DRAFT RESTORATION PLAN AND NEPA EVALUATION
for the
CHEVRON MARINE OIL TERMINAL FACILITY
NATURAL RESOURCE DAMAGE SETTLEMENT

Hampden, Maine



Prepared by:

Maine Department of Environmental Protection
Maine Department of Inland Fisheries and Wildlife
Maine Department of Marine Resources
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United States Fish and Wildlife Service
National Oceanic and Atmospheric Administration

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ACRONYMS

ASF – Atlantic Salmon Federation
CE – Categorical Exclusion
CFR – Code of Federal Regulations
DACF – Maine Department of Agriculture, Conservation and Forestry
DEP – Maine Department of Environmental Protection
DIFW – Maine Department of Inland Fish & Wildlife
DMR – Maine Department of Marine Resources
DOC – Department of Commerce
DOI – Department of the Interior
EA – Environmental Assessment
EFH – Essential Fish Habitat
EIS – Environmental Impact Statement
EPA – Environmental Protection Agency
ESA – Endangered Species Act
FONSI – Finding of No Significant Impact
LNAPL – light non-aqueous phase liquid
MCHT – Maine Coast Heritage Trust
MS4 – municipal separate storm sewer systems
NEPA – National Environmental Policy Act
NHPA – National Historic Preservation Act
NMFS – National Marine Fisheries Service
NOAA – National Oceanic and Atmospheric Administration
NRHP – National Register of Historic Places
NRPA – Maine Natural Resource Protection Act
NRDA – Natural Resource Damage Assessment
OPA – Oil Pollution Act
RC – Restoration Center (part of the National Oceanic and Atmospheric Administration)
RC PEIS – Restoration Center Programmatic Environmental Impact Statement
ROD – Record of Decision
SHPO – State Historic Preservation Office
TNC – The Nature Conservancy
USFWS – United States Fish and Wildlife Service

EXECUTIVE SUMMARY

Two former marine oil terminal facilities are located adjacent to each other on the west bank of the Penobscot River in Hampden, Maine. These two facilities, referred to collectively as the Chevron Site, operated from the early 1900s under the ownership of various companies to provide oil storage and distribution. In July 2016, the U.S. District Court of the District of Maine approved a settlement between the State of Maine, the United States of America, on behalf of the Department of the Interior (DOI) and the National Oceanic and Atmospheric Administration (NOAA), and five previous owners/operators of the Chevron Site. The approved settlement provides $880,000 for restoration of natural resources due to discharges of oil from the Chevron Site.

The State of Maine, represented by the Department of Environmental Protection (DEP), Department of Inland Fisheries & Wildlife (DIFW), Department of Marine Resources (DMR), and Department of Agriculture, Conservation and Forestry (DACF), the DOI, represented by the U.S. Fish and Wildlife Service (USFWS), and NOAA are responsible for using these settlement funds to implement restoration projects that will restore, replace, rehabilitate or acquire equivalent natural resources or services to those that were injured.

The six agencies are considering two alternatives for using the settlement funds. The two alternatives are evaluated in this Draft Restoration Plan:

Alternative 1 (Preferred)	• **Bagaduce Watershed Fish Passage Restoration Project** • **Snow Brook Fish Passage Restoration Project** • **Kenduskeag Headwaters Resiliency Project** • **Sucker Brook Corridor and Watershed Improvement Project**
Alternative 2	**No Action – no restoration projects implemented**

This Draft Restoration Plan is open for public comment until 30 days from publication. Copies of the plan can be downloaded at:
https://www.fws.gov/newengland/ , https://darrp.noaa.gov/oil-spills/gulf-chevron-terminal-facility , and state website.

or requested by mail at the address below. Comments can be submitted via e-mail or by mail to:

Address: ***Scott Whittier***
Maine Department of Environmental Protection
17 State House Station, 28 Tyson Drive
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1. INTRODUCTION

Two former marine oil terminal facilities are located adjacent to each other on the west bank of the Penobscot River in Hampden, Maine (Figure 1). These two facilities, referred to collectively as the Chevron Site, operated from the early 1900s under the ownership of various companies to provide oil storage and distribution. The Chevron Site is bordered on the west by Main Road North, to the south and east by the Penobscot River, and to the north by industrial properties. Numerous discharges of oil and oil constituents to soil, sediment, ground water, pore water, and surface water (the Penobscot River) at the Chevron Site were documented from 1973 to 2008. The oil and oil constituents caused injury to riverine, wetland and floodplain habitats, groundwater resources and recreational opportunities, in the vicinity of the Chevron Site.

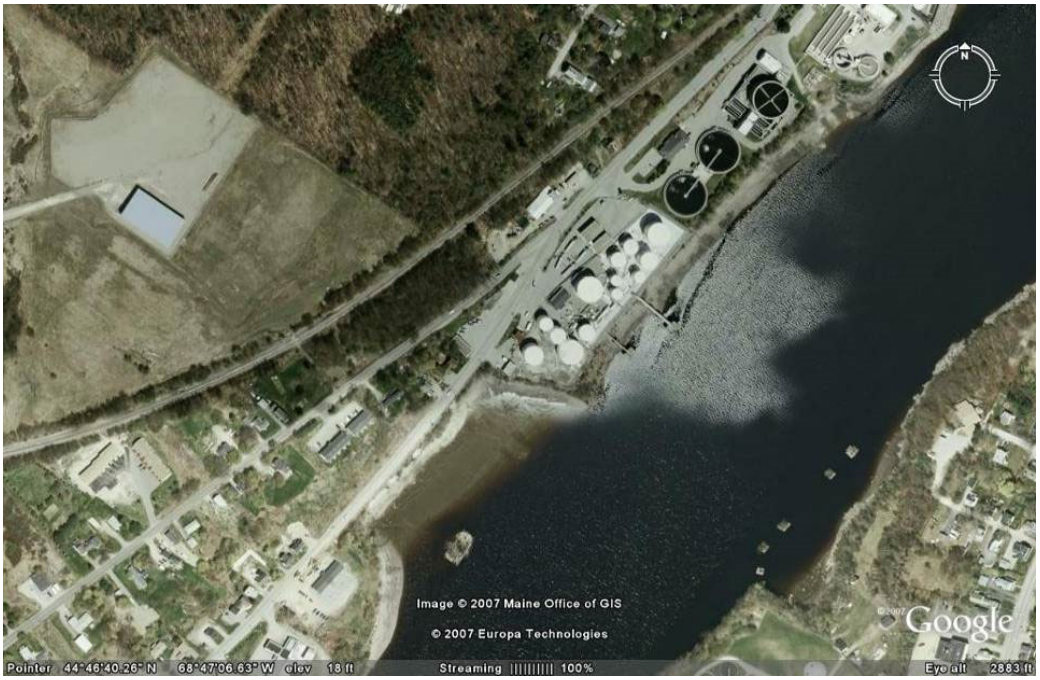


Figure 1. Aerial of Chevron Site from 2007 (Maine DEP).

In July 2016, the U.S. District Court of the District of Maine approved a settlement between the State of Maine, the United States of America, on behalf of the Department of the Interior (DOI) and the National Oceanic and Atmospheric Administration (NOAA), and five previous owners/operators of the Chevron Site. The approved settlement provides $880,000 for oversight and restoration of natural resources due to discharges of oil from the Chevron Site.

The State and United States entered into this settlement under the authority of the Oil Pollution Act of 1990 (OPA, 33 U.S.C. §2701 et seq.) and the Maine Oil Discharge Prevention and Pollution Control law (38 M.R.S. § 551). OPA authorizes federal agencies, states and others to act on behalf of the public as Trustees of natural resources that are injured by oil spills. Maine law provides that licensees and persons permitting or suffering a prohibited discharge are liable for damage for injury to, destruction of, or loss of use of natural resources and the reasonable costs of assessing natural resource damage, as well as the costs of preparing and implementing a natural resource restoration plan. The Trustees for the Chevron Site are the U.S. Fish and

Wildlife Service (USFWS) on behalf of DOI, NOAA on behalf of the Department of Commerce (DOC), and the Commissioners of the Department of Environmental Protection (DEP), Department of Inland Fisheries & Wildlife (DIFW), Department of Marine Resources (DMR), and Department of Agriculture, Conservation and Forestry (DACF).

The settlement under OPA and Maine's Oil Law provides funding for the restoration of natural resources as compensation for injury to, destruction of, loss of, or lost use of, natural resources. Thus, the restoration funds from the settlement for the Chevron Site will be used to develop and implement a restoration plan (this document) that identifies specific projects that will restore the injured natural resources or services (riverine, wetland and floodplain habitats, groundwater resources and recreational opportunities). The natural resource damage settlement cannot be used to implement remediation (i.e., clean-up) of the Chevron Site or other spills or hazardous waste sites.

The Natural Resources Trustees published a public notice on the availability of restoration funds and requested comments and ideas for funding restoration projects on December 13, 2017.

Acting in their capacity as Natural Resource Trustees on behalf of the public, DEP, DMR, DIFW, DACF, NOAA and the USFWS prepared this Draft Restoration Plan that:

- ***Promotes transparency and provides explanations for why proposed projects were selected and what alternative projects were considered.***

  Section 1 describes the range of restoration project ideas that the Trustees received and explored, as well as the criteria the Trustees used to evaluate project ideas.

- ***Proposes specific natural resource restoration projects that will compensate the public for the natural resource injuries caused by oil spills that occurred at the Chevron Site.***

  Section 2 of this document describes and evaluates the reasonable range of restoration alternatives, including the Trustees' preferred alternative and a no-action alternative premised on natural recovery. **Section 3** of this document explains how the proposed projects will be monitored so that the Natural Resource Trustees can determine whether the projects are successful.

- ***Ensures that restoration project selection and implementation complies with federal, state and local environmental laws and policies.***

  Section 4 evaluates the preferred and no-action alternatives within the context of the National Environmental Policy Act (NEPA), which requires all federal agencies to analyze the effects of their proposed actions on the human environment (including biological, physical, socioeconomic, historical and cultural resources). The Draft Restoration Plan is the primary vehicle through which the Trustees are ensuring that the projects proposed in the Draft Restoration Plan are compliant with NEPA. This Draft Restoration Plan identifies the restoration projects considered therein and the amount of funding proposed by the Natural Resources Trustees for each project.

NOAA and the USFWS, the two federal Trustees, are acting as co-lead agencies for the purposes of compliance with NEPA in the development of this Draft Restoration Plan. The Trustees are proposing to address NEPA compliance for the proposed projects through the use of the NOAA Restoration Center Programmatic Environmental Impact Statement (*https://www.fisheries.noaa.gov/resource/document/restoration-center-programmatic-environmental-impact-statement*), which analyzes the environmental effects of a wide variety of common habitat restoration activities including those proposed in this Draft Restoration Plan. This approach is discussed further in Section 4 (NEPA Evaluation) of this Draft Restoration Plan.

Section 5 provides an overview of how the Trustee Council's proposed restoration projects will comply with a wide range of additional environmental laws and regulations. For some of the specific restoration projects proposed, additional consultation, compliance and permitting under laws, such as the Endangered Species Act, the Clean Water Act, and the Magnuson-Stevens Fisheries Conservation & Management Act may be required once specific project engineering and design plans are developed. Table 1 describes how the Trustees will comply with relevant laws, regulations and policies.

- ***Involves the public in decision-making.***

  In addition to the opportunity to propose restoration ideas and projects, this document is the formal vehicle through which stakeholders and the public can participate in the restoration project selection process and provide their recommendations on how settlement funds are used.

Comments on this document will be accepted until 30 days from publication and can be submitted via e-mail or by mail to:

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17 State House Station, 28 Tyson Drive
Augusta, ME 04333-0017
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1.1 Purpose and Need for Restoration

The purpose of the proposed restoration projects in the Draft Restoration Plan is to compensate the public for the injuries/losses to the affected natural resources caused by the oil spills at the Chevron Site by restoring, replacing, or acquiring the equivalent of those resources. This action is needed because there were injuries to the public's natural resources due to releases of oil from the Site, including loss of use and loss in function of the riverine ecosystem and its associated wetlands and floodplains.

