 spring stocking season. Anglers come from far off destinations in pursuit of these trout making the river a valuable recreational resource and an economic stimulant to the communities it flows through.

A wide variety of fish species are found in the Musconetcong River. A Freshwater Fish Management Database Report by the New Jersey Division of Fish and Wildlife Bureau of Freshwater Fisheries (see appendix 1) lists 36 individual species sampled over 23 different survey areas of the river. The report shows surveys have occurred since 1960.

In May of 2007 data was collected for a Musconetcong River Alewife/Blueback Herring Habitat Suitability Index by Eric Schrading of the U.S. Fish and Wildlife Service (see appendix 1). The findings in the Alewife/Blueback Herring Habitat Suitability Index conclude that average spawning habitat for alewife and below average spawning habitat for blueback herring exist.

By restoring the connectivity of the Musconetcong River to the Delaware River all aquatic resources will benefit. The Finesville Dam acts as a barrier that restricts movement of fish, macroinvertebrates, and other aquatic species from dispersing throughout the river. Also, this and other dams make the river inhospitable for diadromous fish that were historically found in the river.

Wetland Resources

No wetlands exist in the immediate project area, however they can be found both upstream and downstream from the project area. The closest upstream wetlands according to New Jersey Department of Environmental Protection (NJDEP) wetland maps are located approximately 1,000 feet upstream and are a mix of 3.6 acres of palustrian forested wetlands and 5.2 acres of emergent wetlands. These are floodplain wetlands located along the river. These areas generally

consist of hydric soils and have hydrophytic plant communities. Wetlands can act as a natural flood barrier and help reduce downstream flooding. The closest downstream wetlands according to NJDEP wetland maps is approximately 800 feet downstream and consists of 1.3 acres of modified agricultural wetlands. These wetlands were historically drained for farming and are currently being used for agricultural production. Hydric soils and hydrophytic plant communities may not be present in these wetlands due to their being drained for agricultural use.

Wetland areas in the project area provide important wildlife habitat benefits. The wetlands also act as a biological filter to treat potential nutrient loads and contaminants that may be traveling through the watershed. This project will not negatively impact wetlands found in the surrounding areas.

Threatened and Endangered Species

The New Jersey Division of Parks and Forestry, Office of Land Management Natural Heritage Program, Natural Heritage Database and the New Jersey Division of Fish and Wildlife, Endangered and Nongame Species Program, Landscape Project was used to determine potential New Jersey threatened and endangered species habitat in the project area (see appendix). In total 12 wildlife species of either state endangered, state threatened, or state species of concern were listed within the project area or within ¼ mile of the project area. In addition 7 rare plant species or ecological communities may occur within the area; however they do not occur in the immediate project area.

Based on correspondence with the New Jersey U.S. Fish and Wildlife field office there are no federally-listed or proposed threatened or endangered species or critical habitats located within the project area (E. Schrading, personal communication, 24 April 2009).

An email correspondence with the Endangered and Nongame Species Program under the New Jersey Division of Fish and Wildlife stated that there are no threatened or endangered mussels in the vicinity of the project area according to the Biotics database (J. Bowers-Altman, personal communication, 18 July 2008).

Cultural Resources

The Finesville Dam spans the Musconetcong River which flows through metamorphic bedrock of the New Jersey Highlands. The river divides present day Holland Township of Hunterdon County to the south and Pohatcong Township of Warren County to the north.

The watershed is the scene of the Heritage Conservancy's Lasting Landscapes®, an initiative that unites open space protection and historic preservation comprehensively at the "landscape level". The Finesville dam spans the Musconetcong River in an historic district that has been previously determined to be eligible for listing in the National Register for Historic Places (SHPO Opinion 11/1/2006, Certificate of Eligibility, October 21, 2004). A recent National Register of Historic Places nomination form, which was entitled the Finesville-Seigletown Historic District, has been approved by the State Historic Preservation Office (Maresca, 2009). The dam is considered a 'contributing element' to the historic significance of the area.

Nearby structures in both townships preserve 18th-century architecture, built when Finesville was a small manufacturing village of about 20 dwellings. The historic architecture includes the remains (mill race) of a once active mill. The dam is joined to a stone wall on the north bank and the partially preserved mill race on the south bank.

Originally created for an iron forge around 1751 the Finesville dam may also have supplied power for a saw mill, as the operations were often coupled. A gristmill was built at this location on the north side of the river in 1791.

A Phase IA Cultural Resources survey was performed by Richard Grubb & Associates, Inc. during the summer of 2009 (Gall and Tomkins, 2009). Based on a review of historic documents and a site visit, conducted on August 11, 2009, the southern portion of the Area of Potential Effects (APE) along the south bank of the Musconetcong River was identified as having a high potential to contain prehistoric archaeological resources. Also, the portion of the Musconetcong River within the APE was determined to have a high potential to contain the remains of the earlier 1807 woolen mill dam and pre-1951 timber cribbing dam east of the current post-1952 dam. As a result, a Phase IB cultural resource survey was conducted on October 14, 2009 (Gall, 2009) to document the post-1952 dam's construction and document any remnants of the 1807 woolen mill dam and pre-1951 timber cribbing dam.

Because of the new 'nomination' status of the area, means to avoid, minimize and or mitigate impacts to National Register eligible properties will be developed and undertaken pursuant to Code of Federal Regulations (CFR) part 800.5 prior to project implementation.

Environmental Justice

Environmental Justice means that, to the greatest extent practicable and permitted by law, all populations are provided an opportunity to comment before decisions are rendered on proposed Federal actions. Furthermore, the principles of environmental justice require that populations are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately

high and adverse manner by, government programs and activities affecting human health or the environment.

Executive Order 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportional high and adverse human health or environmental effects of its programs, policies, and activities on minority populations" (CEQ, 1997). New Jersey, which under a 2004 directive had identified five "petitioning neighborhoods" or environmental justice zones, is currently revamping this policy (Franco-Spera, 2009). None of the five "petitioning neighborhoods" were located in the vicinity of the Finesville Dam.

An analysis, using the US EPA Environmental Justice Assessment Tool found a small percentage of minority (2.6 percent) and low income (3.3. percent) residents within a one mile radius of the Finesville dam. Although there are no known Environmental Justice communities within 300 meters of the project area, census data does show a concentration (10 to 20 percent) of minority residents living in an area immediately downstream of the project area.

Socioeconomic Resources

Finesville is a "community of place" and is actually an unincorporated rural community situated for the most part in the Township of Pohatcong, Warren County. The dam, while not forming a body of water large enough to be called a lake, does create an area of relatively slack water or a pool, about 80 feet wide and extending upstream for approximately 2,330 feet. This length or reach of River will be the most effected by either removing or breaching the dam. While no residences front on this section of the River, several are in close proximity to it and/or face it.

The dam and the water it backs up currently serve no major economic purpose; they do not provide power, electricity, irrigation water, municipal or industrial water supply (other than fire protection), flood control benefits or significant fish and wildlife benefits. From that standpoint, its removal or breaching will cause no economic disruption.

Environmental Consequences and Mitigation Measures

Environmental consequences of the proposed alternatives are presented in the following sections. The Musconetcong River Restoration Project seeks to restore connectivity and ecological integrity to 2.92 miles of the Musconetcong River, from its confluence with the Delaware River to the next obstruction upstream, the Hughesville Dam. An initial evaluation indicated that the following resources, as described in the previous sections, would not be impacted under the proposed alternatives, and so further evaluation is not described in the environmental consequences section: land use, geology and soils, and wildlife resources.

Air Quality

No Action Alternative

Under the No Action Alternative, no construction would occur and therefore, there would be no change in air quality.

Action Alternatives - Partial or Full Dam Removal

The partial or full removal of the dam will require heavy construction equipment, labor, and materials over the anticipated construction period. Construction activities will require the use of equipment such as excavators, loaders, generators, and other heavy equipment. Transportation of labor and materials will require delivery trucks, dump trucks, and pick-up trucks.

The project area is in a nonattainment region for ozone. Nitrogen oxides (NO_x), and volatile organic compounds (VOC's) are therefore the pollutants of concern. For moderate nonattainment regions, the EPA threshold levels are 100 tons per year and 50 tons per year respectively. The operation of equipment will generate low levels of NO_x and negligible amounts of VOC's over a period of approximately two to three months. Since the construction time is short and only a few pieces of equipment will be used, the actions would be below conformity de minimis levels. Any impacts would be short-term, with no long-term increases in air pollutants resulting from the activities.

Noise

No Action Alternative

Under the No Action Alternative, no short-term or long-term noise impacts would occur.

Action Alternatives - Partial or Full Dam Removal

Temporary impacts due to increased construction noise may be experienced by adjacent homeowners during the partial or full removal of the dam. Construction activities will require the use of heavy construction equipment including but not limited to excavators, loaders, and dump trucks. Concrete cutting equipment may require the use of a generator during operation, the noise from which can be reduced by the use of mufflers and shields. An increase in road traffic can also be anticipated. Construction time is temporary in nature and would be approximately two to three months. Under normal circumstances, noise will only be generated Monday through Saturday during normal working hours.

No long-term adverse noise impacts would be associated with construction activities.

The ambient noise of the flow over the dam should be replaced by the sound of water moving over and through boulders and rocks. A study done at the Dillsboro Dam on the Tuckaseigee River in North Carolina found that the decibel levels of sound do not change significantly with flow, except right at the dam. The study determined that sound levels diminish quickly as you move away from the dam and that riffles on the river were louder than the dam under both high and low flow conditions. In fact, the riffles were determined to generate a more constant sound than the dam (Hooper, 2002)

Water Resources

Flooding

No Action Alternative

Under the No Action Alternative, the current flooding situation would not change. Flood profiles published in the Pohatcong Township Flood Insurance Study indicate that flood levels upstream of the dam are increased due to the obstruction to flow that it creates. The dam elevates the normal water surface approximately 5 feet, eliminating the flow carrying capacity of the stream below its crest. Flood elevations, therefore, are raised over what would occur should the dam not exist except under severe storm events where backwater influence from the Delaware River impacts the area. From flood profiles in the Pohatcong

Flood Insurance Study, the dam does influence the 10-year, 50-year and 100-year flood levels but not the 500-year event. The increase is greatest for the more frequent storm events and at the dam and generally decreases upstream from the dam.

Partial Dam Removal

Partial removal of the dam will result in a decrease in flood levels associated with more frequent storm events. The extent of the decrease will, in part, depend on the width of the dam removed.

Full Dam Removal

Full removal of the dam will result in a decrease in flood levels associated with more frequent storm events. According to an hydraulic analysis of areas above, below and at the dam (Princeton Hydro, 2009a), under this scenario, it has been determined that there would be a 1.73 foot decrease in the flood depth for a 10 year flood (10 percent chance in a given year) and 0.71 foot decrease in the flood depth for a 100 year flood (1 percent chance in a given year). Flood elevations will be restored most closely to the natural unobstructed stream flow condition.

Groundwater

No Action Alternative

Under the No Action Alternative, no short-term or long-term groundwater impacts would occur.

Action Alternatives - Partial or Full Dam Removal

There are approximately 20 homes in the Finesville vicinity which are dependent on groundwater for their water supply. Finesville, due to its historic nature, has a number of old, relatively shallow wells (less than 50 feet deep) which predate and are grandfathered under current NJDEP regulations. These regulations now require a minimum of fifty feet of well casing plus an additional twenty feet of well casing into competent rock and greater well depth (Schumacher, 2009). New wells drilled on the relatively small lots require additional casing to protect drinking water sources from nearby septic tanks, cesspools and filter fields (Colaluce, 2009). The Natural Resources Conservation Service considers this to be a socio-economic issue.