1.2 History of the Site

Historically, the Chevron Site has been used for marine oil terminal facilities dating back to the early 1900s. The southerly terminal was formerly owned and operated by Chevron U.S.A. Inc. and its corporate predecessors and has not been used to store oil since 1993. The above ground storage tanks (ASTs) and the loading rack were removed in 2014. The northerly terminal, adjacent to the Chevron terminal, was formerly owned by Texaco Inc. and its corporate predecessors. This terminal remains an active bulk oil storage and distribution facility.

Numerous discharges of oil and oil constituents to soil, sediment, ground water, pore water, and surface water at the Chevron Site have been documented from 1973 to 2008. The Chevron Site is adjacent to the Penobscot River and is located in the river's floodplain. The affected segment of the Penobscot River is designated a Class B surface water by the State of Maine, and as such is managed with a goal of providing unimpaired wildlife habitat of sufficient quality to support all indigenous aquatic life, use as drinking water supplies, fishing, recreation in and on the water, and industrial processes. In this location, the Penobscot River is a freshwater tidal ecosystem.

1.3 Remedial Actions

In 2006, the U.S. Coast Guard observed a sheen of light non-aqueous phase liquid (LNAPL) on the Penobscot River. The origin of the sheen was traced to the former Chevron Site. Since the 2006 sheen incident, a series of investigative and remedial activities have been completed. These activities included:

- soil borings and identification and mapping of soil stratigraphic layers;
- installation of monitoring wells;
- installation and maintenance of a boom system to collect hydrocarbon sheen on the river;
- installation of a LNAPL product recovery system including large diameter recovery wells and specialized computer controlled pumps to provide interim hydraulic containment and enhanced LNAPL recovery;
- installation of 110 feet of interlocking sheet pile wall along the southern boundary of the Chevron Site to provide a barrier to migration;
- excavation of approximately 2,768 tons of impacted soil and sediment from the tidal flat and slope; and
- land application of gypsum for sulfate enhanced natural attenuation (ENA) of petroleum hydrocarbons.

The upgraded LNAPL recovery system operated from 2009 through 2013. During this time approximately 11,000 gallons of petroleum was captured and removed. Throughout the history of remedial activities approximately 38,620 gallons of petroleum have been removed from the ground. Soils and ground water at the Chevron Site have been and currently are impacted by releases of petroleum, and ground water at the Chevron Site and remain unusable. Remedial measures were not successful in restoring the impacted areas to baseline conditions.

1.4 Injury Assessment

In their injury assessment, the Trustees found that terrestrial habitat adjacent to and aquatic/wetland habitat (including subtidal and intertidal habitat) in the Penobscot River were impacted by oil discharged from the Chevron Site, based on the locations of samples indicating impacted soil, sediment, ground water and pore water.

The affected segment of the Penobscot River is habitat for many bird, mammal, invertebrate, and fish species that may have been impacted by the contamination. Aquatic species that may have been affected by the spills include, Atlantic salmon, shortnose sturgeon, Atlantic sturgeon, American eel, alewife, blueback herring and rainbow smelt.

The segment of the Penobscot River affected by spills from the Chevron Site is designated as "Critical Habitat" for the Gulf of Maine Distinct Population Segment (DPS) of Atlantic Salmon (*Salmo salar*) and shortnose sturgeon (*Acipenser brevirostrum*), both of which have been listed as endangered under the Endangered Species Act. Turtles and amphibians, which are commonly found in and along riverbeds and banks, aquatic invertebrates like mussels, small mammals that feed on fish and invertebrates such as otters, and a variety of migratory bird species (e.g., great blue herons, dabbling and diving ducks, songbirds, eagles, ospreys) that inhabit this area may also have been affected.

The Trustees identified an active and growing recreational fishery for striped bass (*Morone saxatilis*) in the affected segment of the Penobscot River. The Trustees believe that the presence of spilled contaminants in the river has potentially reduced the number of available fish; the desire of people to use this part of the river for fishing; and the desire of people to use this part of the river for wildlife viewing, recreation and tourism in the area. Additionally, the Trustees' assessment found that petroleum contamination caused by the releases of petroleum rendered groundwater at the site unusable as a water supply.

1.5 Coordination and Public Participation

Public participation is a key part of the restoration planning process. The Trustee Council reached out to over 50 representatives of local governments, non-governmental organizations, and state, federal and tribal agencies that work actively on natural resource restoration and conservation in the Penobscot River watershed to solicit potential restoration project ideas. Additionally, the Trustee Council published a public notice in both the Bangor Daily News and Kennebec Journal to solicit ideas from the public at large. The Trustee Council also published a fact sheet about the Chevron Site that included the suite of 11 criteria it had developed and would use to evaluate projects (section 1.8).

The public also has an opportunity to comment on this Draft Restoration Plan until 30 days from publication. The Trustees will consider all comments received prior to publishing a Final Restoration Plan.

Trustee Council and Decision-Making
The individual Trustees have formed a Trustee Council, which is the decision-making body in regard to the use of the restoration settlement funds and works by consensus to make decisions about how the funds will be spent. The Trustee Council has a responsibility and obligation to involve the members of the public and stakeholders in the restoration planning process and has worked actively to do so.

Administrative record
Records documenting the information considered and actions taken by the Trustees during this restoration planning process comprise the Trustees' administrative record supporting this Draft Restoration Plan. These records are available for review by interested parties who can access or view these records by contacting:

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17 State House Station, 28 Tyson Drive
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Arrangements must be made in advance to review or to obtain copies of these records. Access to and copying of these records is subject to all applicable laws and policies including, but not limited to, laws and policies relating to copying fees and the reproduction or use of any material that is copyrighted.

1.6 Restoration Goals and Objectives

The goal of this Draft Restoration Plan is to compensate the public for the injuries to the affected natural resources caused by the oil spills at the Chevron Site, including loss of use and loss in function of the riverine ecosystem and its associated wetlands and floodplains. The objective of this restoration effort is to implement one or more natural resource restoration projects in the Penobscot River Habitat Focus Area in order to restore, replace or acquire the equivalent of the resources injured by oil spills at the Chevron Site. Restoration and conservation of these areas is intended to improve and conserve habitat for fish, birds and wildlife as well as enhance other uses of the affected resources including recreational use.

1.7 Restoration Project Ideas Considered

The Trustee Council solicited restoration project ideas from the public from December 13, 2017 through January 31, 2018 using a short submission form. Anyone could submit project ideas; project proponents were asked to complete a two-page submittal form (Appendix B) that provided basic background information on their proposed project including a short description, location of the project, expected cost and timeline, and project partners. The Trustee Council received four project submissions through this process:

- **Sucker Brook Corridor and Watershed Improvement Project, Hampden, ME**
- **Bagaduce Watershed Fish Passage Restoration Project, Sedgwick and Brooksville, ME**
- **Snow Brook Fish Passage Restoration Project, Sedgwick, ME**
- **Kenduskeag Headwaters Resiliency Project, Charleston, ME**

1.8 Restoration Ideas and Approaches Not Considered

Prior to issuing the request for project ideas, the Trustee Council had lengthy discussions regarding differing approaches for identifying restoration projects and considered several alternatives for identifying projects. These alternative approaches included:

- the Trustees working with partners to conceive and develop restoration projects in proximity to the Chevron Site, including developing floodplain and wetland restoration projects;
- the Trustees issuing a formal Request for Proposals through the Maine DEP and focusing on projects that are shovel-ready in the Penobscot River watershed; and
- the Trustees issuing a less formal request for project ideas (using a two-page idea submission form) and focusing on - but not being limited to - projects that are shovel-ready in the Penobscot River watershed.

Ultimately, the Trustee Council determined that the administrative costs of developing restoration projects that were not already underway would be so high that it would greatly diminish the funds available for project implementation. Given that the priority under OPA is to use the settlement funds to implement on-the-ground restoration, the Trustee Council chose to minimize administrative oversight costs as much as possible. Instead of working to develop new restoration projects, the Trustee Council decided to focus on identifying projects that were already conceptually developed.

Additionally, while the Trustees wanted to focus on finding projects that were "shovel-ready" to the greatest extent possible, they also wanted to leave the door open to project ideas that might be less developed but may still provide significant ecological benefits. Thus, the Trustees opted to use a short two-page project submission form that did not require the level of information required in a formal Request for Proposals.

The Trustee Council received four project ideas using the two-page project submission form; determined that all four restoration project ideas submitted were eligible for consideration; and now proposes to provide funding to all four projects under its preferred alternative. No project ideas submitted were excluded from consideration, though the Trustees are proposing to fund all four projects at amounts less than were requested. Funding allocations are discussed in greater detail in Section 2.1.

1.9 Criteria for Evaluating Restoration Projects

The OPA regulations (15 CFR §990.54) identify the following factors that Trustees must use to evaluate potential restoration alternatives:

- The cost to carry out the alternative;
- The extent to which each alternative is expected to meet the trustees' goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses;
- The likelihood of success of each alternative;
- The extent to which each alternative will prevent future injury as a result of the incident, and avoid collateral injury as a result of implementing the alternative;
- The extent to which each alternative benefits more than one natural resource and/or service; and
- The effect of each alternative on public health and safety.

Based upon these six factors, the particular requirements of this case, and the Trustees' goals for restoration, the Trustees developed the following 11 criteria to evaluate restoration alternatives:

- Extent to which the restoration project provides services of the same type and quality, and of comparable value, as the services provided by the injured resources;
- Magnitude of benefits to ecological resources;
- Extent to which project complements other state, federal and local habitat and conservation efforts in the Penobscot River watershed;
- Project's technical feasibility;
- Project's cost effectiveness;
- Project's ability to leverage additional funds;
- Extent to which project avoids adverse effects to other natural resources and is protective of public health and the environment;
- Extent to which project will enhance public access for recreation;
- Extent to which project protects and conserves groundwater resources;
- Proximity of the restoration project to the site of injury; and
- Extent to which the project can be permitted, implemented and monitored in a timely manner.

These criteria were provided to the public during the restoration project solicitation process so that restoration project proponents would understand the project evaluation process. The Trustees used these 11 criteria to evaluate proposed restoration projects and develop the restoration alternatives that are described and evaluated in Section 2.

2. RESTORATION ALTERNATIVES

After taking into consideration the evaluation criteria (Section 1.9), the Trustee Council determined that it would explore and analyze in detail the following two alternatives in the Draft Restoration Plan:

Alternative 1 (Preferred)	• **Bagaduce Watershed Fish Passage Restoration Project** • **Snow Brook Fish Passage Restoration Project** • **Kenduskeag Headwaters Resiliency Project** • **Sucker Brook Corridor and Watershed Improvement Project**
Alternative 2	**No Action – no restoration projects implemented**

Each alternative is described below and then all are considered within the context of the 11 evaluation criteria.

2.1 Preferred Alternative

The Trustees' preferred alternative is to partner with the Atlantic Salmon Federation, the Maine Coast Heritage Trust, The Nature Conservancy and Lane Construction to implement the following four projects:

PARTNER	***PROJECT***	***PROPOSED CHEVRON FUNDING***
Maine Coast Heritage Trust	*Bagaduce Watershed Fish Passage Restoration Project, Brooksville and Sedgwick, ME*	$250,000
The Nature Conservancy	*Snow Brook Fish Passage Restoration Project Sedgwick, ME*	$125,000
Atlantic Salmon Federation	*Kenduskeag Headwaters Resiliency Project Charleston, ME*	$380,000
Lane Construction	*Sucker Brook Corridor and Watershed Improvement Project, Hampden, ME*	$45,000
	TOTAL:	**$800,000**

These projects will improve habitat in a variety of riverine ecosystems in the lower and middle portions of the Penobscot River watershed (Figure 2) and will improve habitat for a wide variety of fish and wildlife that use or migrate through the region that was affected by the oil spills. Together, this suite of four projects will restore tidal, freshwater tidal and freshwater/headwater habitat for migratory fish (American eel, alewife, blueback herring, rainbow smelt, Atlantic salmon), invertebrates, amphibians, reptiles, birds and mammals.

The Trustees are proposing to provide a portion of the funding requested to complete the proposed projects with the understanding that project partners will use the Chevron Site funding to leverage additional local, state, federal and private funds. The Trustees anticipate that, given the high potential for additional funding, all four projects are likely to be implemented and monitored within the next five years.

The Trustees set aside 10% ($80,000) of the settlement to ensure adequate evaluation of project proposals and to provide for monitoring of project implementation. The Trustees will distribute any unused administrative funds, as well as any accrued interest, to these four projects. Should any projects not require the full amount provided by the Trustees, or not be fully implemented due to unforeseen reasons, the Trustees may distribute unused project funds to the other projects under this alternative to provide additional support.

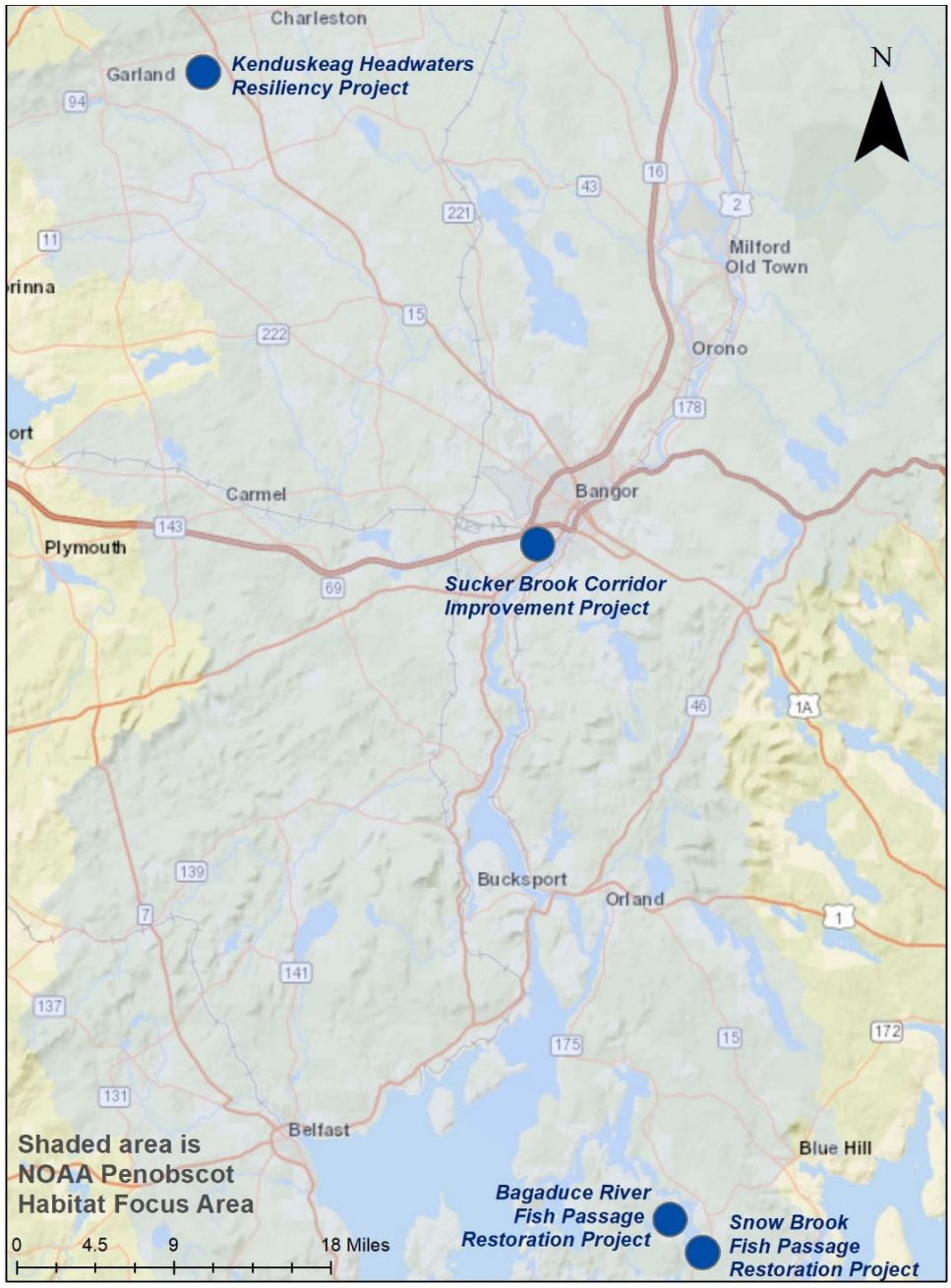


Figure 2. Map of proposed Alternative 1(preferred) project locations.

Bagaduce Watershed Fish Passage Restoration Project

The Trustees propose to provide $250,000 to the Maine Coast Heritage Trust (MCHT) to implement two fish passage restoration projects at Walker Pond and Parker Pond, both located in Brooksville.

Walker and Parker Ponds are two of five alewife spawning ponds that The Nature Conservancy (TNC), the MCHT, NOAA and a plethora of landowners and partners are working on to restore fish passage in the Bagaduce River watershed. The MCHT installed nature-like fishways to restore fish passage to two (Wight Pond and Pierce Pond) of these five ponds in 2017. The

MCHT and TNC are now working to improve fish passage at the other three ponds (Walker, Parker and Frost).

TNC is working to restore fish passage to Frost Pond, a project that the Trustees are also proposing to support (see Snow Brook Fish Passage description below). And the MCHT is working to restore passage at the other two ponds, Walker Pond and Parker Pond.

Parker Pond is a 66-acre pond located in Brooksville in the headwaters of Mill Stream, a tributary of the Bagaduce River. Parker Pond has historically supported large runs of returning alewives with a viable commercial run that was almost extirpated when a former mill dam and associated fishway was washed away. The dam is no longer intact but a combination of historic mill remnants in the stream and beaver dams built opportunistically around the remnant stone walls at the base of the pond has created a series of complex flows and sharp drops that are too difficult for migrating alewives to navigate (Figure 3). Some fish may make it over portions of the mill structure, but they are stymied by the beaver dam that holds the level of the pond.



Figure 3. View looking downstream from Parker Pond at mill remnants on Mill Stream.

The project will include construction at two sites on Mill Stream. At the outlet of a large meadow impounding Parker Pond, a riffle will be constructed at the former dam site to restore fish passage and retain water levels for high value wetlands, including wading bird and waterfowl habitat. Further downstream, at the former mill site, remnant foundation stones will be removed from the stream and reconstructed into a nature-like fishway with boulder weirs to restore passage over a steep section of ledge and stabilize streambanks. Preliminary engineering was completed in 2018 and the project will include final design, permitting, construction and monitoring (implementation monitoring and fish monitoring).

Walker Pond is a 693-acre pond in the headwaters of the Bagaduce River, and lies near the town lines of Sedgwick and Brooksville (Figure 4). There is a stretch of earthen berm at the outlet, a

road crossing, and remnants of a large former mill site and associated dam. The dam is a large stone, wood and concrete structure, about 10-feet high with a 9-foot spillway, with an existing bypass channel functioning as a fishway.



Figure 4. View upstream from dam on the Walker Pond site, with Walker Pond in the distance.

The channel is moderately successful at passing fish into the pond, which currently supports an active alewife run. But the high velocity flows from the dam spillway attract fish to the base of the dam, rather than to the fishway. Thus, many alewives never find their way to the fishway, significantly decreasing its effectiveness. Additionally, the fishway is narrow and gets clogged easily with debris. As a result, during migration, volunteers must go out more than once a day and clear debris from the fishway by hand so that alewives can pass.

A better designed and constructed fishway at this location would greatly increase the alewife run and reduce the maintenance burden currently required. A feasibility study was conducted in 2018 to evaluate alternatives for this site, which will consist of stabilization of the existing dam, widening of the existing nature-like fishway to increase the capacity for migrating fish, and installing a downstream passage chute and plunge pool to protect out-migrating fish, especially juvenile alewives. The project will include preliminary and final design, permitting, construction and monitoring (implementation monitoring and fish monitoring).

The estimated cost to restore fish passage to Parker Pond and improve fish passage at Walker Pond was given as $400 - $900K at the time the project idea was submitted, and MCHT has been actively and successfully fundraising from other sources. The wide range in the cost estimate is due in part to the fact that final engineering designs have not been completed for the projects.

NOAA and TNC have previously provided MCHT with $50,000 to support feasibility study and engineering and design costs associated with this project.

The MCHT has been actively developing relationships with the landowners for both of the Parker and Walker Pond projects and there is broad-based community support for both efforts. Additionally, it is anticipated that the land around the Walker Pond fishway may become a public park and recreation area as part of this project, allowing the public greater opportunity to observe the alewife runs, the birds and other wildlife that are attracted by the pond, and enjoy nature. While the Trustees are not proposing to fund the public park and recreation area component of this project in the Draft Restoration Plan, they view the increased public access is an added benefit of the project. The Parker Pond project borders publicly-accessible land owned by the Blue Hill Heritage Trust, a local land trust, and signage and walking trails will allow future access to the stream and pond.

Snow Brook Fish Passage Restoration Project

The Trustees propose to provide $125,000 to TNC to assist with the replacement of a failing culvert located at the State Route 15 crossing over Snow Brook in Sedgwick (Figure 5). The failing culvert, which is perched (>2 foot free fall at the outlet), is a complete barrier to all aquatic species at all flows. It currently blocks access to the 5.5 miles of Snow Brook above the culvert, as well as the 155-acre Frost Pond at its source.



Figure 5. Perched culvert at Rte. 15 crossing over Snow Brook in Sedgwick.

Frost Pond is one of five alewife spawning ponds that TNC, the MCHT, NOAA and numerous of landowners and partners are working to restore access to in the Bagaduce River Watershed. MCHT installed nature-like fishways to restore fish passage to two of these five ponds in 2017. The Trustees are proposing to provide MCHT with funding to support restoring fish passage to Walker and Parker Pond, (see description above) in this Draft Restoration Plan. Through this project on Snow Brook, TNC and NOAA are working to restore passage to Frost Pond, the fifth pond.

The culvert and Route 15 are state-owned and additional partners on this project include the Maine Department of Transportation and NOAA. The wingwalls of the culvert are failing and there are areas of significant erosion around the culvert that are beginning to compromise the integrity of the structure. The undersized culvert is perched at its outlet and creates a barrier that is too high for migratory species like alewife, which were once plentiful in the Snow Brook watershed but were extirpated sometime after culvert installation. It is anticipated that an embedded box culvert with a 24-foot span would be installed to ensure that the stream channel and flows are not confined and allow safe passage for fish and wildlife. A natural streambed would be restored under the new bridge to ensure that there is habitat for benthic macroinvertebrates; and streambanks would be constructed under the bridge to ensure safe passage for turtles and other organisms that travel along riparian corridors.

In addition to improving instream and riparian habitats, Frost Pond is a historic alewife spawning pond and it is anticipated that an alewife run can be re-established at this location were an appropriated-sized road crossing installed. DMR has stocked Frost Pond with adult alewives to restore an alewife run should fish passage be reopened. The brook contains 118 units of modeled Atlantic salmon habitat (the Maine Atlantic Salmon Habitat Atlas Map, which was used to calculate these units, can be accessed on the Maine Office of GIS website, https://www.maine.gov/megis/maps/), and it drains directly into Snow's Cove on the Bagaduce River, a locally important rainbow smelt spawning site.

Based on other historic alewife ponds in Maine, this project could see 40,000 alewives per year returning to Frost Pond, making a significant contribution to the effort to restore the alewife runs in the Bagaduce River watershed. Most importantly, low trophic level fish like alewives provide food for many other species higher up the food chain, including many migratory birds, larger fish and mammals. Because alewives are a source of food for many other organisms, helping alewives to recover will benefit the entire food chain. Replacing this hanging culvert could also provide sea-run brook trout access to the freshwater refugia and spawning habitat necessary to maintain sustainable populations of this species, as well as provide passage for American eel.