The static groundwater level in Finesville Dam vicinity wells is known to correspond to the surface water elevation of the dam impoundment. A study (TRC, 2004) was made of the local hydrogeology using a total of ten water monitoring wells as part of an evaluation for site remediation at the former Lee's

Service Station located on Route 627. This site is located in close proximity to several of the older, relatively shallow wells. There is an approximately 16 foot of ground elevation change going north to south (from high ground to the flood plain of Musconetcong River). Seasonal variations and/or specific rain events were identified as influencing ground water flow direction (TRC, 2004). Pumping of supply wells and local discharge of septic systems were identified as having an influence on ground water levels enough to change flow direction (TRC, 2004). Based on the study, it was determined that water flow was in a north/northwest direction from the River in September 2003 while flow in December, following specific rainfall events, was toward the River in a west or southwesterly direction. The data show ground water flow is typically to the north/northwest away from the River (TRC, 2004). There have been over 20 dam removals in New Jersey since 2000 and, to date, there has never had been an incidence of a dam removal having an impact on wells (Oman, 2010). In Pennsylvania there have been over 140 dam removals since 2000 and one incidence of a well failure. The well was a dug well, less than 40 feet deep (Humenay, 2010). There is a chance that partial or total removal of the dam will result in a drop in the static water level in the older, shallow wells (Boyle, 2009). NJ Geological Survey has estimated that approximately five wells may be impacted (Boyle, 2009).

In the event that NRCS is notified that a shallow well in the immediate vicinity of the project area has been adversely impacted by decreased groundwater levels potentially associated with the project, NRCS and partner agencies and organizations will work with the landowner to evaluate the impact, establish relationships between water level decline and the project, and determine the level of mitigation that is appropriate. Prior to project implementation, NRCS will develop a standard protocol for evaluating shallow wells that may be adversely impacted and determining appropriate mitigation.

Wildlife Habitat Improvement Program (WHIP) funding will be used to provide cost sharing for installing a new well where a clear relationship can be established between consistent water level decline in a shallow well, resulting in a loss of the water supply, and these alternatives. Assistance through the Housing Repair and Loan and Grant Program (504 Program) administered by USDA Rural Development may be available in the event that water supplies of very low-income households are impacted.

Water Quality

No Action Alternative

Under the No Action Alternative, no short-term or long-term water quality impacts would occur.

Action Alternatives - Partial or Full Dam Removal

Prior to deconstruction of the dam, all necessary permits for the purpose of erosion and sediment control will be obtained from the Warren County and/or Hunterdon County Soil Conservation Districts. Those permits will outline how the sediments are to be addressed. There are approximately 1,100 cubic yards of sediment, 90 percent of which is coarse-textured in the impoundment (Princeton Hydro, 2009a). This quantity of sediment is equivalent to a sediment thickness of several inches over a 4.4 acre impoundment area. Partial or full dam removal will result in a temporary increase in downstream turbidity and sediment from the release of accumulated sediment behind the dam.

Existing literature indicates that there is substantial variation with respect to upstream and downstream channel changes following dam removal (Pizzuto 2002; Stanley and Doyle 2003). After dam removal, the geomorphic adjustment of the upstream channel will follow a relatively predictable sequence (Harvey and Watson 1986; Pizzuto 2002). The channel will incise through the sediment fill, and bank failures will occur if the channel depth increases above a critical value that depends on soil properties and channel geometry. Additional sediment injected to the stream by bank failures could be used locally to build new floodplains and--over time--an equilibrium channel adjusted to the prevailing natural flow and sediment regime. The duration of this sequence is largely a function of the size and volume of sediment stored behind the dam. Smaller particles that move across a wide range of flows (e.g., sand, silt, non-cohesive clay) will be readily transported and the adjustment process can occur over a relatively short time frame (Stanley et al. 2002; Doyle et al. 2003). In contrast, larger sediments (gravels) are only transported by flows that exceed a competence threshold--thus upstream channel equilibrium may require a longer time frame (Doyle et al. 2002; Doyle and Harbor 2003). Finally, Doyle et al. (2003) found that upstream channel evolution occurred faster in a regularly dewatered reservoir with relatively little consolidated or coarse sediment as compared to a similar reservoir with consolidated fine sediment that had not been dewatered until dam removal.

Post-removal downstream effects vary with respect to channel morphology, sediment composition, and ecology. Again, these effects generally scale to the height of the dam, the volume and composition of sediment stored in the former impoundment, and the geomorphic condition of the downstream channel. Further, the methods used to remove the dam affect sediment dynamics in downstream reaches--phased approaches limit sediment delivery while complete breaches often cause rapid loading. The downstream channel will adjust to increased sediment load from the eroding fill inside the former reservoir and, in some cases, naturalization of the streamflow regime. When the reservoir fill is composed of unconsolidated fines, downstream reaches usually exhibit decreases in median particle size, deposition on lateral and in-channel bars, and pool infilling (Wohl and Cenderelli 2000; Bushaw-Newton et al. 2002; Stanley et

al. 2002; Doyle et al. 2003). The duration of these effects is shortened by substrate size and volume--a smaller mass of smaller particles is more easily transported through the system by lower flows--but straightforward comparisons and predictions are confounded by downstream channel geomorphic conditions, water development structures, and runoff regimes. For example, Stanley et al. (2002) found that the removal of a dam on the Baraboo River in Wisconsin "caused relatively small and transient geomorphic and ecological changes in downstream reaches..." while Simons and Simons (1991) estimated that complete flushing of the system downstream from the removed Newaygo Dam on the Muskegon River in Michigan could take 50 to 80 years. Downstream reaches on Manatawny Creek in Pennsylvania showed signs of continuing recovery four years after dam removal in 2000 (Thomson et al. 2005). However, comparison of watershed composition, dam metrics, and sediment characteristics associated with each of these sites does not yield a predictive relationship when field observations are factored in. In short, the response of downstream reaches to dam removal appears to be sensitive to site conditions.

During deconstruction, one goal will be to minimize the mobilization of sediments currently impounded behind the dam. Also, BMP's will be employed to prevent as much as possible, the transportation of those mobilized sediments downstream. Newly exposed lands along streams/rivers will generally re-vegetate within weeks if dam deconstruction is performed during the growing season. The sediments often contain seeds and once exposed to sunlight and oxygen, germinate quickly. However, temporary vegetative covers (such as perennial or annual rye grass) will in all likelihood be utilized as a "nurse crop" to prevent erosion and/or control invasive species. In time, a more natural regime of sediment transport through the site will be re-established.

There will be re-establishment of the River's biotic and abiotic functions and a more natural sediment flux within this section of the river. Based on the recent literature, it appears that the relatively small volume of coarse-textured sediment should result in a relative short time span of turbidity and sediment movement following partial or full dam removal. Following stabilization of the former dam pool sediment, there should be no long-term increase in downstream sedimentation.

Sediments

No Action Alternative

Under the No Action Alternative, no construction would occur and therefore, there would be no sediment released. Any contaminants contained in the stored sediments would remain in the impoundment.

Partial Dam Removal

Minor impacts associated with the transportation downstream of sediments currently impounded by the dam could occur with partial dam deconstruction. As described in the Affected Environment section above, Princeton Hydro, LLC has completed preliminary sampling and testing of the sediments impounded by the Finesville Dam. The Princeton Hydro, LLC study documents that the sediments are approximately 90% sand size or larger. Contaminants are more prone to adsorb/accumulate in sediments that are smaller than sand size. Therefore, there should be a minimal presence of potential contaminants from paper mills which operated upstream of the Finesville Dam in the past. Prior to deconstruction of the dam, all necessary permits will be obtained from the New Jersey Department of Environmental Protection. Those permits will outline how the sediments are to be addressed. If necessary, sediments behind the Finesville Dam will be excavated and disposed of in a permitted disposal site to minimize transportation downstream.

Full Dam Removal

The impacts associated with full dam removal will be similar to those of partial dam removal, but with the deconstruction extending from river bank to river bank, there will be more disturbances and a greater potential for transport of sediment. Minor impacts associated with the transportation downstream of sediments currently impounded by the dam could occur with full dam deconstruction. As stated above, minimal levels of contaminants are expected to be present in sediments impounded behind the dam and appropriate BMPs will be employed to minimize mobilization and transport.

Vegetation

No Action Alternative

Under the No Action Alternative, no impact to vegetation at the site would occur as the current vegetative communities will be unchanged.

Action Alternatives - Partial and Full Dam Removal

Depending on the extent of a partial dam removal, floodplain vegetation may be restored in the project area. Some vegetation may be initially disturbed during the active construction period; however these areas will be replanted with native plant species selected for the site conditions. Banks and sediment newly exposed by the drop in water level are expected to re-vegetate within weeks if dam deconstruction is performed during the growing season. The sediments often contain seeds that, once exposed to sunlight and oxygen, germinate quickly.

Aquatic Resources

No Action Alternative

Under the No Action Alternative, impacts to aquatic resources at the site would continue due to lack of fish passage facilities. In addition, resident fish populations in the vicinity of the dam would not benefit from re-establishment of the connectivity of most of the River's biotic and abiotic functions.

Partial Dam Removal

Depending on the size of the section of dam removed, a partial breach will allow full or partial movement of aquatic resources up and down stream of the dam and restore other natural river ecological functions such as sediment and nutrient transport.

Full Dam Removal

A full dam removal will allow full aquatic resource access both upstream and downstream of the dam site as well as restoration of other natural river ecological functions. Also, dam removal will contribute to the re-establishment of the River's biotic and abiotic functions.

Wetland Resources

No Action Alternative

Under the No Action Alternative, no impacts to wetland resources at the site would occur.

Partial Dam Removal

Impacts to wetlands would vary based on the size of the partial removal. Due to a drop in water level, some areas currently open water will be exposed and become emergent, scrub/shrub and flood plain wetlands. Other fringe wetlands, slightly higher in elevation, may become drier and some narrow bands of wetlands may become uplands due to a change in hydrology. Overall there will be no net gain or loss in wetlands.

Full Dam Removal

The full dam removal alternative will lower the water level in the pool upstream from the dam. Similar to the partial removal alternative, due to a drop in water level, some areas currently open water will be exposed and become emergent, scrub/shrub and flood plain wetlands. Other fringe wetlands, slightly higher in elevation, may become drier and some narrow bands of wetlands may become uplands due to a change in hydrology. Overall there will be no net gain or loss in wetlands.

Threatened and Endangered Species

No Action Alternative

Under the No Action Alternative, no impacts to threatened and endangered species at the site would occur.

Partial Dam Removal

There will be no impacts to state threatened and endangered species or state species of concern found in the project area under the partial dam removal proposal. The area of disturbance during construction is not critical habitat for the state listed species found in this area and should not pose any negative impacts. No federal listed species are known to be in this area.

Full Dam Removal

There will be no impacts to state threatened and endangered species or state species of concern found in the project area under the full dam removal proposal. The area of disturbance during construction is not critical habitat for the state listed species found in this area and should not pose any negative impacts. No federal listed species are known to be in this area.

Cultural Resources

No Action Alternative

Under the No Action Alternative, no impacts to cultural resources at the site would occur, although without maintenance the dam would remain at risk to damage from severe flooding events. Flooding potential and risk of damages to structures adjacent to the river would remain unchanged.

Partial Dam Removal

If option three or four are implemented (partial or full dam removal) the dam pool will disappear, changing the historic look of the dam area. Drainage of the dam pool will warrant stream bank stabilization along both stream banks in the future to prevent erosion of the previously flooded areas (2330 feet along the north and south banks of the Musconetcong).

With this option, the stone wall will be spared intact, as part of the dam adjoining the wall will be left standing. Part of the dam on the south (mill race) bank will also be left intact - thus the mill race will not be impacted. There may be some reduction in the risk of flood damages, associated with more frequent storm events, to the adjacent historic structures. The extent of any reduction will depend on the extent of dam removal. Damages from severe storm events such as the 500-year event would not be reduced.

All construction access to the dam will be via a filled temporary ramp into the River from the south bank. No excavation of the south bank will take place. Archeological monitoring will take place during the de-construction of the dam to document the existing dam, and document the remains of the earlier, pre-1951 wood cribbing dam, if present.

NRCS met with the State Historic Preservation Office (SHPO) in October 2008 and has been in continuous communication with SHPO during the project. Preservation New Jersey requested to be a consulting party in April 2008. NRCS contacted the Advisory Council on Historic Preservation (ACHP) and they replied that they would not be a consulting party.

A meeting was held with the State Historic Preservation Office (SHPO), Preservation New Jersey and the Holland Township and Pohatcong Township historic preservation commissions on August 26, 2010 to discuss the partial dam alternative. The SHPO identified the partial dam alternative as one “the NJDEP has accepted and that there will be an adverse effect on the dam and that the Department had tilted the balance toward species mitigation and for mitigation of the impact of the partial dam removal on the cultural and historic resources.” As a result, NRCS is currently preparing a Memorandum of Agreement (MOA) with SHPO to provide “design mitigation” of the impact on the cultural and historic resource through a selected partial dam removal option. Interpretive signage will be installed at the site discussing the historical significance of the mill dam to the historic district.