NOAA has already provided $80,000 to TNC to support the engineering and design of this project, the anticipated cost of which is $850,000. The high cost of the project is due to the fact that the crossing is on a state road and must meet rigorous Maine Department of Transportation design, engineering and construction requirements.

TNC requested $800,000 from the Trustees for this project. The high cost of this project for the expected ecological outcomes, uncertainty regarding the total projected cost, and the Trustees' interest in funding more than one project were factors that led the Trustees to propose partially funding this project. The Trustees propose that TNC utilize $125,000 in Chevron settlement funds and the NOAA funding to leverage additional funds for this project. The Trustees also hope that the Maine Department of Transportation will contribute funding for this project. Settlement funds provided by the Trustees for this project may be used to support design, permitting and/or construction activities as well as implementation monitoring and fish monitoring to verify that target species like alewife and American eel find the restored site passable during migration seasons.

Kenduskeag Stream Headwaters Resiliency Project

The Trustees propose to provide $380,000 to the Atlantic Salmon Federation (ASF), working in partnership with the Town of Charleston and the USFWS, to replace five undersized culverts on public road crossings along Crooked Brook and its tributaries in Charleston, opening up almost 12.6 miles of stream habitat. Crooked Brook is a headwaters tributary of Kenduskeag Stream, which enters the Penobscot River in Bangor just upstream of the Chevron Site. Crooked Brook and its tributaries are important habitat for native wild brook trout, prime juvenile rearing areas for Atlantic salmon, and are cold water habitats that are expected to support these species into the future even under projected climate changes.

Three of the five road crossings are located on the mainstem of Crooked Brook and the two additional road crossings are on two separate unnamed tributaries of Crooked Brook (Figure 6). Together, replacing these five road crossings will open up almost 12.6 miles of stream habitat in the Crooked Brook watershed (4.1 miles along the mainstem Crooked Brook, 2 miles in one unnamed tributary and 6.45 miles in a second unnamed tributary).

This project is vital to opening up miles of diverse habitats for fish and other aquatic organisms in Crooked Brook and its tributaries in the headwaters of the Kenduskeag Stream. Replacing these five crossings will open up a variety of cold water stream habitats, including low gradient reaches adjacent to floodplain wetlands, shaded pools ideal for providing refuge for fish from warm summer temperatures, and higher gradient reaches with gravel stream beds that would be ideal for spawning.

In addition to improving access to diverse habitats for fish, culvert replacement projects like these restore in-stream habitat, by restoring natural streambeds and banks where there was previously corrugated plastic or metal pipe. Replacement of these barriers will also enhance passage of numerous other wildlife species including turtles, salamanders, and small mammals allowing them to cross safely under a road and avoid vehicle-induced mortality. Beyond the ecological benefits, replacing these road crossings will also assist the community of Charleston with its efforts to become more flood resilient. Undersized road crossings, such as these five, can cause roads to flood during storm events and are a major concern in towns throughout Maine.



Figure 6. Perched and undersized culvert proposed for replacement at the crossing of Bacon Rd. over an unnamed tributary of Crooked Brook

So much has been achieved in recent years to open more of the Penobscot River to the free passage of sea-run fish with removal of mainstem dams, and it is that work that has allowed Atlantic salmon, American eel and other species much easier access to headwater areas such as the Crooked Brook watershed. Replacement of these barriers in the upper Kenduskeag will augment these efforts by reconnecting downstream, larger rivers with small, productive, coldwater streams where young fish can move freely and grow among a diversity of habitat types.

ASF, with assistance from the USFWS, will provide technical expertise in stream survey, assessment, analysis, design, permitting, and project implementation. It is anticipated that the Town of Charleston will provide $10,000 in in-kind services. Initially, ASF requested $475,000 from the Trustees to complete the five culvert replacement projects (total cost $580,000), with the anticipation that an additional $95,000 would come from a Maine Transportation Bond Grant.

The high cost of the request, the Trustees' desire to fund multiple projects in several locations throughout the Penobscot River watershed, and the availability of two rounds of Transportation Bond funding lead the Trustees to propose providing ASF with $380,000. The Trustees propose that ASF, the USFWS and the Town of Charleston apply for two – rather than one – Maine Transportation Bond grants to provide the additional funds needed to complete all five road crossings.

If both grant applications are successful, they will provide an additional $190,000 in funding to support full implementation of this project. The Trustees hope that these projects will be highly competitive for the Transportation Bond grants, especially given the significant Trustee

contribution. It is anticipated that these projects will be assessed, designed and completed in the next one to three years.

Stream	Road	Proposed Crossing	Cost
Crooked Brook Tributary	Bacon Road	24' bridge	$195,000
Crooked Brook Mainstem	Bacon Road	13' box culvert/bridge	$102,000
Crooked Brook Mainstem	West Road	13' box culvert/bridge	$102,000
Crooked Brook Mainstem	Garland Road	11' arch culvert	$ 92,000
Crooked Brook Tributary	Bacon Road	8' arch culvert	$ 65,000
		Contingency (5%)	$ 24,000
		Total Expected Project Cost	**$580,000**
		In-kind services from Town of Charleston	$10,000
		Anticipated two Maine Transportation Bond Grants	$190,000
		Total Trustees Propose to Provide	**$380,000**

Sucker Brook Corridor and Watershed Improvement Project

The Trustees propose to partner with Lane Construction and the USFWS to provide $45,000 to construct the replacement of an undersized culvert on Sucker Brook, a freshwater tidal stream located on Lane Construction property in Hampden (Figure 7). This undersized culvert constrains the stream channel and likely prevents fish passage at certain flows and during certain tidal events. The culvert is approximately a quarter-mile from the Chevron Site and a quarter-mile upstream from the confluence of Sucker Brook with the Penobscot River. Sucker Brook itself enters the Penobscot River a little over a half-mile downstream from the Chevron Site. Thus, this project is very close to the site of injury. Replacing this culvert would reduce erosion around the road crossing, improve passage for fish, turtles and other organisms and improve in-stream habitat by creating a natural streambed and banks.



Figure 7. Undersized culvert on Sucker Brook on Lane Construction property.

The project would involve removing the culvert under the entrance road to the Lane Construction site and replacing it with a pre-fabricated concrete box culvert that would be sized according to state standards to allow fish passage and not constrict the stream channel. The original funding request submitted was for $124,000 to cover the cost of materials; however, USFWS staff have identified suppliers who can provide the necessary materials at a lower cost. Thus, the Trustees are proposing to provide a total of $45,000 for this project, which they expect will be sufficient to cover the cost of materials, design work, and project construction. Lane Construction has offered to provide the equipment and labor necessary to install the new culvert (estimated at $40,000 to $50,000), which is a substantial contribution – 100% match – of in-kind services that greatly reduces the total cost of this project. The settlement funds provided include approximately $5,000 for the survey, assessment, engineering design and monitoring of the new culvert (to be conducted by USFWS staff) and $40,000 towards materials and construction.

Sucker Brook is an urban impaired watershed with 25-30% impervious surface and degraded water quality (City of Bangor 2014). Given the magnitude of ecological impacts in this watershed, it is unlikely that the instream habitat and fish passage improvements provided by this project will create substantial ecological improvements in the Sucker Brook watershed for coldwater species like Atlantic salmon and brook trout. However, this is a low-cost, cost effective project located in close proximity to the Chevron Site; and Maine DEP, the City of Bangor and the Town of Hampden have all identified the Sucker Brook Watershed as a priority for implementing water quality and habitat improvement projects (City of Bangor 2014). Thus, the Trustees view this project as an opportunity to initiate water quality and ecological restoration efforts in this watershed.

Sucker Brook enters the Penobscot adjacent to Turtle Cove Park, where there is a public boat launch. The establishment of Turtle Cove Park was partially funded by a former settlement related to the Chevron Site. Thus, using current Chevron Site settlement funding to replace this culvert on Sucker Brook will build upon these previous efforts to improve this area and increase public recreational opportunities near the Chevron Site. It is hoped that this initial investment in Sucker Brook by the Trustees will jumpstart restoration efforts in this watershed and create some modest ecological improvements for resident fish and wildlife at a location that is close to the site of injury, and possibly benefit migratory species like American eel and sea lamprey Additionally, this project presents the opportunity to build a partnership with Lane Construction, a neighbor to the Chevron Site and a landowner along the Penobscot River that has a strong interest in stewardship of the river and its floodplain.

2.2 Non-preferred Alternative: No Action

In developing restoration plans for natural resource damage settlements, Trustee Councils are required to evaluate a “no action” alternative. Under the no action alternative, the Trustees would undertake no restoration projects and any further restoration of natural resources and services injured by the oil spills would instead occur through natural recovery alone. No actions to assist with the recovery and restoration of natural resources would be taken beyond those remedial actions that have occurred on-site to remove contaminants. Additionally, the “no action” alternative would not utilize settlement monies for restoration, which is the intended use

of such funds. Thus, the "no action" alternative serves as a point of comparison to the preferred alternative.

2.3 Evaluation of Restoration Alternatives

The Trustees considered each alternative within the context of the 11 evaluation criteria.

Alternative 1: Preferred Alternative
Together, this suite of four projects will restore estuarine tidal, freshwater tidal and freshwater habitat in the Penobscot River watershed to benefit migratory fish (American eel, alewife, blueback herring, rainbow smelt, Atlantic salmon, sea lamprey), benthic macroinvertebrates, amphibians, reptiles, birds and mammals. The oil spills at the Chevron Site occurred over several decades and injured ground and surface waters, freshwater tidal river sediments, riverbanks and floodplain habitats. An extensive number of organisms rely upon these habitats and the river itself at some point during their life cycles. Many organisms in this watershed, particularly those that are migratory, rely upon multiple habitats in multiple locations in this watershed throughout their life cycle. This suite of four projects will restore a diversity of habitats in order to benefit a wide variety of species at various points in their life cycles. The Trustees propose that the combined ecological benefits of these four projects will best compensate the public for the injuries caused by oil spills at the Chevron Site.

Extent to which the restoration project provides services of the same type and quality, and of comparable value, as the services provided by the injured resources: Each of the four projects in the preferred alternative will provide benefits that relate in some way to the type and quality of resources or services provided by the injured habitats.

The two projects in the Bagaduce River will improve in-stream habitat for aquatic organisms; and in-stream habitat at the Chevron Site was injured. Additionally, these projects will help to increase the size of alewife runs in that watershed. Alewives are forage fish and thus are food for a vast array of other organisms, many of which are the same species found in the vicinity of the Chevron Site. Thus, though the Bagaduce project sites are downstream of the Chevron Site, the Trustees expect these projects to benefit similar species and populations of species – particularly migratory birds – to those that reside in or migrate through the Chevron site.

The Kenduskeag Headwaters Resiliency Project will improve in-stream habitat similar to the resources injured at the Chevron Site. This project will also open up access to spawning habitat for migratory fish. The Kenduskeag Stream enters the Penobscot River in Bangor, approximately two river miles upstream of the Chevron Site. Thus, fish species migrating through the Chevron Site will benefit from increased access to cold water spawning habitat and refugia in the Kenduskeag headwaters by these culvert replacements. Replacement of road crossing barriers as part of this project will also enhance passage of numerous other wildlife species including turtles, salamanders, and small mammals; many of these species are also found in the vicinity of the Chevron Site.

The Sucker Brook project will restore in-stream habitat and improve access for fish and other organisms on the Lane Construction site, which is located less than a quarter-mile from the

Chevron Site. Sucker Brook enters the Penobscot River a little more than a half-mile downstream of the Chevron Site. Given the proximity of this project to the site of injury, the project will benefit similar resources to those that were injured.