Full Dam Removal

Full dam removal will affect both the stone wall on the north bank and the mill race on the south bank, as removal of the supporting structure (the dam itself) will impact these structures. There may be some reduction in the risk of flood

damages to adjacent historic structures associated with more frequent storm events. Damages from severe storm events such as the 500-year event would not be reduced.

All construction access to the dam will be via a filled temporary ramp into the River from the south bank. No excavation of the south bank will take place. Archeological monitoring will take place during the de-construction of the dam to document the existing dam, and document the remains of the earlier, pre-1951 wood cribbing dam, if present.

NRCS has and will continue to consult with the Advisory Council on Historic Preservation, Preservation NJ and the State Historic Preservation Office (SHPO) and will develop a memorandum of agreement with the SHPO to mitigate adverse effects.

Environmental Justice

No Action Alternative

Under the No Action Alternative, no impacts to Environmental Justice Zones would occur.

Proposed Actions

Since there are no known Environmental Justice Zones in this vicinity, there would be no impact.

Socioeconomic Resources

Table 2 lists in narrative form the probable effects for each alternative for each concern.

Table 2 –Socioeconomic Concerns for Each Alternative

	Alt 1	Alt 2	Alt 3
Concern	**No Action**	**Partial Dam Removal**	**Full Dam Removal**
Property values and taxes	No effect	None to negligible although reduced flood threat could increase values/taxes	Same as Alternative 2.
Flooding/flood insurance	No effect	Reduced flooding, perhaps reducing insurance rates	Same as Alternative 2
Wells	No effect	Potential drop in water table may result in lower water levels in some wells	Same as Alternative 2
Septic systems	No effect	Generally benefit/improve operation of septic systems	Same as Alternative 2
Public Safety	No effect	Public safety hazard reduced	Same as Alternative 2
Fire protection	No effect	May have to relocate draft sites	Same as Alternative 2
Bridge Safety	No effect	Minor effect on bridge abutments	Major effect on bridge abutments through the removal of support for riverside walls
Aesthetic value “waterfall effect”	No effect	Minimal effect - as the remaining pools and riffles through this River reach will generate similar sound	Same as Alternative 2
Employment & Income	No effect	Short-term increase in employment	Same as Alternative 2
Recreational Opportunities	No effect	More diverse fishing, and paddling	Same as Alternative 2

		opportunities	
Dam Operation and maintenance	No effect	Minor operation and maintenance costs	No operation and maintenance costs
Liability Risk	No effect	Greatly reduced but could be remaining liability with dam abutments being an "attractive nuisance", increased during construction	Greatly reduced, increased during construction
Regulatory Requirements	No effect	Permits required	Permits required
Project Costs	No effect	$195,100.*	$139,500.*
Environmental Justice	No effect	No effect	No effect
* Princeton Hydro, LLC., 2009a.			

Hazardous Materials and Waste

No Action Alternative

The No Action Alternative would not generate any hazardous materials and waste.

Proposed Action Alternatives – Partial and Full Dam Removal

Construction activities for the Proposed Actions will use hazardous materials typical of construction sites, such as fuel, oil, and lubricants for construction equipment. NRCS will review any construction contracts to assure that it contains a specification that requires the handling, containment, and disposal of any hazardous material in conformance with typical construction safety practices and applicable state regulations.

Cumulative Impacts

The Council on Environmental Quality (CEQ) defines cumulative effects as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future action regardless of what agency (federal or non-federal) or person undertakes such other actions” (CEQ, 1997). A cumulative effects analysis must take into consideration both direct and indirect effects of alternatives, as well as the alternatives’ spatial and temporal effects when considered with other past, present, or future actions.

Past Actions

Original construction of the dam altered the natural habitat and impaired the flow-through of the Musconetcong at this locality. The presence of more than 30 dams along the river corridor has cumulatively impacted the ecological integrity of the river.

Reasonably Foreseeable Future Actions

Currently, the Musconetcong Watershed Association is actively promoting removal of additional dams along the Musconetcong River to restore the connectivity of the river corridor. If additional dams are removed, particularly those immediately upstream of the Finesville Dam, ecological integrity will be restored to additional lengths of the river corridor and benefits to aquatic resources described in this document will be enhanced. If partial or full dam removal is implemented, the dam pool will disappear, changing the historic look of the dam area. Drainage of the dam pool will warrant steam bank stabilization along both stream banks in the future to prevent erosion of the previously flooded areas (2330 feet along the north and south banks of the Musconetcong River).

Comparison of Alternatives

No Action Alternative

The No Action Alternative assumes that no improvement would be made to improve fish passage or re-connect the river system. Fish passage would continue to be impeded by the dam.

Comparison of Alternatives

Table 3 is provided as a comparison of the major environmental and socioeconomic impacts of the alternatives.

Table 3 – Alternatives Summary and Comparison

Affected Environment	No Action	Partial Dam Removal	Full Dam Removal
Air Quality	**NI**	**-**	**-**
Noise	**NI**	**-**	**-**
Water Resources	**NI**	**+**	**+**
Sediments	**NI**	**-/+**	**-/+**
Vegetation	**NI**	**-/+**	**-/+**
Aquatic Resources	**NI**	**Short term minor adverse (sedimentation); long-term substantial beneficial (connectivity)**	**Short term minor adverse (sedimentation); long-term substantial beneficial (connectivity)**
Wetland Resources	**NI**	**+**	**+**
Threatened and Endangered Species	**NI**	**NI**	**NI**
Cultural Resources	**NI**	**NI,-**	**---**
Environmental Justice	**NI**	**NI**	**NI**
Hazardous Materials and Waste	**NI**	**-**	**-**
NOTES: NI: No Impact **+: Indicates item has a beneficial impact.** **- : Indicates item has a short-term adverse impact.**			

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Agencies and Organizations That Contributed to the Environmental Assessment

- American Rivers
- National Marine Fisheries Service, National Oceanic and Atmospheric Administration
- Musconetcong Watershed Association
- National Park Service
- New Jersey Geological Survey
- NJDEP Division of Fish and Wildlife
- NJDEP Bureau of Dam Safety
- NJDEP Bureau of Site Remediation
- NJDEP State Historic Preservation Office
- North Jersey RC&D Council
- Princeton Hydro, LLC
- Trout Unlimited
- U.S. Fish and Wildlife Service
- Warren County Health Department

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APPENDIX

Musconetcong River Alewife/Blueback Herring Habitat Suitability Index

Data for the Musconetcong River Alewife/Blueback herring Habitat Suitability Index (HSI) was collected on May 4, 2007 by Eric Schrading, U.S. Fish and Wildlife Service, New Jersey Field Office. Water samples were collected on that date and analyzed on June 11, 2007 to determine numbers of zooplankton (V3) in the laboratory. The raw data and converted suitability index numbers are below. The raw data represents 10 samples taken along the mainstem of the Musconetcong from just downstream of Finesville to Asbury, New Jersey. The HIS is a rough index of anadromous fish spawning suitability and should not be construed as a detailed survey or assessment of actual fish spawning potential (Schrading, 2009).

Overall HIS's for alewife (0.6) and blueback herring (0.2) were at or below average. According to the HIS model, substrate (V1) is the primary limiting factor in the Musconetcong River. A lot of the mainstem of the river is pebbles, rocks and harder substrate unsuitable for herring spawning. However, upstream areas and side channels tend to have more mud, silt, and detritus which indicate slower flowing areas, which is preferred spawning and rearing habitat.

The other limiting factor is mean daily water temperature (V5) during the spawning season for blueback herring. The mean daily water temperature (during the spawning season…generally May) is from USGS data and is approximately 14.0 degrees C. This temperature provides a good suitability index for alewife (SI=1.0), but too cold for blueback herring (SI=0.3).

The Musconetcong River appears to provide average spawning habitat for alewife and below average spawning habitat for blueback herring, but I doubt water temperature is really a limiting factor in the Musconetcong River for blueback herring. I also think there are plenty of good spawning areas (slower moving sections of river) on the Musconetcong River to provide plenty of spawning substrate for these species. This index can be used as a rough estimate of suitability of this river for alewife and blueback herring.

Musconetcong River
Alewife/Blueback Herring HSI
4/22/2009

Data Set	GPS UTM	GPS	V1 Sub	S1 Sub	V2 H2O T	S2a H20 T	S2b H20 T	V3 Zoo	S3 Zoo	V4 Sal	S4 Sal	V5 Surface	S5a Surface	S5b Surface	Alewife HIS SAEL	Alewife WQ J	Alewife HIS J	Blueback HSI SAEL	Blueback WQ J	Blueback HIS J	Alewife HSI	Blueback HSI
1	0485397	4494913	3	0.1	14.0	1.0	0.3	120	1.0	0.4	1.0	14.4	1.0	0.6	0.1	1.0	1.0	0.1	0.8	0.8	0.1	0.1
2	0485585	4495001	1	1.0	14.0	1.0	0.3	120	1.0	0.4	1.0	14.2	1.0	0.6	1.0	0.9	0.9	0.3	0.8	0.8	0.9	0.3
3	0486528	4469481	2	0.5	14.0	1.0	0.3	120	1.0	0.4	1.0	14.5	1.0	0.6	0.5	1.0	1.0	0.3	0.8	0.8	0.5	0.3
4	0488284	4497729	3	0.1	14.0	1.0	0.3	120	1.0	0.4	1.0	14.2	1.0	0.6	0.1	0.9	0.9	0.1	0.8	0.8	0.1	0.1
5	0488315	4497714	1	1.0	14.0	1.0	0.3	120	1.0	0.4	1.0	14.9	1.0	0.6	1.0	1.0	1.0	0.3	0.8	0.8	1.0	0.3
6	0491833	4499670	3	0.1	14.0	1.0	0.3	120	1.0	0.4	1.0	14.4	1.0	0.6	0.1	1.0	1.0	0.1	0.8	0.8	0.1	0.1
7	0492528	4500513	1	1.0	14.0	1.0	0.3	120	1.0	0.4	1.0	14.6	1.0	0.6	1.0	1.0	1.0	0.3	0.8	0.8	1.0	0.3
8	0493441	4501371	2	0.5	14.0	1.0	0.3	120	1.0	0.4	1.0	15.4	1.0	0.7	0.5	1.0	1.0	0.3	0.8	0.8	0.5	0.3
9	0496103	4503162	2	0.5	14.0	1.0	0.3	120	1.0	0.4	1.0	15.3	1.0	0.7	0.5	1.0	1.0	0.3	0.8	0.8	0.5	0.3
10	0499154	4504942	1	1.0	14.0	1.0	0.3	120	1.0	0.4	1.0	16.9	1.0	0.8	1.0	1.0	1.0	0.3	0.8	0.8	1.0	0.3
Total HSI (Alewife)				**0.6**																		
Total HIS (Blueback)				**0.2**																		

V1 – Class 1>75% mud or silt
Class 2 - >50% mud or silt
Class 3 >75% sand or other hard material

Source: Eric Schrading, U.S. Fish and Wildlife Service, New Jersey Field Office
Pleasantville, New Jersey
Phone 609-646-9310

Musconetcong River Summary Data
Freshwater Fish Management Database Report

Survey History:		23 Total Survey (s) Entered	
Date	**Reason**	**Crew**	**Location**
9/11/1996	Species Management	Hamilton	DFGW easement at Cotton property
9/11/1996	Species Management	Hamilton	DFGW property (Longcore's house)
9/10/1996	Species Management	Hamilton	DFGW property at Penwell (Faber's).
9/10/1996	Species Management	Hamilton	DFGW property at Butler's Park.
9/14/1990	Species Management	Pat Hamilton	Foreign Trade Center Land Parcel
9/13/1990	Species Management	Hamilton	Stanhope Park and Ride.
6/24/1980	Unknown	Hamilton	Off 604 below Lubbers Run
6/24/1980	Unknown	Hamilton	Off Acorn St., wooden foot bridge
8/17/1980	Unknown	Hamilton	Along Route 802, 200 yards below Hopatcong
9/2/1970	Classification	Soldwedel	Above bridge at Warren Glen
8/7/1970	Classification	Soldwedel	Changewater Road bridge,north of New Hampton
7/15/1970	Classification	Soldwedel	Off of Lakeside Drive at Hopatcong State Park.
7/15/1970	Classification	Soldwedel	Stephens State Park
9/20/1982	Water Chemistry Analysis	Gross	16 sampling points
5/12/1982	Population Inventory	Gross	Rustic Knolls.
2/23/1961	Population Inventory	Gross	Kenney's Bridge.
2/22/1961	Population Inventory	Compton	
8/6/1960	Population Inventory	Gross	Changewater.
6/6/1960	Population Inventory	Gross	
5/10/1960	Population Inventory	Gross	Asbury Dam to Rt 78 Bridge (7 mile stretch)
5/10/1960	Population Inventory	Gross	Asbury Dam to Rt 78 Bridge (7 mile stretch)
3/19/1960	Population Inventory	Gross	One half a mile below Asbury, Area A-1.
2/23/1960	Population Inventory	Gross	Woolverton Rd Bridge, 200 yards above bridge.

Source: Pat Hamilton, Division of Fish and Wildlife, NJDEP

Species List:		36 Unique Species Sampled	
Species Name:	**Scientific Name:**	**Fist Captured:**	**Last Captured**
Crappie, white	Pomoxis annuleris	7/15/1970	7/15/1970
Bass, largemouth	Micropterus salmoides	7/15/1970	9/13/1990
Fallfish	Semotius corporalis	2/23/1960	9/13/1990
Eel, American	Angulla rostrata	2/23/1960	9/11/1996
Darter, tesseliated	Etheostoma olmstedi	2/23/1960	9/11/1996
Darter, swamp	Etheostoma fusiforma	9/10/1996	9/10/1996
Darter, shield	Percina peltata	2/22/1961	2/22/1961
Madtom, tadpole	Noturus gyrinus	5/10/1960	5/12/1962
Dace, blacknose	Rhinichthys stratulus	2/23/1960	9/11/1996
Minnow, cutlips	Exoglossum maxilingua	2/23/1960	9/11/1996
Chubsucker, creek	Erimyzon oblongus	2/22/1961	6/17/1980
Chub, creek	Semotius atromaculatus	6/24/1980	9/10/1996
Carp, common	Cyprinus carpio	3/19/1980	6/8/1980
Bullhead, brown	Amalurus nebuloeus	5/12/1982	9/13/1990
Bluegill	Lepomis macrochirus	5/12/1962	9/10/1996
Bass, smallmouth	Micropterus dolomieu	3/19/1960	9/10/1996
Bass, rock	Ambloplitea rupestrisu	2/23/1960	9/11/1996
Dace, longnose	Rhinichthys cataractae	2/23/1960	6/11/1996
Shiner, common	Luxllus cornutus	2/23/1960	9/14/1990
Trout, brown	Salmo trutte	2/23/1960	9/14/1996
Trout, brook	Salvelinus fontinalis	5/10/1960	9/10/1996
Sunfish, redbreast	Lepomis auritus	8/6/1960	9/10/1996
Sucker, white	Catostomus commersoni	2/23/1960	9/10/1996
Stoncat	Noturus flavus	715/1970	6/17/1980
Shiner, spottail	Notropis hudsonius	2/23/1960	5/24/1980
Killfish, banded	Fundulus diaphanus	8/17/1980	8/17/1980
Shiner, golden	Notemigonus crysoleucas	7/15/1970	6/24/1980
Trout, rainbow	Oncorhynchue mykiss	5/10/1960	9/10/1996
Shiner, bridle	Notropis bifrenatus	5/10/1960	5/10/1960
Sculpin, alimy	Cottus cognatus	2/22/1961	2/22/1961
Pumpkinseed	Lapomis givvosus	8/6/1960	6/24/1980
Pickerel, redfin	Esox americanus	5/10/1960	2/22/1961
Pickerel, chain	Esox niger	5/12/1962	5/12/1962
Perch, yellow	Perca flavescens	2/23/1961	7/15/1970
Minnow, silvery	Hypognathus regius	8/7/1970	8/7/1970
Shiner, satinfin	Cyprinella analostana	3/19/1960	6/17/1980

Source: Pat Hamilton, Division of Fish and Wildlife, NJDEP

Threatened, Endangered, Species of Concern and Rare Plant Species and Ecological Communities

Threatened, Endangered or Wildlife Species of Concern

Common Name	Scientific Name	Federal Status	State Status	Grank	Srank
Bald eagle foraging	Haliaeetus leucocephalus		E	G4	SlB, S1N
bobcat	Lynx rufus		E	G4	Sl
bobolink	Dolichony oryzivorus		T/SC	G5	S2B,S3N
Cooper's hawk	Accipiter cooperii		T/S	G5	S2B,S4N
Grasshopper sparrow	Ammodramus savannarum		T/SC	G5	S2B,S3N
osprey	Pandion halieaetus		T/T	G5	S2B
Red-headed woodpecker	Melanerpes erythrocephalus		T/T	G5	S2B,S2N
Savannah sparrow	Passerculus sandwichensis		T/T	G5	S2B,S4N
Vesper sparrow	Pooecetes gramineus		E	G5	S1B,S2N
Wood turtle	Glyptemys insculpta		T	G4	S2
Great blue heron forage	Ardea herodias		SC/S	G5	S3B,S4N
Longtail salamander	Eurycea longicauda longicauda		T	G5T5	S2
Potential vernal habitat area					

Source: Natural Heritage Database and Landscape Project Habitat Mapping, July 24, 2008.

Rare Plant Species and Ecological Communities

Scientific Name	Common Name	Federal Status	State Status	Regional Status	G Rank	S Rank
Epilobium angustifolium ssp. circumvagum	Narrow—leaf Fireweed			HL	G5T5	S1
Panax quinquefolius	American ginseng			HL	G3G4	S2
Ranunculus flabellaris	Yellow Water Buttercup			HL	G5	S3
Viola canadensis	Canadian Violet		E	LP,HL	G5TNR	S1
Craetaeus succulenta	Fleshy Hawthorn		E	LP,HL	G5	S1
Dollingeria infirma	Cornel-leaf Aster			HL	G5	S2

Source: Natural Heritage Database, July 22, 2008.

Explanation of Codes Used in Natural Heritage Reports

State Status Codes

E – Endangered species – an endangered species is one whose prospects for survival within the state is in immediate danger due to one or many factors including loss of habitat, over exploitation, predations, competition, disease. An endangered species requires immediate assistance or extinction will probably follow.

S – Stable species – a species whose population is not undergoing any long-term increase/decrease within its natural cycle.

SC – Special concern – applies to animal species that warrant special attention because of some evidence of decline, inherent vulnerability to environmental deterioration, or habitat modification that would result in their becoming a threatened species. This category would also be applied to species that meet the foregoing criteria and for which there is little understanding of their current population status in the state.

T - Threatened species – a species whose population may become endangered if conditions surrounding the species begin to or continue to deteriorate.

Plant taxa listed as endangered are from New Jersey's official Endangered Plant Species List N.J.S.A. 131B-15.151 et seq.

E- Native New Jersey plant species whose survival in the State or nation is in jeopardy.

Regional Status Codes for Plants and Ecological Communities

LP – Indicates taxa listed by the Pinelands Commission as endangered or threatened within their legal jurisdiction. Not all species currently tracked by the Pinelands Commission are tracked by the Natural Heritage Program. A complete list of endangered and threatened Pineland species is included in the New Jersey Pinelands Comprehensive Management Plan.

HL – Indicates taxa or ecological communities protected by the Highlands Water Protection and Planning Act within the jurisdiction of the Highlands Preservation Area.

Global Element Ranks

G3 – Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single Western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range; with the number of occurrences in the range of 21 to 100.

G4 – Apparently secure globally; although it may be quite rare in parts of its range, especially at the periphery.

G5 – Demonstrably secure globally; although it may be quite rare in parts of its range, especially at the periphery.

State Element Ranks

S1 – Critically imperiled in New Jersey because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres). Elements so ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical area of the state. Also included are elements which were formerly more abundant, but because of habitat destruction or some other critical factor of its biology, they have been demonstrably reduced in abundance. In essence, these are elements for which, even with intensive searching, sizable additional occurrences are unlikely to be discovered.

S2 – Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.

S3 – Rare in state with 21 to 100 occurrences (plant species and ecological communities in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but wit small populations/acreage or elements with restricted distribution, but locally abundant. No yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.

B – Refers to breeding population of the element in the state.

N - Refers to non-breeding population of the element in the state.

Cautions and Restrictions on Natural Heritage Data

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plan and animal species are continuously added to the database. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Land Use Regulation Program, P.O. Box 401, Trenton, NJ 08625-0401.

The Landscape Project was developed by the Division of Fish & Wildlife, Endangered and Nongame Species Program in order to map critical habitat for rare animal species. Natural Heritage Database response letters will also list all species (if any) found during a search of the Landscape Project. All questions should be directed to the DEP Division of Fish and Wildlife, Endangered and Nongame Species Program, P.O. Box 400, Trenton, NJ 08625-0400.

Public Participation and Comments-December 2, 2008 Meeting

and Follow-up Public Comment Period
(ending January 30, 2009))

Musconetcong River Restoration
Public Scoping Meeting
December 2, 2008
Meeting Attendees

Name	E-mail	Reason for Attending
Bill Leavens	Bill.leavens@gmail.com	Musconetcong Watershed Association
Beth Styler Barry	beth@musconetcong.org	Musconetong Watershed Association - Speaker
Matthew Gottesfeld	Mwg9758@aol.com	
Richard Cotter	rccotterre@aol.com	Trout Unlimited
Brian Cowden	Bcowden@njtu.org	Trout Unlimited
Jim Grodon		Finesville dam owner
David Caccaug		
James Grodon		
Evan Madlinger	Evan.madlinger@nj.usda.gov	NRCS - Recorder
Fred Blazure		Trout fishing
Rick Axt		Trout Unlimited
Katherine Axt		DEP
Bill Hanley	billhanley@att.net	Stewartsville Resident
Michael Zawacki	mez@embarque.l.com	Warren County Rod & Gun Club
Paul Woodworth	pwoodworth@princetonhydro.com	
Tony Chianlly		
Michael J. Ghiggeri		Interested in river
David A. Saam		Watershed interest
John A. Ghiggeri	johnghiggeri@yahoo.com	River interest
Matt Davis	Matt.davis@yahoo.com	River interest/fishing
Erik Henriksen	ehenriksen@comcast.net	Musconetcong Watershed Association
Ginny MacGougle		Musconetcong Watershed Association
David Dech		Warren County Planning
Erik Purasson	epurasson@hotmailcom	Pohatcong Resident
Agust Gudmundsson	agusthg@comcast.net	NJ Trout Unlimited

Name	E-mail	Reason for Attending
John Kolba		Bloomsbury Dam owner
Joe Urbani	Fisheries Biologist, Joe Urbani Associates, Inc	Works with Warren County Rod and Gun Club
Rick Ege		NJ TU
Brett Bragin	marshmaster@embarqmail.com	Information
Jim Wick		NRCS - Recorder
Carl Alderson	Carl.alderson@noaa.gov	NOAA
Stephanie Lindloff	slindloff@amrivers.org	American Rivers
Ed Ney (?)		NJ TU
Marykathryn Kopec	americorps@northjerseyrcd.org	Watershed Ambassador
Christine Hall	chall@northjerseyrcd.org	NRCS
Darin Shaffer	Darin.shaffer@dep.state.nj.us	NJDEP Dam Safety
ShayMaria Silvestri	Sharmaria.silvestri@nj.usda.gov	NRCS – CRC
Barb Phillips	Barbara.phillips@nj.usda.gov	NRCS – PAS
Paul Kenney	Paul_kenney@nps.gov	Partnership Team
Eric Schrading	Eric_Schrading@fws.gov	Partnership Team
Josh Galster	galsterj@mail.montclair.edu	Interest
Stephen Bottac	captainkilohertz@yahoo.com	Interest
Robert Tudor	Robert.tudor@drbc.state.nj.us	Meeting Facilitator
Tim Dunne	Tim.dunne@nj.usda.gov	NRCS
Matt Harrington	matt.harrington@wdc.usda.gov	NRCS – NEPA
Kristin Smith	Kristin.Smith@gnb.usda.gov	NRCS – NEPA
Robert Snieckus	Robert.Snieckus@wdc.usda.gov	NRCS - Speaker
Greg Westfall	Gregory.westfall@nj.usda.gov	NRCS - Speaker
Kent Hardmeyer		NRCS – Recorder
Gail Bartok		NRCS - Recorder

Musconetcong River Restoration
Public Scoping Meeting
December 2, 2008
Bloomsbury Fire Company RiverView Banquet Facility
91 Brunswick Ave., Bloomsbury, NJ

Public comments at the various stations (6:30 p.m. to 7:15 p.m) were as follows:

Trout Unlimited Station – Evan Madlinger, Recorder

Are breeding trout in the River?
Aquatic weeds in Lake Hopatcong? Drain down lake and take out weeds.
What were the original uses of the dams? Saw mills
Are any dams still functional? Yes
Who owns the dams? Private landowners
What about stabilization of the stream banks? Boulders and plants
What about native vegetation? Always use native vegetation in restoration projects.
Cost of taking down dam? Half bringing the dam up to code. Plus partnership money.