Magnitude of benefits to ecological resources: Cumulatively, these four projects will benefit a wide diversity of species and habitats including, freshwater stream habitats, tidal estuarine stream habitats, freshwater tidal stream habitats, along with the migratory fish, migratory birds, resident birds, fish, turtles, salamanders, macroinvertebrates and mammals that rely upon these habitats.

Extent to which project complements other state, federal and local habitat and conservation efforts in the Penobscot River watershed: The Kenduskeag Stream watershed and the Bagaduce River watershed are both focal areas for restoration for the USFWS, NOAA, DMR and DIFW, which are working to restore endangered Atlantic salmon populations, populations of at-risk species, such as alewife and blueback herring, and other cold water species such as Eastern brook trout and American eel. At-risk species are species that face grave threats to their survival but are not protected under the Endangered Species Act. The DEP has identified the Sucker Brook watershed as a priority for water quality and habitat improvement efforts.

Project's technical feasibility: All four of these projects rely on established and well-understood techniques for replacing road crossings and installing nature-like fishways. All four projects have landowner and community support. The Trustees believe that all of these projects are technically feasible.

Project's cost effectiveness: Individually, the four projects proposed under the preferred alternative vary in their cost effectiveness from extremely to moderately cost effective. The Sucker Brook culvert replacement may be the most cost effective, given its location on the Lane Construction site and the willingness of Lane Construction to provide all of the equipment and labor necessary to complete the project. The Snow Brook project may be less cost effective given the Department of Transportation's design, engineering and construction requirements for state highways, all of which increase the cost of the project. When considered as a group, the four projects combined are highly cost effective as a result of the additional funding being provided to these projects. For an investment of $800,000, the Trustees will leverage potentially as much as an additional $1.5 million and open up over 18 miles of stream habitat to migratory fish species, improve in-stream habitat at nine locations in the Penobscot River watershed and potentially dramatically increase the alewife runs in the Bagaduce River watershed, which are a primary component of the food chain in the river ecosystem.

Project's ability to leverage additional funds: Depending upon the final costs of the four projects under Alternative 1 (preferred), the Trustees anticipate that they will leverage as much as $1.5 million in other funds under the preferred alternative.

Extent to which project avoids adverse effects to other natural resources and is protective of public health and the environment: All four projects proposed under Alternative 1 (preferred) are protective of public health and the environment. There are no significant adverse effects to natural resources or public health anticipated from any of these projects. Several of these

projects, including all of the culvert replacements, are expected to reduce the risk of road flooding in local communities, thus improving these communities' flood resiliency and benefiting public health and safety.

Extent to which project will enhance public access for recreation: The Kenduskeag and Bagaduce projects will indirectly improve fishing, birding and nature viewing opportunities for the public by restoring fish passage in areas that are near publicly accessible fishing locations. In particular, the Walker Pond and Parker Pond components of MCHT's Bagaduce River Fish Passage project will create new opportunities for public access to observe alewife runs, which is a great outdoor activity that helps to connect people to nature.

Extent to which project protects and conserves groundwater resources: The projects proposed under the Alternative 1 (preferred) are not anticipated to directly benefit groundwater resources. However, the Trustees expect that these projects will indirectly benefit groundwater resources by restoring stream ecosystem functions and generally improving road infrastructure to promote more infiltration of stormwater runoff into the ground (as opposed to running directly off of roads and into waterways). Increasing the amount of rain and snow melt that seeps down into the ground (instead of running off pavement directly into rivers and streams) helps to maintain both the quality and quantity of groundwater.

Proximity of the restoration project to the site of injury: The Sucker Brook culvert replacement project is the closest of the four projects to the site of injury; it is less than a quarter-mile from the site of injury. The other three projects are a considerable distance from the site of injury but will benefit resources injured by the Chevron Site.

Extent to which the project can be permitted, implemented and monitored in a timely manner: All four projects proposed under the preferred alternative can likely be designed, permitted and implemented within the next one to three years, and monitored within the next three to five years. Several projects, including the five culvert replacement projects in the Kenduskeag Stream Headwaters Resiliency Project and the Sucker Brook culvert replacement, are likely to be implemented in the next one to two years.

Alternative 2: No action alternative

Under the no action alternative no efforts to assist with the recovery and restoration of natural resources would be taken beyond those remedial actions that have occurred on-site to remove contaminants. These remedial efforts are critically important, but frequently do not restore natural resources to baseline conditions, nor do they compensate the public for the many years that natural resources were being actively injured at the Chevron Site. Thus, were the no action alternative implemented, the public would not be made whole, as is the stated goal of the Oil Pollution Act.

Extent to which the restoration project provides services of the same type and quality, and of comparable value, as the services provided by the injured resources: Under Alternative 2 (no action) no projects would be implemented, so there would be no benefits to natural resources or services.

Magnitude of benefits to ecological resources: The magnitude of benefits to ecological resources would be minimal under the no action alternative as no additional restoration would be done beyond the remedial work that has occurred on the Chevron Site.

Extent to which project complements other state, federal and local habitat and conservation efforts in the Penobscot River watershed: Implementing Alternative 2 (no action) would not be complementary to other state, federal and local efforts in the Penobscot River watershed, as these efforts are focused on active restoration of river, stream and wetland habitats to benefit endangered and threatened species, other species of concern, migratory birds and the wide variety of invertebrates, fish, amphibians, reptiles and mammals that rely upon this watershed.

Project's technical feasibility: Criterion not applicable as no projects would be implemented.

Project's cost effectiveness: Criterion not applicable as no projects would be implemented.

Project's ability to leverage additional funds: Criterion not applicable as no projects would be implemented.

Extent to which project avoids adverse effects to other natural resources and is protective of public health and the environment: Given that no projects would be implemented under this alternative, the no-action alternative is not protective of the environment. No adverse effects to public health are anticipated if the no action alternative is implemented. However, implementing the no action alternative could have adverse effects on natural resources because projects to restore currently degraded natural resources would not be implemented. Thus, these degraded natural resources would continue to be degraded, causing an existing adverse effect to continue indefinitely.

Extent to which project will enhance public access for recreation: Under Alternative 2 (no action) no projects would be implemented. Thus, this alternative would not provide any enhancement of public recreation or access opportunities.

Extent to which project protects and conserves groundwater resources: Under Alternative 2 (no action) no projects would be implemented. Thus, this alternative would not provide any additional protection or conservation of groundwater resources.

Proximity of the restoration project to the site of injury: Criterion is not applicable as no projects would be implemented.

Extent to which the project can be permitted, implemented and monitored in a timely manner: Criterion is not applicable as no projects would be implemented.

In evaluating the two restoration alternatives under the OPA NRDA regulations and the 11 Trustee evaluation criteria, the Trustees conclude that Alternative 2 (no action) must be considered non-preferred, primarily because the Trustees signed a court-approved Settlement Agreement (Consent Decree) agreeing to conduct natural resource restoration activities with the

funds from the settlement. Furthermore, the injuries to natural resources caused by the oil spills at the Chevron Site were substantial enough that the affected natural resources cannot recover on their own. Additional restoration actions are needed to assist in the recovery and restoration of riverine habitats in the Penobscot River watershed in order to compensate the public for the decades of injury that occurred.

The restoration projects proposed under Alternative 1, the preferred restoration alternative, meet all of the criteria identified in the OPA NRDA regulations, along with the 11 criteria developed by the Trustees. These projects will improve habitat in a variety of riverine ecosystems through the lower and middle portions of the Penobscot River watershed (Figure 2) and will improve habitat for a diversity of fish and wildlife that use or migrate through the region that was affected by the oil spills. Together, this suite of four projects will restore tidal, freshwater tidal and freshwater/headwater habitat for migratory fish, benthic macroinvertebrates, invertebrates, amphibians, reptiles, birds and mammals. Based upon this evaluation, the Trustees propose to use the Chevron Site natural resource damage settlement funds to implement Alternative 1, their preferred restoration alternative.

3. MONITORING

The Alternative 1 (preferred) projects proposed by the Trustees primarily involve the installation of appropriately designed culverts, bridges and fish ways. The installation of properly designed road crossings and nature-like fish ways has been demonstrated to improve fish passage and, in the case of culvert replacements, restore instream habitat and reduce flooding caused by channel constriction. The key to achieving these results is the effective design, engineering, installation and maintenance of these structures. Thus, the focus of the monitoring effort for this Draft Restoration Plan will be to ensure the proposed culverts and fishways are designed, installed and maintained correctly.

If not replaced correctly, newly installed culverts can cause additional stream channel incision and continued blockage of aquatic organism passage. Based upon existing USFWS recommendations (Castro 2003), the Trustees, working with their partners, will evaluate the success and/or failure of culvert removal and replacement by documenting the design process and any changes to the design during construction, reviewing as-built surveys, and by photo-documenting the site conditions before implementation and for three years post-implementation. Site observations and photo points are useful for documenting significant changes to the stream, and should be taken from the road surface looking both upstream and downstream (Castro 2003). Monitoring will be conducted by partner organizations or Trustees responsible for project implementation. The cost of this monitoring effort is minimal and has been incorporated into the project cost estimates provided in Section 2.1.

In regard to the fishway design and implementation, similar efforts will be made to ensure that fishways are installed and maintained according to the engineered specifications. Fishways will be monitored by partner organizations annually for a minimum of three years to document the number of returning fish (during migration) and to assess the integrity of the fishway.

It is possible that the Maine DMR will stock salmon in locations near the Kenduskeag Headwaters culvert replacement projects. If so, these sites will be incorporated into DMR's salmon monitoring program and DMR will share the results with the Trustee Council.

The Trustee Council will work with project partners to publish news releases and other outreach materials in order to let the public know when restoration projects are implemented and share the results of monitoring efforts.

4. NEPA EVALUATION

The National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321, *et seq.,* and the regulations guiding its implementation at 40 C.F.R. Part 1500, apply to restoration actions that federal natural resource trustees plan to implement under OPA and other federal laws. NEPA and its implementing regulations outline the responsibilities of federal agencies and provide specific procedures for preparing the environmental documentation necessary to demonstrate compliance. NOAA and the USFWS are co-leads for purposes of NEPA compliance.

The Trustees integrated the OPA and NEPA processes in this Draft Restoration Plan. Integration of the NEPA evaluation process into this document allows the Trustees to provide for public involvement under both statutes concurrently. This approach is recommended under 40 C.F.R. § 1500.2(c), which provides that federal agencies should "[i]ntegrate the requirements of NEPA with other planning and environmental review procedures required by law or by agency practice so that all such procedures run concurrently rather than consecutively." Thus, this document serves, in part, as the agencies' compliance with NEPA.

4.1 Requirements for Analysis under NEPA

Under NEPA, federal agencies must evaluate potential impacts to the environment from their proposed actions and reasonable alternatives. If impacts are potentially significant an environmental impact statement (EIS) is required, but if impacts are either unclear or considered not significant, an environmental assessment (EA) may be prepared. Additionally, some types of actions may qualify for a Categorical Exclusion (CE), or otherwise not be subject to NEPA. NEPA allows for broad programmatic analyses that subsequently can be used to meet NEPA requirements for project-level actions through "tiering." This process is discussed further below. The NEPA process ensures that public decision-makers are fully informed about the potential impacts of the proposed actions and alternatives and allows for meaningful public involvement in the decision-making process.

In this case, the federal trustees propose to satisfy their NEPA obligations by applying the impacts analysis and conclusions drawn in another, previously published programmatic NEPA document (NOAA Restoration Center Programmatic EIS). The public will be invited to provide feedback on the Trustees' proposed action and alternatives and the analysis conducted in the Draft Restoration Plan/NEPA Evaluation.

This Draft Restoration Plan/NEPA Evaluation complies with NEPA by 1) describing the purpose and need for restoration; 2) addressing public participation for this process; 3) identifying

alternative actions; 4) summarizing the current environmental setting; and 5) analyzing environmental consequences.

4.2 NOAA Restoration Center Programmatic Environmental Impact Statement

After decades of experience evaluating and implementing environmental restoration projects, NOAA's Restoration Center (RC) has determined that many of its efforts involve similar types of activities with similar environmental impacts. To increase efficiency in conducting future NEPA analyses for a large suite of habitat restoration actions, the RC developed the "Programmatic Environmental Impact Statement for habitat restoration activities implemented throughout the coastal United States" (RC PEIS) in 2015. After a public comment period, a Record of Decision was signed July 20, 2015. The RC PEIS is available at the following link:

https://www.fisheries.noaa.gov/resource/document/restoration-center-programmatic-environmental-impact-statement

The RC PEIS provides a program-level environmental analysis of NOAA's habitat restoration activities throughout the coastal and marine environment of the United States. Specifically, it evaluates typical impacts related to a large suite of projects undertaken frequently by the RC, including, but not limited to: Coral Reef Restoration; Debris Removal; Beach and Dune Restoration; Signage and Access Management; Fish Passage; Fish, Wildlife, and Vegetation Management; Levee and Culvert Removal, Modification, and Set-Back; Shellfish Reef Restoration; Subtidal Planting; Wetland Restoration; Freshwater Stream Restoration; and Conservation Transactions. These analyses may be incorporated by reference in subsequent NEPA documents if they are applicable. For example, a restoration project evaluated in a site-specific NEPA document may have some potential impacts that are evaluated thoroughly in the RC PEIS and some potential impacts that are too site-specific to have been covered by the RC PEIS. In that instance, the site-specific NEPA document could incorporate by reference any relevant impacts analyses covered in the RC PEIS. Only impacts not covered in the RC PEIS would need further discussion, thereby streamlining the site-specific NEPA document. If no impacts were found to be significant, the analysis would result in a Finding of No Significant Impact (FONSI).

Alternatively, a site-specific NEPA document may evaluate a restoration project where all potential impacts were addressed in the RC PEIS. In that instance, the site-specific NEPA document would, in effect, incorporate by reference the full impacts analysis from the RC PEIS. In those cases where the RC PEIS determined none of the potential impacts would be significant, the site-specific NEPA document could incorporate that conclusion by reference as well. In short, no further NEPA analysis would be necessary so long as the proposed action and alternatives are within the range of alternatives and scope of potential environmental consequences analyzed in the RC PEIS and do not have significant adverse impact. If the site-specific restoration activity is not within the scope of alternatives or environmental consequences considered in the RC PEIS, it will require additional analysis under NEPA, through the use of a tiered NEPA document.

The Trustees have made the preliminary determination that the RC PEIS fully covers the scope of the proposed actions and all environmental impacts, and a separate NEPA analysis and

decision document is not needed. This determination has been documented in section 4.8 below and in a draft NEPA "Inclusion Analysis" (Appendix B).

In general, the environmental impacts from fish passage projects (including barrier removals and fishways) and technical assistance activities in support of these types of projects have been analyzed under the RC PEIS. Those general analyses are incorporated here by reference and are summarized below.

Fish Passage (Reference RC PEIS Section 4.5.2.3)

Dam and Culvert Removal, Modification or Replacement
In general, dam and culvert removal, modification, or replacement projects typically implemented by the NOAA RC produce short-term adverse ecological impacts and considerations, but the long-term ecological benefits—improved water quality, sediment transport, and native resident and migratory species recovery—demonstrate that removal of these barriers could be an effective long-term beneficial river restoration tool.

Barrier removals may include indirect and direct, short-term, minor, moderate, or major adverse impacts on **geology and soils, water resources, air quality, and living coastal and marine resources** and Essential Fish Habitat (EFH), both localized to the project site and beyond the project site. They may also have direct, long-term, impacts to **land use and recreation**. Indirect and direct, short-term, minor, and moderate adverse impacts to **threatened and endangered species** may include effects from handling, noise, turbidity, contaminants, changes to hydraulics and local hydrology, additional habitat quality/quantity, and displacement. However, indirect and direct, long-term, moderate, and major benefits to threatened and endangered species, as well as to other resources, may result as well.

Adverse impacts to **geology and soils during project construction** are direct and indirect, short term, and of minor to moderate effect, and may be localized to the project site or realized beyond the project site. These impacts stem from the use of heavy machinery and construction equipment and include soil compaction, temporary grading, minor bedrock removal, short-term downstream sediment deposition, and increased soil erosion and runoff in the immediate area of construction operations. The scale and duration of impacts may depend on the size of the dam or culvert to be removed, but more often will depend on the magnitude of the overall project footprint and include many factors such as the construction of haul roads, stockpile areas, cofferdams, or the size of area to be cleared for equipment storage. Post-construction scouring of the channel bed caused by a release of water and sediments that accumulated in the impounded area may occur, depending on the size and spatial configuration of the quantity of impounded sediment, the grain size of impounded sediments, flow competence, and other factors. Downstream migration of impounded sediments can increase downstream flood elevations. Changes to any flood elevations would only occur after appropriate regulatory consultations.

During and after the construction phase, there are impacts to **water resources** that extend beyond the project site as a result of stream flow. The change in obstruction (e.g., fully or partially removed barrier) increases the connection between upstream and downstream areas and

therefore produces direct and indirect, short- and long-term impacts, generally resulting from altered hydraulics and stream geomorphology. In general, smaller dams and culverts store less water and sediment, and have fewer impacts during removal, and the removal of a run-of-river dam is unlikely to alter downstream hydrology. Short-term impacts to water resources may include downstream turbidity and sedimentation. This impact may also be affected by a potential increase in site-specific (local) erosion and changes in channel geomorphology, and minor changes to stream hydraulics. However, areas exposed by the drawdown of the impoundment often revegetate quickly, reducing the extent of the turbidity impacts.

Long-term, post-construction impacts from the removal of dams and culverts result in direct and indirect, long-term, moderate, and major impacts to **water resources.** Temperature may increase or decrease, depending on whether water was previously released from the top or bottom of the dam, and therefore may affect cold- or warm-water fish populations, respectively. Such removals may also reintroduce nutrients downstream through sediment transport. The magnitude of these changes is often, but not always, based on the size of the dam and impoundment. For instance, small run-of-river dams and culverts are unlikely to substantially alter thermal regimes and water quality is unlikely to change noticeably if the impoundment had a short residence time and infrequent stratification. However, the removal of even small run-of-river dams have shown in some cases to improve water quality to such a point that the river reach was removed from state impaired water lists. Within the former impoundment area, the stream channel may have higher dissolved oxygen levels than existed prior to removal. Minor changes may also occur in groundwater supplies at the impounded area after drawdown, which depends on impoundment stages and alluvial aquifer characteristics.

Potential impacts to **air quality** could include direct, short-term, minor adverse impacts to air quality during construction or other on-the-ground activities. These impacts include exhaust emissions from off-road construction equipment, on-road hauling, construction worker employee commuting vehicles, and fugitive dust emissions from paved roads and earthmoving activities. These impacts may extend beyond the project site.

Adverse impacts to **living coastal and marine resources** such as vegetation and wildlife are direct and indirect, short-term, and of minor to moderate effect. They occur most often during the construction phase, and can extend beyond the project site. Impacts to vegetation around the site from the construction process include removal of the vegetation for equipment access or trampling. The scale of the impacts varies based on the overall footprint of the project site, similar to the impacts to geology and soils described earlier in this section. Wildlife species near the project site, including endangered or threatened species, may be temporarily displaced or harassed during construction activities due to reverberations, noise, air quality impacts, and artificial lighting. Habitat may be lost by the filling or cutting off of side channels from sediment deposits following dam removal, or when vegetation is uprooted by migrating stream channels. These types of habitat loss impacts are anticipated to be temporary until a large flood event or groundwater sources carve new channels in such areas. Human activities may also be temporarily affected.

Eroded sediments can impact downstream floodplain and aquatic habitat and spawning grounds, as well as water and food quality. Sediment releases may also increase bed elevations, which

can cause short-term increases in flood stages and potentially impact bridges, floodplain land uses (including low-lying structures), and recreational uses. Sediments can be quickly flushed out following a dam removal, or may be released in pulses over time. Sediment deposition downstream does not always cause measurable changes in algal or invertebrate communities, and, if they do show decreases, they may be short-term and can realize a relatively quick recovery. In other cases, there is evidence of shifts in downstream riverine and estuarine food webs following dam removal that show animals with invertebrate diets shifting increasingly to terrestrial-based invertebrates for their food source. One study showed that some fish were impacted by sediment accumulation downstream, but effects appeared short-term.

Additional short-term, direct impacts may include supersaturation of gases, from too rapid a drawdown of the dam reservoir, which could lead to gas-bubble disease and fish mortality. Supersaturation results from one study were short-term and did not affect overall populations. Contaminants could be released through resuspension of sediments behind barriers that are removed, but sediments with sorbed contaminants at concentrations high enough to impact biota are properly removed from NOAA RC implemented projects sites when necessary, and not allowed to be released downstream. Site-specific analyses are conducted prior to any barrier removal implementation phase in order to assess the likely presence or quantity of contaminants. Sites shall be considered to have a reasonable potential to contain contaminants of concern if they are downstream of historical contamination sources such as lumber or paper mills, industrial sites, or intensive agricultural production, because chlorinated pesticides historically were legal to purchase and use.

Post-construction impacts to **living resources** also occur. A reduction in species preferring reservoir habitats may occur, as conditions change to favor more lotic than lentic species. Without obstruction, migratory fish can reach historic spawning areas. Additional impacts are triggered by the shifts in temperature and nutrient gradients described in the impacts to water resources earlier in this section, which lead to changes such as fish assemblages and behavior; re-establishment of natural flow regimes; sediment, nutrient, and organic material being available to downstream habitats; and possible reductions in flood elevations in the former impoundment upstream. Dam removal may increase the abundance and diversity of aquatic insects, fish, and other organisms, and may even decrease invasive and undesirable species. When the fish species in question is an endangered species, increased access to their spawning habitat can have long-term, major beneficial impacts. Additionally, reintroducing migratory fish to habitats upstream of a barrier through the construction of a fishway may result in a more native fish assemblage. Further, overall ecosystem productivity could increase as a result of the presence and spawning activity of migratory species.

A dam and culvert removal, modification, or replacement project that results in a reduced impoundment frequently causes changes in **land use and recreation**, along with the composition of localized ecosystems. They may have direct, long-term, minor adverse impacts to land use that extend beyond the project site, as well as direct, long-term, moderate beneficial impacts. This includes direct impacts such as the conversion of wetland areas to uplands around the former reservoir margins, as well as the potential colonization of invasive vegetation on newly exposed soils. Barrier removal can impact some recreational users, as well as aesthetic conditions for those who prefer flat water created by an impoundment. Beneficial impacts may

also result. Although wetlands may decrease at the former impounded area edge, they could redevelop both above and below the dam site. The downstream channel may also improve its connection to the floodplain, enhancing existing riparian wetlands. In addition, these projects can create new recreational opportunities and waterfront revitalization, provide sediment to replenish beaches, and decrease safety and liability concerns. Lastly, despite barrier removal costs and the value of lost services (if applicable), removal may save financial resources otherwise required for operating costs and rehabilitation of the dam for safety or ecological reasons.

Many dam and culvert removal, modification, or replacement projects result in a long-term change to **cultural and historic resources**. In some cases, cultural and historic sites are made accessible after a barrier removal where they were once submerged by reservoirs. Such activities may be considered to have direct, long-term or potentially permanent, major beneficial impacts to such cultural/historic resources. However, if the barrier (usually a dam) meets criteria for eligibility in the National Register of Historic Places (NRHP), removal will have major impacts to historic resources. In such cases NOAA will enter into agreement with the relevant agency (through a memorandum of agreement or other formal or informal means) that will determine the specific steps needed to mitigate adverse impacts to cultural and historic resources. Historic and cultural resources will only be adversely affected once National Historic Preservation Act consultation requirements are complete. There are generally direct and indirect, long-term **socioeconomic** impacts related to changes in aesthetics at a removal site, increased access for recreation and indirectly, and increased business opportunities for the local recreation sector, which are largely beneficial. Changes in property values, land-use, and recreational opportunities (e.g., shifts from flat-water recreation to whitewater recreation) adjacent to a removal site may be beneficial or adverse depending on the perspective of the user group.