U.S. Fish and Wildlife Service Station – Jim Wick, Recorder

WCRGC (Warren County Rod and Gun Club) – Still have out of pocket costs concern
-When done right (As was), don't need to come back (no maint.)

Joe Urbani (Fisheries Biologist, Joe Urbani Associates, Inc) – spoke about other river restoration projects he's been involved with – permitting went smoothly. No NJDEP LURP visits or phone calls during construction.

USDA Natural Resources Conservation Service – Kent Hardmeyer, Recorder

1) What kind of projects does NRCS get involved with
2) What is the purpose of a fish ladder and what kinds of fish are in the River,
3) The owner of the dam said he wanted it removed - he also said he wasn't sure the dam was actually his
4) Someone questioned the purpose of the dam, and suggested that we shouldn't be in a big hurry to take it out as there may be other beneficial purposes it could serve.

Public Comments were as follows the formal presentation meeting (7:15 p.m. to 8:00 p.m.):

Partial removal "very expensive" is it more expensive than full removal.

Agust Gudmundsson – Expensive but may be less than failure

A.G. - Local businessmen may be in dire straits if the cost on the dam owners is totally their's. Partners are needed.

Matt Davis – Is the Finesville dam dangerous and is this documented by New Jersey?

Darin Shaffer – The Finesville Dam has not been analyzed. It is considered to be a low hazard dam and is not being actively pursued by NJDEP.

Are there funds for dam restoration?

Bob Tudor – No NJDEP dollars are available.

Rick Axt – There are some low interest loans available.

John Ghiggeri of Holland Twp – Does the owner have a preference?

Jim Grodon (dam owner) – either removal or partial removal preferred.

Stephanie Lindloff (American Rivers) – Denil fishways can be costly. $40,000 per vertical foot…this dam is approximately 7 feet or $280,000.

Bill Leavens (Musconetcong WS Assn) – most objections are due to aesthetics. If you look downstream now – that is what you will see after removal. Will removal reduce noise of water flow?

Bob Snieckus (NRCS) – We can design "white noise" into a project if desired.

Beth (MWA) – Gruendyke location is at least as loud after dam removal as before.

A.G. (TU) – I'm all for breach. He suggested that if anyone has concerns they should visit the Gruendyke site noting that there are ospreys and eagles at the site now in Hackettstown – four (4) truckloads of tires and garbage was removed from the former Gruendyke dam pool location.

John Kolba (Bloomsbury) – Who owns Bloomsbury Dam?
Is it scheduled for removal?
Will the state revise the flood plain map after dam removal?

Darin Shaffer – owners can be identified by reviewing the tax records at municipal offices. If they own the boundary against the river then they may own

the dam as well. Re-mapping of the flood plain is possible following dam removal.

Rick Axt (Licensed Land Survey and TU) – He suggested that a new survey done. FEMA will study this if you ask them.

Geoff Goll (Princeton Hydro, LLC) – Landowner can apply for new flood plain determination.

Tim Dunne – Effort was originally for 4 dams in lower Musconetcong River Watershed and all dams on the Musky. Funding available now is only for the Finesville Dam for an anticipated action to develop fish passage in 2011.

R. Ege (TU) – 100 percent removal slide in the Power Point showed slow water. Did NRCS look at narrower channel and higher velocity.

Bob Snieckus (NRCS) – We can look at it.

Josh Galster (Montclair State) – Is there active monitoring of the projects already completed so that this information can be used to analyze the effects of alternatives.

Trout Unlimited and American Rivers (Stephanie Lindloff) responded that there have been numerous monitoring studies in Pennsylvania, Massachusetts and Wisconsin. Dissolved oxygen increases, temperature decreases sometimes up to 15 degrees and fish diversity increases.

Katherine Axt – turbidity monitoring below Gruendyke dam site has been conducted and similar monitoring is planned with the Seber dam. Data is displayed on-line under “E2.”

Bob Tudor (DRBC) – Has there been sediment sampling?

Tim Dunne and Geoff Goll – Yes sampling has occurred and there are no concerns.

A Phillipsburg (?) resident asked whether we looked at nutrients (phosphorus and nitrogen)

Geoff Goll responded that the organic matter was sampled but that it was very low. Over 90 percent of sediment was coarse-textured and unlikely to contain contaminants/nutrients.

Dave Dech (Warren County Planning) asked what would be the impact of dam removal/modification to the County Bridge over the River and whether it has been studied.

Geoff Goll indicated that this has not been looked at yet and that the hydrology and hydraulics will need to be analyzed. Dam removal generally reduces the hazard to downstream bridges.

Evan Madlinger (NRCS) – Are there any effects on downstream Delaware River flooding?

Bob Tudor and Rick Axt responded that they would be insignificant as this is a "run of the river" (same amount of water in as water out) dam with no flood storage.

Darin Shaffer stated NJDEP Dam Safety requires a pre- and post- breach to have be the same flood elevation.

A.G. (TU) – Any time line?

Tim Dunne responded that the plan for dam work/ladder would be in 2011.

Rick Ege (TU) reported that temperature data loggers are in the River and TU has data available.-

Written Comments

Musconetcong River Restoration
Public Meeting
December 2, 2008
Written Public Comments

Comments & Questions

1. Would like to see Musconetcong flow free entire length allowing for salmon and steelhead runs from the Delaware.

2. As the value of the property along the Musconetcong increases we must have access to the river along its entire length for fisherman and nature seekers. It cannot be locked up by landowners or interest in the river will die and not get support.

3. As a landowner bordering property with springs flowing to the Musconetcong, I am very concerned about restrictions that may be forced on me if and when I sell my property.

What about water removal from the river?

- David A. Saam, MIllford, NJ 908-995-7347

12/2/08

In my opinion, it's a no brainer. Remove the dam.

Do it ASAP before costs escalate.

John Ghiggeri
Holland Township
johnghiggeri@yahoo.com
---

johnghiggeri@yahoo.com

Liz Hoyt contacted USDA NRCS by phone following the meeting and expressed her concerns.

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
220 Davidson Avenue, 4th Floor
Somerset, NJ 08873
www.nj.nrcs.usda.gov

Please use this page to record your thoughts and concerns regarding the restoration of the Musconetcong River at Finesville. Then, sign and print your name, date the document, and mail it in the enclosed envelope to:

Barbara Phillips, Public Affairs Specialist
USDA-NRCS
220 Davidson Avenue 4th Floor
Somerset NJ 08873

Dear Mr Phillips -
This note is in response to your letter dated 12/19/08 to Elwood VanDoren. My husband passed away January 9, 2004.
I admit I have not been able to attend meetings concerning the restoration - however my own thoughts.
My husband worked at Taylor Stiles (Finesville) for 22 yrs. He watched the dam being built - He always saw the beauty of the water coming over the dam and spent lots of time listening to the water. He could never imagine the dam not being there.
Unless there is some great need (environmental etc) for it to go - I can't imagine spending money to destroy it. A part of my life would go with it !!!

Dolores M VanDoren — 12/29/08
Signature — Date

DOLORES M VANDOREN
Print your name

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service
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220 Davidson Avenue 4th Floor
Somerset NJ 08873

I would like to see the dam in Finesville removed. It would be great if no one else ever drowned there again. Thanks again for anything the NRCS can do towards removing the dam.

Thank You
Any and all river restoration would only help enhance the river & I am all in favor.

James Grodon 1/3/09

Signature Date

James Grodon

Print your name

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February 12, 2009

Barbara Phillips
USDA NRCS
220 Davidson Avenue, 4th Floor
Somerset, NJ 08873

Ref: Musconetcong River Restoration Project Finesville Area

Dear Ms. Phillips:

It is our understanding that the Musconetcong River Restoration Project includes the possible removal of the Finesville dam. Please note that this dam (along with adjoining and functionally complementary structures and features) is listed as a contributing resource in the nomination to the National Register of Historic Places for the Finesville Historic District.

The dam, its related infrastructure, and historic viewscape are significant to the history and identity of the Finesville community. Of particular concern are the gated millrace and its housing located on the southeast corner of the dam and bridge.

With this in mind, it is the consensus of this commission that if the dam must be removed, it be done in a manner that preserves the historic and structural integrity of this millrace structure, and as much of the dam related infrastructure as possible.

Please let me know if you require additional information; and of course let us know of any future meetings and how the NRCS stands on this matter.

Sincerely,

Lawrence LaFevre, Chairperson
Holland Township Historic Preservation Commission (HTHPC)

c: Edward Burdzy, Mayor
Catherine Miller, Twp. Clerk
Robert Peabody, Committeeman
Annette Worswick, Secretary HTHPC

POHATCONG
HISTORY & HERITAGE
SOCIETY

Barbara Phillips
USDA NRCS
220 Davidson Avenue, 4th Floor
Somerset, NJ 08873
barbara.phillips@nj.usda.gov

Dear Ms. Phillips,

I am writing on behalf of the Pohatcong History & Heritage Society to voice a local interest in what is being proposed for alterations to the Musconetcong River and specifically the area in the vicinity of the Finesville dam.

As you are probably aware, the PHHS is nearly complete with a nomination to the National Register of Historic Places for the Finesville Historic District. The area surrounding the dam in Finesville is included in the nomination and there are elements which are of historic and visual significance that many feel should be carefully preserved.

To the best of our knowledge, the dam in Finesville is in the approximate location of an older dam which was used to help divert water power through millraces on either side of the river. Many consider the dam visually significant to the historic viewscape and believe that it would negatively affect the historical interpretation of the site if it is removed entirely. Also of considerable concern is the interpretation and preservation of the millraces on either side of the River. On the bank on the Pohatcong side, the location of the historic millrace can be determined. On the Holland side, the historic millrace location is very obvious and there still exists a historic structure which filtered and directed a water drop towards the mill southwest of the bridge. I understand the desire of some to restore the River to conditions which predate historic settlement, but an infrastructure exists which has significance to our history and heritage.

I was hoping you could let me know where the NRCS stands with your study of the Finesville area and could keep me in the loop with any information on proposed work. Any further involvement in the process that we could have would be greatly appreciated.

Sincerely,

Michael Margulies,
President

PO Box 921, Alpha, New Jersey, 08865-0921

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
220 Davidson Avenue, 4th Floor
Somerset, NJ 08873
www.nj.nrcs.usda.gov

Please use this page to record your thoughts and concerns regarding the restoration of the Musconetcong River at Finesville. Then, sign and print your name, date the document, and mail it in the enclosed envelope to:

Barbara Phillips, Public Affairs Specialist
USDA-NRCS
220 Davidson Avenue 4th Floor
Somerset NJ 08873

Thomas Federowicz
210 Rt. 627
Phillipsburg, NJ
08865
(908) 995-4577

Hello,

I have this to say.

The historical nature of the area affords opportunities for future restoration if not current plans. It would be tragic if our current best intentions destroied those future prospects. Those far sighted visions might include a return to river (water) power, recreational river use & development, light industry (!) and, I've heard it discussed as feasable, introducing salmon (yes, salmon) to the Muskie! All of the above (except the salmon) have been and are a part of this areas rich historic past!