Technical and Nature-like Fishways

Fishway projects result in some adverse impacts, but the long-term ecological benefits to native resident and migratory species make this an effective habitat restoration tool. During construction direct, short-term, localized, minor to moderate, adverse impacts to **geology and soils** may result, including soil compaction, temporary grading, and increased erosion. These impacts would occur due to the use of heavy machinery, construction equipment, and the movement of restoration practitioners throughout the project site during construction of access roads, staging areas, and/or the fishway itself. **Water and air resources** may also be affected during construction with direct, short-term, minor to moderate, adverse impacts expected to water and air quality. Due to the introduction of fine sediment to the water column during construction, water turbidity would increase at the project site, and may extend beyond the project site, depending on the degree of attenuation. Also, as is the case during any construction activity, an accidental contaminant spill (e.g., fuel, oil, grease, hydraulic fluid) may have short-term, direct adverse impacts on water quality. During construction, fishway projects could result in direct and indirect, short- to long-term, minor to moderate adverse impacts to **living coastal and marine resources,** and **threatened and endangered species**, which are localized or extend beyond the project site. Most directly, these projects may temporarily displace aquatic organisms from the immediate project area because construction may require the use of a coffer dam or other method used to exclude aquatic organisms. Additionally, fishway projects could delay upstream or downstream migration of aquatic organisms during construction. However,

this delay would only be temporary. Increased sedimentation and turbidity during construction could also negatively impact aquatic organisms with increased mortality, reduced physiological function, and decreases in available or apparent food resources possible. These impacts could be localized or extend beyond the project site, depending on the degree of attenuation. Riparian vegetation may also be removed or crushed during construction in order to build staging areas, increase access to the project site, or to make room for the fishway itself. This reduction in riparian vegetation could indirectly affect aquatic organisms by altering water temperatures at the project site, or decreasing the amount of large woody debris available for input into the water body.

Fishway projects result in direct and indirect, long-term, minor to major benefits to **living coastal and marine resources** and **threatened and endangered species** that extend beyond the project site. Fishways are generally constructed and/or modified in order to increase fish escapement rates. Therefore, it is expected that fishway projects will increase the amount of habitat available to desirable aquatic organisms for growth, survival, and reproduction, while decreasing the likelihood that migratory individuals will deplete their energy reserves prior to reaching their preferred habitat. Fishway construction can contribute to increases in fish productivity. Fishway construction will directly benefit the species targeted for passage, and the beneficial impacts will be long-term. In addition, indirect, long-term ecosystem benefits may result in the watershed above the project site. Additionally, reintroducing migratory fish to habitats upstream of a barrier through the construction of a fishway may result in a more native fish assemblage. Further, overall ecosystem productivity could increase as a result of the presence and spawning activity of migratory species. However, these projects could also have adverse impacts through an increase in the escapement and availability of habitat for invasive species. If necessary, fishways are constructed or modified to be species-selective, allowing the passage of desirable species while inhibiting the passage of undesirable species.

Fishway projects could also result in direct, long-term, localized, minor to major adverse impacts to **cultural and historic** resources. A fishway project site may meet criteria for eligibility in the NRHP and, consequently, altering these sites may have impacts to historic resources. Construction would begin only after a consultation that meets the requirements of the National Historic Preservation Act has been completed.

Land use and recreation may be temporarily disturbed, as people not associated with the project will be unable to access the project site during construction. Increases in noise from the operation of heavy machinery and construction equipment could also result in short-term adverse impacts to land use and recreational activities in the area surrounding the project site. Conversely, fishway projects may increase recreational and commercial opportunities at the project site due to increases in fish productivity, or if an effort is made to make the fishway site a publically accessible site for education and outreach.

Fishway projects may also result in direct and indirect, short- and long-term, minor beneficial impacts to **socioeconomic resources,** as we would expect a varying number of jobs to be created and a beneficial impact on the local economy to result from the funding spent on project construction. Fishways as a fish passage restoration tool come in a variety of forms. NOAA RC staff will generally consider similar site characteristics as those described above (Dam and

Culvert Removal, Modification or Replacement) when analyzing a project and its inclusion in the scope of the RC PEIS analysis.

Technical Assistance (Reference RC PEIS Section 4.5.1)

Planning, Feasibility Studies, Design Engineering, and Permitting
The completion of project planning, feasibility studies, design engineering studies, and permitting activities would cause indirect, long-term, beneficial impacts to the affected environment. These activities would support the continued implementation of the most successful projects and therefore result in effective and efficient habitat restoration. Some feasibility studies would cause direct, short-term, minor impacts through associated fieldwork, including drilling into **soil** or sediment with an auger, drill rig, or other tools to remove surface, subsurface, or core samples. These impacts would be very minor and localized to the project site given how small such areas are in relation to an overall project area. Similar short-term impacts to **living coastal and marine resources and EFH, and threatened and endangered species** may include effects from handling, noise, and displacement.

Implementation and Effectiveness Monitoring
The environmental consequences of the initial implementation of restoration monitoring could cause direct and indirect, short-term, minor, localized, adverse impacts. Impacts to **threatened and endangered species** may include effects from handling, noise, turbidity, displacement and mortality. These impacts would result from activities associated with in-water or on-site observation or experimentation, such as the use of equipment for sampling or monitoring of organisms). Although these adverse impacts may occur, the monitoring products would result in indirect, long-term, minor to major beneficial impacts that extend beyond the project site. The benefits would allow future restoration proposals to be planned with better information and implemented more effectively by using the most successful methods, materials, or equipment for achieving the goal of restoration.

All projects of this type fall within the scope of the analysis of the RC PEIS, as all projects will have adverse impacts equal to or lesser than those analyzed in the RC PEIS and there will be no associated impacts from restoration actions. While information gathered may inform future projects, the outcome of any monitoring studies do not commit NOAA to a future action that could have impacts on the environment.

Fish and Wildlife Monitoring
Fish and wildlife monitoring activities are related to monitoring the performance and progress of restoration projects relative to their established project goals. Because monitoring can allow for smarter decision-making, projects using this technique could cause indirect, long-term, minor to major beneficial impacts to **geology and soils, water resources, living coastal and marine resources, and threatened and endangered species** that may be localized or extend beyond the project site. The data gathered by trained individuals would be used to establish baseline information on species abundance and diversity and then to evaluate changes in these metrics through time. These data would be used as a basis for future aquatic habitat management decisions to benefit various species. NOAA would also use the data to report on the success of

individual projects over time, thus possibly indirectly and positively affecting future funding of NOAA's various programs. The observational data gathered by trained individuals would be used to develop baseline and ongoing measurements on species composition, diversity, and richness of habitat. These data would then be used as a basis for future habitat management decisions and restoration actions to substantially benefit various wildlife species. NOAA RC would also use the data to report on the success of individual projects over time, thus possibly indirectly and positively affecting future funding of NOAA's various programs.

In addition, indirect and direct, short-term, localized, minor to moderate adverse impacts **to living coastal and marine resources and EFH, and threatened and endangered species** may include effects from handling, noise, turbidity, displacement, and mortality. **Cultural and historic resources** may be impacted if disturbed during monitoring activities. Projects with successful monitoring programs would likely be more successful than those without such programs because monitoring would allow problems and flaws to be identified early in the process and corrected. Newly established invasive species also would be identified quickly, contained, and eradicated before they become widely established. Monitoring programs would have direct and indirect, long-term, minor beneficial impacts on **land use and socioeconomics** that extend beyond any project site, because the information gathered and any involvement of local citizens in environmental projects would promote environmental stewardship, an understanding of living coastal and marine resources and environmental issues, and a sense of community pride.

Despite the beneficial impacts expected from this activity, monitoring could cause adverse impacts. Direct, short-term, localized, minor adverse impacts are expected to **geology and soils** from the human presence and movement around the project site (i.e., from soil compaction). Direct, short-term, localized, minor adverse impacts are also expected to air quality and noise at the project site due to the presence of crew members (and in the case of electrofishing, the operation of gas- or battery-powered electrofishing equipment). Direct, short-term, localized, minor adverse impacts may occur to **water quality** because, depending on the water body's substrate, turbidity may increase from the movement of crew members throughout the project site. Potential impacts to **air quality** could include direct, short-term, minor adverse impacts to air quality during construction or other on-the-ground activities. These impacts include exhaust emissions from off-road construction equipment, boats, and employee commuting vehicles. These impacts may extend beyond the project site. Direct, short-term, localized, minor, adverse impacts would occur to **land use and recreation** because anglers or other individuals recreating at the project site may need to vacate or avoid the site in order to avoid interacting with monitoring activities.

Adverse population level effects are not expected from monitoring activities (e.g., electrofishing) because the activity typically takes place over a relatively small area compared with the overall distribution of the population being monitored. Regardless of the level of mortality observed from a monitoring event, it is reasonable to expect that areas that may observe mortality would be rapidly recolonized by individuals from surrounding, connected waters.

Projects may specifically use electrofishing to remove unwanted individuals of a certain species (e.g., non-native species) from the aquatic environment. Removing these individuals would

increase the fitness of desirable individuals (e.g., native species) at the project site. This would result in indirect, short- and long-term, localized, moderate beneficial impacts to **living coastal and marine resources and threatened and endangered species**. Impacts would be short- or long-term, depending on whether or not, and how quickly, undesirable species are able to reestablish at the project site (e.g., depending on isolation of the project site, human interference). No impacts are expected to **cultural and historic resources, land use and recreation, or socioeconomics** as a result of electrofishing activity save for potential adverse impacts as mentioned above for monitoring in general.

Electrofishing may result in direct and indirect, short- and long-term, localized, minor adverse impacts to **living coastal and marine resources and threatened and endangered species**, such as some fish and invertebrate species. The potential adverse effects of electrofishing on individual fish include cardiac or respiratory failure, injury (e.g., spinal damage or internal hemorrhaging), stress, fatigue, and mortality. Most fish mortality from electrofishing will be immediate or occur shortly after capture, though some evidence suggests that delayed mortality from injury or severe stress can occur. Though results have not been consistent, some studies have found that negative impacts on reproductive success or growth may also occur, particularly if an individual is repeatedly exposed to electrofishing. Several factors may influence the likelihood of these adverse effects occurring, including electrical-field variability such as the current and voltage used, duration of exposure, number of passes conducted, and orientation of fish relative to lines of current and biological factors including species, size, and physical condition. Macroinvertebrates may also be affected by electrofishing activities. Though the electric field used for electrofishing rarely results in mortality of macroinvertebrates, individuals may drift in the water column once the electric current causes them to move from their substrate habitat. Electrofishing may also lead to trampling of bottom sediments, disturbing macroinvertebrate habitat. The overall effect of electrofishing on macroinvertebrates depends on several factors, including the voltage and current used, duration of exposure, number of passes conducted, and biological factors including species, life stage, and physical condition).

4.3 Proposed Action and Alternatives

The proposed actions being evaluated under NEPA are the restoration alternatives (and restoration projects therein) being considered as part of the Draft Restoration Plan:

Alternative 1 (Preferred)	• **Bagaduce Watershed Fish Passage Restoration Project** • **Snow Brook Fish Passage Restoration Project** • **Kenduskeag Headwaters Resiliency Project** • **Sucker Brook Corridor and Watershed Improvement Project**
Alternative 2	**No Action – no restoration projects implemented**

Alternative 1 is preferred by the Trustees and includes a combination of technical assistance in support of, and construction of, fish passage projects in the lower and middle portions of the Penobscot River watershed. This alternative is evaluated in this Draft Restoration Plan/NEPA

Evaluation to determine whether the scope of the alternative and all potential impacts are sufficiently addressed in the RC PEIS. This evaluation is described below in section 4.5 and is documented in the draft Inclusion Analysis, which is appended to this Draft Restoration Plan/NEPA Evaluation (Appendix B).