Signature: Thomas Federowicz

Date: 6 Feb '09

Print your name

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From: Douglas Milne
To: Phillips, Barbara - Somerset, NJ
Cc: Amy (Cat) Hollander
Sent: Thu Jan 29 23:58:58 2009
Subject: Finesville Dam
Dear Barbara,

Thank you for your letter of December 19 informing us of future work plans for the Finesville Dam and general work along the Musconetcong, and for inviting our input. Included please find an attachment of the letter we have drafted to this end. We've also sent the original in the envelope you kindly provided, but though it best if you have access to its' contents sooner rather than later, and so we send this electronic copy (see below)as well. Hopefully you will find this useful in your assessment of the situation. We welcome communication from you, and look forward to a pleasant relationship with the Watershed Association, NRCS, and affiliated agencies.

If you have any questions or concerns, please feel free to email me at this address, or to write to us by regular postal mail. Thanks again.

Sincerely,
Douglas P. Milne and Amy S. Hollander
182 Mount Joy Rd.
Finesville (Phillipsburg), NJ 08865

My husband and I live on the banks of the Musconetcong River in Finesville on the property immediately adjacent to the Finesville dam. We have a great deal of concern for the continued preservation of this watershed, and appreciate many of the activities put forth by the Watershed Association and the State toward this end. However we also have concerns for the preservation of the Historic community of Finesville, the affects the proposed changes will have on the water table, our wells, the wildlife that may be disturbed by changes in the river as well as the waste materials that may be unearthed from the river bottom from continued dumping of the paper plants along the river for decades until the 1970s, not to mention the potential loss to our property value.
Before we address these concerns, we would like to indicate for the record that your letter of December 18, 2008 is the first official notice we have received of any of these plans. Though our home is closest to the dam of any private home in either Hunterdon or Warren County, we have not been invited to any meetings, sent any notices, or been given any advance notice of an opportunity to voice our opinion on the matter of the dam removal, or even to be informed of the reasons for and methods of removing the dam in the first place. So far as we know, this is true of all of our Finesville and Pohatcong neighbors as well. Since it is Hunterdon County that is putting forth this proposal, even the Township administration in Pohatcong has been left largely unaware of any plan being proposed. The only reason we know of any of the plans for the dam, river, or bridge is because we approached surveyors, engineers and naturalists when we saw them working outside our home. Of particular concern was the fact that we were only notified of the meeting in Bloomsbury of December 2nd to discuss the ramifications of possible dam removal by a letter we received from your offices some two weeks after the meeting had occurred.

As a further example of this lack of communication, we present the following. This last summer (2008) some 80 High School Students from Hunterdon County (specifically from Holland Township) in conjunction with Trout Unlimited and, we believe, the Watershed Association, spent a weekend planting 800 saplings along the river bank on the Warren County side of the Musconetcong. None of the residents on this side of the river were given the consideration of even a cursory notification that this was going to occur.

Many of us maintain areas along the river adjacent to our homes, and welcome visitors and fishermen in those areas. The only reason my husband and I had advanced notice of the planting is that my husband happened to see the tree delivery and approached the volunteers to find out what was happening. We welcomed the tree planting, and were given the opportunity to select the trees that would be planted near our house and the locations in which they would be planted. Our neighbors were not as lucky, and had no notification until the trees had been planted. The students and volunteers were enthusiastic in the accomplishment of their task and planted many trees in already cultivated areas without regard to that cultivation and without consideration to the people who lived in the adjacent homes.

As to our other concerns; part of the appeal of living in Finesville is its historic significance. Right now the State Historic Preservation Office is in the process of designating the village a Historic District. The dam is fundamental to the historic context of this village. According to the Diaries of James Parker, a dam has been here since as early as 1778. Historic documents show that the development of the Village of Finesville followed the typical pattern of growth and prosperity of other 19th century industrial villages in the Northeast. The dam was built first, then the mills (one of which is now our home) and later the homes which housed the workers. This means the river was altered before the buildings were built. Removing the dam could affect the path the water takes, may affect the viability of the wells from which we draw our water for daily use, and will also drastically affect the historic context of this community and the historic sense of this place. It is our hope that the State and County plan to do extensive studies which address all the environmental impacts before any action is taken, and that these studies be made readily available to all concerned.

Although the Finesville Bridge is not addressed in your letter, we understand (again, without official notification to local residents in Warren County) that Hunterdon County plans to “restore” the bridge. According to articles printed in The Milford Leader, this bridge has been here since the 1880s and is an essential part of the village as an historic place. We are concerned about the final plans for restoring the bridge, and have never been officially notified of what the restoration will entail, or how that restoration will impact our town or the traffic patterns between Pohatcong and Holland Townships. We understand from casual discussion with the surveyors that the bridge will have a new superstructure erected as a foundation and that the historic bridge will then be re-erected atop the new superstructure. We welcome the plans to maintain the historic significance of the bridge itself while improving its’ strength, but we are concerned about rumored plans to increase the weight capacity of the bridge. Will this mean that we can expect more traffic through Finesville? And more significantly, will the bridge be expanded in such a way as to encourage commercial trucking? Children play in our streets and

neighbors share news in them. We are not encouraged by the idea of expanding Mount Joy Road as a major thoroughfare to speeding vehicles and heedless truck drivers. Finally, altering the dam, river and bridge has a huge affect on the value of our home. This property, with its picturesque waterfall has been the subject of paintings by nationally recognized artists such as Dan Campanelli as well as a favorite haunt of local artists. Our home, originally the Fines Wool Manufactory, was featured recently in a book entitled "Great Houses and Gardens of New Jersey", published by Rutgers University Press. A large part of the charm of living here comes from the existence of the dam itself, which was a major consideration in the purchase of the home in the first place. It (the dam and waterfall) is a beautiful site from the bridge and surrounding banks of the river. The sound produced from it, to us and many of our neighbors, characterizes the beauty of our village as well as helping to cover traffic noise from the busy roadways surrounding Finesville. We and our neighbors are not enthusiastic about the loss of these benefits to our village.

One of the concerns I had in purchasing this property is the small parcel of land the building sits upon—less then ¼ of an acre. A deciding factor for me was the standing lease agreement between the previous owner and James Grodin, the current owner of the property surrounding our home. This lease for an additional ½ acre of land including a strip between out house and the river provided a necessary buffer around our property and we have continued to maintain it since purchasing the house. Much of our concern with the river restoration plans deal with the purchase of this land by the State and our fear that the land will no longer be available to us, even though we have spent ten years restoring the land and maintaining it. We have mowed the grass, removed and repaired flood damage, planted trees and shrubs, removed invasive plants and otherwise maintained this half acre. We had hoped to purchase the land we have been leasing, but Mr. Grodin who initially indicated an interest in selling it to us, withdrew his acceptance for fear that sale of that land might threaten the sale of the rest of his property to the State of New Jersey.

We retain the hope that the State might be willing to allow us to make this purchase. We have been, and continue to be more than willing to make the purchase with the stipulation of an easement provided to the State to allow public passage to and from the river and the allowance of use of the property for sport fishermen and other visitors to our area. Our concern is that while we have maintained this land for almost a decade, there is no guarantee that the land which surrounds us and extends down Musconetcong Road along the river will not be developed or modified without consulting us. We would be interested in only the half acre immediately adjacent to our property between the road and the river. The remaining acreage would be of no interest to us other than to hope that the State will see fit to leave it undeveloped and in its natural state, but having that buffer between our current property and the remaining land would provide a good deal of relief to us. In return, we would be happy to sign paperwork which stipulates that the land be kept undeveloped, maintained in its' natural state, and that free passage would be permitted by us to anyone wishing to fish in or otherwise utilize the river along our property line for recreational purposes.

We continue to be concerned with the dam's actual removal. It had been our hope that the dam would be maintained as a site of Historic significance by the State or by some joint venture of the adjacent townships. We are aware that regular inspections are mandated,

and that these incur costs, but we feel strongly that the significance of the dam to the surrounding communities as a piece of our history should offset the concern of the cost of maintenance. We had further hoped that perhaps the construction of a fish ladder on the dam might allow the passage of indigenous species which seems of such concern to the people we have spoken with from Trout Unlimited. Fish Ladders are relatively inexpensive, require little or no maintenance, and have been used successfully throughout the U.S. for years and Europe for literally centuries. This option does not seem to have been considered in any serious way, so far as we can tell. We have also heard discussions of notching the dam rather than removing it entirely and would be interested to have this investigated as well.

Finally we, Amy Hollander and Douglas Milne, of 182 Mount Joy Road, Finesville, NJ, welcome any and all communication and/or interaction with those individuals planning the proposed dam removal, bridge reconstruction and/or other alteration to the Musconetcong River and its' immediate vicinity at any time. We hope that there will be future communication in advance of the fact, of any informational, educational, or other types of meetings that may be held regarding the matters we've addressed in this letter. We both understand that matters may proceed in ways other than those we might desire, but we'd be very appreciative of notification and the chance to hear and be heard by you. Thank you so much for allowing us to share our concerns. We hope to hear from you soon.

Sincerely,

1/28/2009

Amy Hollander and Douglas Milne

A. BRETT BRAGIN

29 January 2009

Ms. Barbara Phillips
Public Affairs Specialist
USDA Natural Resources Conservation Service
220 Davidson Avenue, 4th Floor
Somerst, New Jersey 08873

RE: Restoration of the Lower Musconetcong River

Dear Ms. Phillips:

I would like to submit the following comments as part of the NRCS public scoping process for the restoration of the lower Musconetcong River. While I am certainly in favor of the restoration of fish passage on the lower Musconetcong River, it must be carefully thought out, and done in a judicious manner, so that the actions taken as part of the preferred alternative do not lead to unintended environmental damage to the lower portion of the river.

Two of the alternatives discussed at the December 02, 2008 public scoping meeting in Bloomsbury, a partial breach of the dam and the total removal of the entire structure, have the potential to release large amounts of sediments that have likely accumulated behind the Finesville dam in the years since it was constructed. This issue of "legacy sediments" was mentioned by Mr. Tudor at the end of his presentation, and needs to be seriously addressed in your Environmental Assessment (EA). The depth and upstream extent of the accumulated sediments need to be accurately surveyed so that an estimate of the amount of "stored" sediment can be determined. Hydraulic modeling may help to estimate the quantities of sediment that will be flushed downstream after a partial breach or total removal of the structure. Along with a determination of the quantity of sediments, the amount of nutrients within these stored sediments (i.e., nitrogen and phosphorus) should also be determined. Given the agricultural nature of the surrounding Musconetcong valley, the deposition behind the Finesville dam of nutrient-laden sediments from farm runoff warrants further investigation. A recent publication by Robert Walters and Dorothy Merritts discussed these issues (Science, Vol. 319, pp. 299-304, 18 January 2008). In their conclusions, Walters and Merritts stated that a substantial portion of modern suspended sediment and nutrient loads could be due to dam breaching and erosion of what they called "reservoir" sediments. The restoration of one portion of the Musconetcong should not be allowed to lead to an injury to the downstream portion of this exceptional aquatic resource.

Another issue that needs to be fully explored in the EA is a discussion of the historic context and cultural significance of the Finesville dam. Was the current structure built on top of the dam built to serve the Chelsea Forge, reported to have existed in Finesville in the 1760's? The cultural resources section of the EA must be compiled by a qualified historian and/or

70 PERRYVILLE ROAD
PITTSTOWN, NEW JERSEY 08867

archaeologist, rather than by the engineers, biologists or hydrologists that are assigned to the project. Given the long occupation of the Musconetcong Valley and use of the river to power mills and forges, there is likely to be a rich story uncovered as you determine the historical significance of the dam and why it was built and what early industries it may have served. If the dam is found to have historic significance, and the partial or full removal of the structure is selected as the preferred alternative to achieve fish passage, how will the history and significance of this structure be documented as the project moves forward, and how will that information be made accessible for the benefit and education of future generations?

Another issue that deserves exploration in the EA is a discussion of what type of monitoring will be done after the preferred alternative is implemented. At the very least, monitoring of downstream sediment movement and the upstream passage of the target fish species should be included in any post-restoration monitoring.

Thank you for the opportunity to comment on this river restoration project. I look forward to reading the draft Environmental Assessment.

Sincerely,

A. Brett Bragin

A. Brett Bragin

70 PERRYVILLE ROAD
PITTSTOWN, NEW JERSEY 08867

Public Participation and Comments-December 1, 2009 Meeting

and Follow-up Public Comment Period
(ending December 29, 2009))

About 50 people at the meeting

Comments made by	Questions	Answers	NRCS Response
Ted Harwick Holland Township	Who decided this venue? There are two conflicts tonight. Holland Twp.Committee (5 person) Meets 1st and 3rd Tuesday of each month. (Pohatcong had one that I didn't get.) Recommendation: hold any future meetings in Pohatcong or Holland Township and cooperate with the townships so their officials can attend meeting. Whispering Pines in Holland Township located at the fire hall. Not happy to have people coming into our town to tell us what to do.	NEPA process has been underway for 18 months. Date and location selected by partnership; townships notified of meeting November 1. Darrin Shaffer of NJ Dam Safety explained process of hearings and notification requirements when they become involved in process.	
	What is the dam owner's position on the removal of dam? Land ownership rights	James Grodon identified himself and his dad as owners of the dam. He said they want the dam removed.	
	Why does partial dam removal cost more than complete dam removal?	Bethany Bearmore – due to the need to preserve the abutments of the original dam	
	Who pays for this?		

Jerry Bowers	How does this action restore health of the Musconetcong River?	Beth Styler Barry explained that the dam is the first one up from the Delaware River and they have a willing landowner who wants to have dam removed. This would restore the river to close to natural conditions.	
	What is time frame of conclusion of EA	Tim Dunne – 60 days after close of comment period (Dec 29) either a FONSI (Finding of No Significant Impact) or the preparation of an Environmental Impact Statement	
Doug Milne, lives next to dam, Pohatcong Township	What is the process of notification? Who will be notified when the EA is finished?	Tim: NEPA only requires results be published in Federal Register. (Actually I believe that Kristin said we could do this in as a newspaper legal notice for an EA- Greg). Greg: We can advise meeting attendees as well as those who submit written comments and provide their contact information by email that final doc is published to website when it is.	

Richard Cotton, farmer and founding member of MWA	EA reports 5 wells could be impacted by river restoration. Can money be set aside to assist landowners who might be impacted?	Tim and Greg: Discussion has been ongoing at NRCS about this. Monitoring of levels will be done at nearby station. There is precedent for WHIP funds to replace wells impacted by actions taken under WHIP contracts.	
Bill Hanley	Repair recently done to bridge adjacent to the dam. Any impact on bridge by removal of dam?	Bob Snieckus – removal impact not really known; equipment needed onsite to remove won't impact bridge Geoff Goll – repairs were done to super structure of bridge. No increase in water velocities and scouring is anticipated; therefore no scouring that would erode at base of bridge. The flow should be down the center under the bridge, not at the bridge abutments.	

Rich Rumfield, Phiilipsburg resident, NJ DEP FW volunteer	Are these wells surface water wells? If they are very shallow, the water in them may not be any good right now.	Westfall – these wells are shallow or dug wells less than 50 feet deep. Current NJDEP requirements require that there be well casing at least 50 feet and depths greater than that for the well bore. Monitoring will be done from publicly available data from the well monitoring currently taking place at the Lee Service station site nearby Goll – water could be tested in both wells and the river if homeowners agreed, looking at Total Suspended Solids (TSS) and chemical content to see if there is a connection between river and wells.	
Amy Hollander, Professor of Historic Preservation and resident near dam (lives "on top of the dam"), Pohatcong Township	The expressed "purpose and needs" is incomplete. It omits "historic needs." Finesville is approved for NJ Historic Register. She specifically felt that the no longer considered alternatives, mentioning the fish ladder alternative, should be evaluated using this broader purpose and needs statement. Error in presentation noted: Seigletown is nowhere near the dam. The village and its industry was centered	Bob Tudor recommended adding Cultural Resources and Sense of Place to Purpose and Needs statement so that they can be addressed in final assessment Greg noted that recent press coverage and SHPO information indicates that this is the name of the recently designated historic	

	around the dam. It powered mills that are still there. Cultural Resources should be added to "Purpose and Needs" list. The dam provides residents with a "sense of place."	district (see attached news article and SHPO e-mail.)	
Rick Ege, Mount Olive rep to TU	Dam was replaced in 1950 (actually I believe it was 1952 – Greg)		
Amy Hollander	It's not the dam structure per se, it is the idea of the power of the water – a village built around the industry		
Rick Ege	Is there an estimate known of what it would cost to rebuild dam?	Darren Shaffer – estimate to restore and then maintain dam cannot be provided, but it would certainly cost significantly more than removal. The cost of operation and maintenance of the dam would exceed the cost of its removal. Geoff Goll noted that pricing used in EA came from report Princeton Hydro created with funding from Open Rivers Initiative which was only concerned with removing the obstruction in the river Historic mill raceway would remain; existing spillway is good but apron is scoured and would need to be done. Abutments on	

		Grodon side of dam are showing signs of significant soil loss from behind the retaining wall. Goll continued that recent documents uncovered by NJDEP Bureau of Dam Safety from 1952 timber crib structure that was replaced by concrete indicate that rock below concrete may not be as significant as suspected, which will lower cost of partial dam removal option. Pursell Agway in Phillipsburg is a good example of a successful breach of dam	
Amy Hollander	Can supporting documents referred to in EA be made available	Greg: Princeton Hydro, LLC. Dam Removal Feasibility Study Report as well as the Phase IA and IB Cultural Resources Investigation Reports from Richard Grubb will be added to NRCS website Cost estimate to restore dam (roughly) will be pursued.	Supporting documents will be posted to web and to the report.

Agust Gundmondson	Funding may not be available to restore dam like it is to remove it. Engineering would be costly. Dam owner would need partners as it would cost well over $1 million.		
Bill Leavens	Is dam currently a contributing element to the Historic District of Finesville? Would the partial dam removal be satisfactory to SHPO? Who would pay for the restoration of the existing dam?	ShayMaria Silvestri: Reviewed what NRCS has done to date regarding cultural resources including funding a Phase IA and Phase IB Cultural Resources investigation done by Richard Grubb Associates.	
Rick Ege	Restoration is not a good alternative for dam owner – funding is not available to restore it, He cannot afford to insure and maintain dam		
Michael Angelo (identified as Michael Moleti in tax record), Holland Township	Appalled at what is happening Grodon wants to sell and new landowner is repairing building on property. Why are we assisting the dam owner when he is selling the mill building?	James Grodon said he does hope to sell property, but that new owner does not want dam. Furthermore, this is a river restoration project and not a landowner project We have dragged dead people out from the dam, and we don't want to do that again.	

Michael Angelo (identified as Michael Moleti in tax record)	Fishermen don't go out when weather is bad. He (the drowning victim) had no business being in the water. There is personal responsibility for drownings.		
Michael Angelo (identified as Michael Moleti in tax record)	Dirt/ wall dug out – tunnels that run across the walls need to be repaired on Holland Township side	Goll answered – one of the expenses of dam removal – old timer crib wall – Take a look at Pursell Dam. We like how that looks. From some angles, you can't notice dam is breached.	
Joseph Becker, Holland Township	67 year resident of Holland Twp. Worked for 40 years as Millwright at paper mill. All dams are obsolete; public hazard and not ecology-effective. Riegle Paper established in 1880. Becker family in area since 1887?? Raceways fed hydroelectric that fed the mills. Remove the dams; they have not provided any purpose for many years. Retain the wall if it will help prevent erosion.		
Michael Angelo (identified as Michael Moleti in tax record)	Why not take the $139 K and let landowners add to it to restore dam?	Evan Madlinger: Wildlife Habitat Improvement Program (WHIP) funds for wildlife habitat only, cannot be used for dam rehabilitation. Beth Bearmore: funding of dam repairs is dam owners expense	

		Engineering costs $$$ (millions) Federal funding only paying for dam removal	
Michael Angelo (identified as Michael Moleti in tax record)	Worried about the mess. Fishermen leave urine and feces on property. Ask property owners about this. Survey them. Kayakers and fishermen show up at 6 a.m. near property.	Tim Dunne recommended he call police or NJ Div F&W conservation officers	
Geoff Goll	If removal is alternative selected, public notification is required. Then NJDEP Bureau of Dam Safety can be contacted.		
Michael Angelo (identified as Michael Moleti in tax record)	F&G installed two parking lots, one at someone's house, following a public meeting attended by group of 100 people F&G got rid of one parking lot		
Agust Gudmundsson	The Wildlife Habitat Incentives Program (WHIP) does not have a public access requirement. Private lands are private, not public. NO TRESSPASSING		
Brian Cowden, TU Musconetcong	Dam removal is not intended so DEP F&W can increase state trout stocking but rather to increase the number of anadromous fish.		
Rick Ege	Stocks trout on Musconetcong; have not seen fish guts		
Ted Harwick directed question to Brian Cowden	What fish are going to benefit by altering dam?	Brian: American Shad and river herring and possibly striped bass.	

		Beth Styler Barry added that the restoration is not just about fish. Other natural functions of the river are impeded by the dam: sediment moving, the moving of nutrients, and habitats for other animals. Removing dam allows for more oxygen in river. Fishing brings people to the stream where they will learn to love it and want to take care of it.	
Ted Harwick	Has Hunterdon SCD or Warren SCD been contacted?	Tim Dunne: They will be contacted when permits are needed if any action is to be taken.	
	Who owns Warren Glen dam?	Darren Shaffer- Jointly owned by NJ DEP DFW and IPP	
	You talk about impaired ecosystems. What should be there; what is there?	Evan Madlinger: Water temp rises, sediment, macro invertebrates don't thrive with sediment Eric S: blocks anadromous fish from spawning; trout and dace and darters can't pass blockage. They might go downstream when flooding occurs, but they can never get upstream	
Michael Angelo (identified as Michael Moleti in	Am I on the list with low wells?	Greg Westfall: We looked at publicly available information on wells on the Pohatcong	

tax record)		Township site of the River. Jeff McClure commented that information revealed concern about several wells in Pohatcong Township.	
Michael Angelo (identified as Michael Moleti in tax record)	Come test my well	Bob Tudor asked, “What is the depth of your well?” Response was “I don’t know.”	
Agust Gudmundsson	Warren Co. Bd of Health will have record of well depths		
Doug Milne	Notification in next step	Darren Shaffer: dam removal with permit application requires notification of landowners (those adjacent to dam and its impoundment) and municipalities by certified mail – 30 days notice – public notice in papers, too	
	Impact on historic – work on dam to be monitored says State Historic Preservaton Office (SHPO) – How?	Shay Maria Silvestri: Phase 1A Cultural Resources investigation to look over entire area that would be impacted led to Phase 1B Cultural Resources investigation to look at any place equipment might be. These reports are at State Historic Preservation Office (SHPO) office.	

		Recommendation was for an archeologist to be on site during de-construction and that if something were found, de-construction would be stopped. 106 compliance	
Bob Tudor	File additional comments by December 29, 2009		

About the deaths at the Finesville Dam; I'd just like to point out that both deaths on record occurred during Flood conditions, and were both the result of illegal actions. Boaters/Kayakers/Canoe pilots are required by law to port their vehicles upon reaching an obstruction blocking the waterway, to walk around the obstruction on dry land, and to re-enter the waterway after having gone around the obstruction. Both deaths were the result of people taking a craft over the dam, illegally, for the "rush" or convenience of boating through that rapidly running water, having their craft capsize, and being trapped in their craft + drowning. Sad, lamentable, + tragic, but also illegal, foolish, + avoidable.

What is best for the health of the river?

Is the Finesville dam a contributing element of the Finesville Historic District?

Bill.Leavers@gmail.com

From: Jessica Lettich [mailto:jlettich@yahoo.com]
Sent: Wednesday, December 02, 2009 11:51 AM
To: Phillips, Barbara - Somerset, NJ
Subject: Finesville, NJ Dam Removal Project

To: Barbara Phillips, USDA NRCS

Dear Ms. Phillips:

I understand you are currently working with the Musconetcong River Restoration Partnership. I would like to express my views on this matter, as a fisherwoman who understands the nature of rivers and their needs.

While I understand that in times past, dams were needed along the Musconetcong River for various manufacturing facilities, the fact remains that these dams have a destructive effect on smaller streams like the Musky. The Musconetcong River has had 20+ dams built over the years and I believe only one of them is used for it's original purpose. I want you to know that *I am completely in favor of removing every obsolete dam* from the Musconetcong River. Having witnessed the destructive effects of the now removed Groendyke Dam in Hackettstown and the silt pond that existed behind it, I can tell you that it has been replaced by a clean, flowing river in that section. Removing the dams can only improve the health of the river and it's ecosystem. Thanks for your consideration.

Sincerely,

Jessica Lettich
529 Richmond Rd
Bangor PA 18013

From: Bergamo, Patrick (DCSGSG) [mailto:pbergamo@deltagsg.com]
Sent: Wednesday, December 02, 2009 12:36 PM
To: Phillips, Barbara - Somerset, NJ
Subject: Finesville

I am a lifetime resident of New Jersey and a trout fisherman, and I am contacting you to voice my support of the removal of the Finesville and other outdated dams along the Musconetcong River. These dams served a practical purpose at one time but they caused damage to the health of the river and the migration of fish through its length.

Respectfully,

Patrick A. Bergamo
1 Lubbers Trail
Stanhope NJ 07874

From: Rick Ege [mailto:RickEge@comcast.net]
Sent: Wednesday, December 02, 2009 8:15 PM
To: Phillips, Barbara - Somerset, NJ
Subject: Finesville Dam

Dear Mrs. Phillips,

I appreciate the opportunity to speak in favor of the Finesville Dam removal last night. The health of the river is a extreme importance, fish habitat, and wildlife habitat will be greatly enhance with the dams removal.

While I can understand some of the neighbors' concerns with the historic nature of the area, the dam in question is not itself historic, is obsolete, and in poor condition.

The young lady who was so concerned with the historic nature of the dam, and lives next to the dam, has been using a part of the dam's owners property as an extension of their yard. Last year when we were planting trees with the Holland Township Middle School, she and her husband were upset and tried to stop us from planting trees until she was once again reminded it wasn't her property, so she has a vested interest in seeing that dam isn't removed, that goes far beyond any historic nature.

The "gentleman" who has a problem with the dam removal, and anglers, lives across the street from the dam, at the I-Intersection. I cannot believe his claim about anglers, as to do as he was claim, they would need to climb the bank, go through the wooded area, cross the road, and stand in the middle of the intersection to do as he claimed.

I drove down to Finesville this morning, and view the condition of his property. It looks like a dump, he would be hard pressed to prove any angler was adding to the garbage on the property which is not being maintained.

On behalf of the 4,0000 members of Trout Unlimited here in New Jersey, we fully support the removal of the Finesville Dam.

Sincerely,

Rick Ege

Frederick S. Ege, Jr.
Executive Director
New Jersey State Council of Trout Unlimited
P O Box 594
Budd Lake, NJ 07828
www.njtu.org
REge@njtu.org
973-222-0734

From: Anna Maria Petersen [mailto:annamp@ptd.net]
Sent: Thursday, December 03, 2009 3:46 PM
To: Phillips, Barbara - Somerset, NJ
Subject: Notice of Public Meeting - Finesville Dam

Hello Barbara,

I wish I could have attended the December 1st meeting regarding the Final Draft Environmental Assessment for the Restoration of the Lower Musconetcong River at the Finesville Dam.
But unfortunately the Notice of Public Meeting letter (dated November 20th) was mailed on NOVEMBER 30th and it arrived in my mail box on December 2nd.
I wonder if that notice was meant to reach us in time for us to be able to attend?

Very disappointed.

ANNA MARIA PETERSEN

213 COUNTY ROAD 627
PHILLIPSBURG NEW JERSEY 08865
PHONE 908 812 4467

Kenneth R. Vogel
136 Bellis Road
Milford, NJ 08848

908-995-7278 Home
908-995-2295- Fax
908-310-5298 Cell
kvogel@ptd.net Email

December 3, 2009

Letter to Express Times
Finesville Dam

I want to make it clear that this letter is being written by me as a resident of Holland Township and not as my position on Holland Township Committee. My views on this subject do not necessarily represent the views of our Township Committee.

Unfortunately because of the poor planning and location of the meeting held this past Tuesday Dec 1, 2009 in Bloomsbury I was not able to attend. It was quite disturbing to me that they would hold a meeting dealing with a Dam that borders Holland Township on a regular township committee night that is published in all the necessary papers under legal notices at the beginning of each year. It has also been the night of the month we have had meetings for as long as I can remember. I also question why they would set up a meeting in Bloomsbury when again the Dam is located in Holland.

One of the comments that irks me whenever they are discussing this project is that people have died as a result of the Dam. The people who died in 1989 and 2000 decided to ride the heavy currents after very bad storms. That was a choice that proved fatal and was not a prudent idea. One cannot blame the Dam for careless behavior.

For a state that constantly tries to save historical sites it bothers me that we are just glancing over the fact that this was built in 1751 and was a big reason the Finesville community even exists. We have spent untold millions to repair the canal that lies along the Delaware River and thanks to the hard work of Mr. Lee have maintained and saved part of the Morris Canal. Why are we so quick to destroy this piece of our local History?

If this Dam is on private land why are we paying for its removal or possible reinforcement?

An even bigger question should be the damage that can be done to the five homeowner's wells on the Pohatgong side of the river and the comment that "financial help would be considered". Are they out of their mind, you come in and destroy a home's drinking water and you might help them out.

Last but not least, is this the best time to be spending money on a project like this in the economic times we are facing?

Kenneth R. Vogel

Holland Township

December 29, 2009

Barbara Phillips
Public Affairs Specialist
USDA - Natural Resources Conservation Service
220 Davidson Avenue, 4th Floor
Somerset, NJ 08873

RE: Finesville Dam Removal

Dear Ms. Phillips:

Thank you for the opportunity to comment on the proposed removal of the Finesville Dam and the draft Environmental Assessment Report that was presented to the public on December 2, 2009.

New Jersey Conservation Foundation's (NJCF) mission is to preserve the land and natural resources of New Jersey for the benefit of all. While natural resources are our primary focus, we also work to protect special places, including historical resources. Some of our historic preservation projects include this historic Prall House, a historic stone building associated with the Delaware River Mill complex in Stockton, and several historic homes in the Pursley's Ferry Historic District of Holland Township.

Evaluation of the proposed removal of the dam in Finesville is complicated because there are competing public interests. NJCF recognizes the historic importance of the dam. Despite its fairly recent reconstruction, the dam and the mill pond it creates are important to the setting of the historic community of Finesville. The physical and perceived relationship of the dam to both the surrounding area and the nearby histori**c** structures creates a historic context that is important to consider.

However, it is clear that the dam and mill pond are damaging the ecology and water quality of the Musconetcong River, which has been designated a National Wild and Scenic River. The mill pond causes warm water and low oxygen conditions that negatively impact fish and aquatic invertebrate populations. The dam also creates a physical barrier that eliminates many species of migratory fish including American eel, shad, herring, alewife, and **s**striped bass. Since the Finesville Dam is located very close to the mouth of Musconetcong, the dam effectively eliminates these species from almost the entire river.

New Jersey Conservation Foundation supports the proposed dam removal or partial removal as described in the draft Environmental Assessment Report based on the overwhelming natural resource concerns. However, NJCF urges that any removal project be undertaken with utmost sensitivity to the historic, cultural, and scenic resources and

structures. In particular the historic millraces, and any other elements not vital to the restoration of fish passage and water quality, should be preserved.

Thank you for the opportunity to comment.

Sincerely,

Emile DeVito, Ph.D.
Manager of Science and Stewardship
New Jersey Conservation Foundation

Tim Morris, PO Box 258, Califon, NJ 07830

December 21, 2009

Barbara Phillips
Public Affairs Specialist
USDA - Natural Resources Conservation Service
220 Davidson Avenue, 4th Floor
Somerset, NJ 08873

RE: Finesville Dam Removal

Dear Ms. Phillips:

Thank you for the opportunity to comment on the proposed removal of the Finesville Dam and the draft Environmental Assessment Report that was presented to the public on December 2, 2009.

I am writing to express my support of the full removal of this dam. It is clear that the dam is a significant detriment to the ecology and water quality of the Musconetcong River. This dam excludes many species of migratory aquatic species such as American eel, shad, herring, alewife, and striped bass from the entire river. The impoundment created by this dam also causes unnaturally warm water temperatures and low dissolved oxygen levels, which are detrimental to fish and aquatic invertebrate population and diversity. It is clear that from a water quality and aquatic ecosystem perspective, the dam should be removed.

The dam also represents a real liability to the property owner due to the need for ongoing maintenance as well as the risk of being sued for property damaged, personal injury, or death. According to the owner, there have been at least two deaths at the dam in recent history. It is unreasonable to require a landowner to continue to bear these risks.

Finally, I would like to address the historic concerns that have been expressed by others. I serve as a trustee for a non-profit group whose main project is the restoration of an 18th century mill in the historic village of Long Valley. I am sympathetic to historic concerns and generally place great value on historic resources. However, the Finesville dam is not actually an historic structure, having been reconstructed in the recent past.

In this case the historic concerns do not outweigh the large ecological and water quality improvements gained by dam removal. I therefore strongly support the proposed dam removal.

Thank you for the opportunity to comment on this project.

Sincerely,

Tim Morris
Califon, NJ

From: Readington Museums <readingtonmuseums@netcarrier.com>
To: Phillips, Barbara - Somerset, NJ
Sent: Tue Dec 29 09:31:49 2009
Subject: finesville dam

Dear Barbara,

First, we would like to say how much we appreciated the public meeting held in Bloomsbury at the beginning of the month. It was both informative and helpful, if long-awaited. It is a shame that the meeting time was not more carefully considered—that the groups involved did not think it important enough to coordinate the date with the corresponding Township Committees, ensuring their ability to attend. Though we understand that this project more than conformed to its "legal obligations" to inform the public, in this day and age, garnering community support from day one is the more politically responsible choice.

That being said, while many of our questions were answered by your specialists at the meeting, we feel that the feasibility study, as written, is limited because it does not truly address all the parameters affected by this proposition. It bases its recommendations solely on how effectively the dam removal will improve the natural preservation of the river. In that respect we have no doubts that the dam removal is beneficial. Though the study briefly addresses the existence of other concerns, it hardly gives them attention, consideration or value, in the large part addressing them with such phrases as "this consideration has been discarded".

We propose however that the historic sense of place and the quality of life for the local residents should carry equal weight in the decisions made. It is interesting that studies were done to test the toxicity of the water (carefully Not testing for the specific pollutants expected to be in local waters), the alluvial flow of the nutrients, and of the affects on the fish and wildlife habitats, but none were done to test how it will affect the habitat of the human animal. The people who live here will be affected by noise, pollution, increased traffic, as well as a profound change in the appearance of the community and its' sense of place. Many of us chose to live here because of our love of history. The dam represents the earliest patterns of settlement in this region--the water power from which the village of Finesville evolved. Its' very presence is aesthetically pleasing, and was a consideration in the purchases of several of our neighbor's homes, as well as our own. Though there are no water wheels turning, it is still easy to imagine the how this dam powered the two mills situated on the river banks for almost 2 centuries. With the dam removed that context will be lost.

None of this is to say that when a proper study is done, taking into consideration all the parameters that
the choice would not still be to remove the dam. However, until then it is our opinion that the project
needs further consideration. That being said, we have looked at the notched damn in Phillipsburg and feel it an ill-advised choice for the Finesville dam project. It does nothing to preserve the sense of place or history which is conveyed by the waterfall itself rather than the

unearthed concrete abutment which it flows over. To this end, if the dam project is approved it would be our choice to have it removed completely and an appropriate historic sign installed addressing the former presence of the dam. We would also like to request that a series of natural stones be set in the river forming a hard rill to offset somewhat the loss of ambient sound once the dam is removed, which is a large part of its aesthetic value. We had been told that this was a likely design configuration and we would strongly support such an effort.

We appreciate your continued effort to include us in the planning process and hope that it future an effort will be made to ensure the inclusion of all the local residents and the local government bodies in the process directly.

Thank you

Amy Hollander and Douglas Milne

PS. I have included this as an email and an attachment, not knowing which would be better for your records