Alternative 2 represents the "no action" alternative which is not preferred. Under the no action alternative, the Trustees would undertake no restoration projects and any further restoration of natural resources and services injured by the oil spills would instead occur through natural recovery alone. No action was a non-preferred alternative because it fails to compensate the public for losses associated with the incident. However, NEPA mandates that federal agencies evaluate the environmental impacts of no action.

4.4 Affected Environment

This section provides a general and site-specific description of the affected physical, biological, and social environments, and related resources, as they relate to the geographic area that may be affected by the restoration alternatives considered in this Draft Restoration Plan/NEPA Evaluation.

4.4.1 General

While stream and riverine systems are dynamic and highly variable environments, they do share certain qualities that are somewhat universal. This Draft Restoration Plan/NEPA Evaluation incorporates by reference and briefly summarizes the affected environment description of stream and river channels in the RC PEIS (section 3.1.3).

Tidal and nontidal stream and river systems are located in every region of the NOAA RC. Many rivers and streams along the coast are tidal, with the effects of ocean tides extending upstream. The channel of a stream or river is the portion of the cross section that is usually submerged and totally aquatic (U.S. EPA Office of Water 2004). Channel substrates may be composed of various materials, including cobbles, boulders, sand, clay, and silt. Portions of a river channel often contain biological elements such as oyster reefs or submerged aquatic vegetation beds that help shape or define the channel.

Stream and river channels are critical to the viability of living coastal and marine resources. In addition to providing freshwater, rivers and streams transport nutrients and provide habitat for thousands of aquatic and terrestrial species, including birds, shellfish, finfish, amphibians, reptiles, mammals, plants, and invertebrates. Vegetation that grows along the banks of rivers and streams stabilizes the banks, shades the water, and provides cover and food for animals and nutrients for the ecosystem (e.g., from fallen leaves).

The integrity of stream and river channels is important to the viability of not only the streams and rivers themselves, but also to the estuaries, oceans, marshes, and wetlands connected to them. Processes such as accelerated channel erosion, pollution, diking, damming, channel alteration, scouring, and dumping can drastically affect the rivers and streams and their receiving

waters by causing accelerated sedimentation, and alteration of temperature and water quality, among other factors.

The Trustees have made the determination that the RC PEIS contains an applicable description of the affected environment generally associated with the restoration activities described in this Draft Restoration Plan/NEPA Evaluation. Site-specific attributes of the affected environment are described below.

4.4.2 Site-Specific

The Penobscot River is New England's second largest river, draining nearly one-third of the State of Maine with a watershed area of 8,570 square miles (NOAA 2016). Its West Branch rises near Penobscot Lake on the Maine/Quebec border; its East Branch rises near the headwaters of the Allagash River. The main stem is 264 miles in length and empties into Penobscot Bay near the town of Bucksport (EPA 2015). The landscape of the watershed includes Maine's highest peak, Mt. Katahdin, rolling hills and extensive bogs, marshes and wooded swamps.

There is a rich history of cultural, social, and economic tradition associated with the Penobscot River. The Penobscot Indian Nation is a federally recognized tribe whose primary reservation is on Indian Island near Old Town, Maine and includes islands upstream from the Milford Dam.

Despite its size, the watershed has a low human population density, is largely forested, and contains many large lakes and multiple tributaries offering habitat for sea-run fish like alewives, blueback herring and American eel, and coldwater refuge for native salmonids like Atlantic salmon and brook trout (NOAA 2016). The Penobscot River is best known for its large historic salmon run and its much smaller contemporary run, which is the largest Atlantic salmon run remaining in the United States (EPA 2015).

NOAA has identified the Penobscot River as one of 10 habitat focus areas in the United States (NOAA 2016). Twelve diadromous fish species can be found in the Penobscot watershed including Atlantic salmon, Atlantic tomcod, American shad, American eel, alewife, blueback herring, striped bass, Atlantic sturgeon, shortnose sturgeon, rainbow smelt, sea lamprey and sea-run brook trout. Three of these species are listed under the Endangered Species Act (Atlantic salmon, Atlantic sturgeon and shortnose sturgeon) and three species are recognized by NOAA as Species of Concern (alewife, blueback herring, and rainbow smelt).

Ten species of freshwater mussel are found in Maine and all ten can be found in the Penobscot River watershed. The river is an important stopover for migratory birds and provides habitat for herons; loons; kingfishers; diving and dabbling ducks, such as common and Barrow's goldeneyes, ring-necked ducks, black ducks, mergansers and mallards; songbirds, such as ruby-crowned kinglets, phoebes, orioles, sparrows, and warblers; and raptors, such as eagles, owls and osprey. The watershed is home to a wide variety of reptiles, amphibians, birds and mammals.

Human activities have caused a number of adverse impacts to the Penobscot River watershed including: reduction of fish and wildlife populations and habitat; loss of recreational

opportunities, including world-renowned recreational fishing for Atlantic salmon and whitewater boating; loss of fish for tribal sustenance fishing; water quality and benthos degradation due to point and non-point source pollutants, restrictions on fish consumption, and eutrophication or undesirable algae; reduction of prey species for commercially-important Gulf of Maine groundfish; and diminished resilience to the effects of climate change, including warming water temperatures and potentially increasing flood magnitudes and frequencies (NOAA 2016).

Wastewater treatment facilitated by the Clean Water Act led to significant improvements in water quality in the watershed (NOAA 2016), though recommended limits on consumption of fish, ducks and turtles are still in place due to mercury contamination (EPA 2015, DIFW 2018). Additionally, the removal of the Great Works and Veazie dam and the installation of the new fish lift at the Milford dam have dramatically improved the ability of diadromous fish to access the river and its tributaries. However, many barriers still remain in the watershed, including approximately 31 power-generating dams, 108 non-power generating dams and more than 2,100 culverts (NOAA 2016).

The releases of oil at the Chevron Site occurred within the context of these existing stressors in the Penobscot River watershed. Under the proposed preferred alternative (Alternative 1), restoration projects would be implemented in the Sucker Brook sub-watershed, the Kenduskeag Stream sub-watershed and the Bagaduce River sub-watershed, in order to restore impacted and impaired habitats to benefit a wide variety of fish and wildlife species throughout the watershed that may have been affected by the decades-long releases at the Chevron Site.

Sucker Brook Watershed

Sucker Brook is a small tributary to the Penobscot River, flowing from Bangor into Hampden. The brook begins near the southeastern end of the runway at Bangor International Airport, flows south through the exchanges of I-95, I-395, and US Rt. 2, and enters Hampden in a semi-forested area adjacent to industrial development off of Route 202 in Hampden (City of Bangor 2014). The brook continues under Route 202, passing through a mix of agricultural, residential, and commercial development before entering the Penobscot River at the Turtle Cove Park and public boat launch in Hampden, (City of Bangor 2014), just upstream of the Chevron Site.

The brook itself is approximately 3 miles long; 2.5 of which are listed on the State of Maine's list of urban impaired waters based on benthic macroinvertebrate bioassessments and dissolved oxygen (City of Bangor 2014). These impairments are likely caused by the high amount of impervious surface in the watershed (25-30% of the watershed is impervious surface), large volumes of stormwater runoff into the brook and a lack of vegetated riparian buffers.

Kenduskeag Stream Watershed

Kenduskeag Stream is 36 miles long and has a watershed of 215 square miles. French Stream, Black Stream and Crooked Brook are its largest tributaries (MaineDEP 2006). The Kenduskeag Stream originates in Garland Pond (Garland) and enters the Penobscot River in Bangor. Approximately 40% of the active agricultural land in the Penobscot watershed is found around the Kenduskeag Stream watershed. According to the Penobscot County Soil and Watershed Conservation District watershed plan (1988) 87% of the watershed (120,000 acres) is forested primarily with mixed hardwoods, and 16,500 acres is cropland, pasture or grassland (MaineDEP

2006). The principal crops are corn and potatoes, with some active dairy and cattle farms. Phosphous and nitrogen (from fertilizers) are the primary pollutants of concern in this watershed.

The Penobscot River watershed is one of the few watersheds in Maine where wild Atlantic salmon still return and the headwaters of the Kenduskeag Stream provide important cold water refuge and spawning and rearing habitat for Atlantic salmon, American eel, Eastern brook trout and other cold water species. Four Atlantic salmon redds and five test pits were found near Crooked Brook's confluence with Kenduskeag Stream in 2017.

Bagaduce River Watershed

A tributary to the Penobscot Bay, the Bagaduce River is a tidal, estuarine river system. Although the river is only about 12 miles long, it is one of the most productive estuaries in Maine because of its narrow constriction and broad coves. The tidal fluctuations within its protected waterways provide excellent conditions for a productive shellfishery (Beginning with Habitat 2018). The intertidal flats beyond the Narrows include more than 1,000 acres of habitat for soft-shell clams, marine worms, and other invertebrates. Waterfowl and wading birds flock here for the more than 2,700 acres of available habitat, critical for feeding, breeding, and resting during migration (Beginning with Habitat 2018).

The diverse resources found in the mudflats, coves, tidal creeks, and estuaries around the Bagaduce River all provide abundant breeding grounds, feeding areas, and nesting areas for birds, invertebrates, fish, and shellfish. Migratory shorebirds frequent several areas within the Bagaduce Estuary to feed on their long journeys (Beginning with Habitat 2018). Diadromous fish such as American eel and alewife are found within the Bagaduce estuary, and the Bagaduce River is known as one of the few significant horseshoe crab breeding sites in Maine (Beginning with Habitat 2018).

4.5 Evaluation of the Preferred Alternative

4.5.1 Evaluation of Preferred Alternative Relative to the RC PEIS

As discussed above in section 2.1, the preferred alternative is comprised of multiple fish passage restoration activities, and supporting technical assistance, in a variety of riverine ecosystems in the lower and middle portions of the Penobscot River watershed. Section 2 (Alternatives) of the RC PEIS addresses fish passage project alternatives, including the types of restoration activities proposed in this Draft Restoration Plan/NEPA Evaluation. Specifically, the RC PEIS describes the actions associated with dam and culvert removal or modification; and technical and nature-like fishways, in sections 4.5.2.3.1 and 4.5.2.3.2 of that document. Further, the "technical assistance" components of the proposed restoration activities described in this Draft Restoration Plan/NEPA Evaluation are fully described in section 2.2.1 of the RC PEIS, specifically in sections 2.2.1.1 (Planning, Feasibility Studies, Design and Engineering, and Permitting), 2.2.1.2 (Implementation and Effectiveness Monitoring, and 2.2.1.3 (Fish and Wildlife Monitoring).

The Trustees have determined that the project types that comprise the preferred alternative described in this Draft Restoration Plan/NEPA Evaluation fall within the scope of the Fish Passage and Technical Assistance alternatives considered in the RC PEIS. Further, the restoration activities associated with the preferred alternative described in this Draft Restoration

Plan/NEPA Evaluation are fully described in the draft Inclusion Analysis under "Project Description/Scope of Activities" (Appendix B).

4.5.2 Impacts Analyzed for Preferred Alternative

The RC PEIS impacts analysis includes a description of the impacts associated with the types of restoration activities in this Draft Restoration Plan/NEPA Evaluation. That information can be found in section 4.0 of the RC PEIS (Environmental Consequences; also see Table 11). More specifically, the environmental consequences from fish passage restoration activities are described in sections 4.5.2.3.1 and 4.5.2.3.2 and Tables 18 and 19 of the RC PEIS (Fish Passage) (also see section 4.2 above). In addition, the technical assistance activities supporting this type of restoration, including planning, design engineering, permitting, and monitoring (implementation monitoring and fish and wildlife monitoring), are analyzed in section 4.5.1.1 – 4.5.1.3 and summarized in Tables 12, 13 and 14 of the RC PEIS (also see section 4.2 above). Direct, indirect, and cumulative impacts to relevant resources (geology and soils, water resources, living coastal and marine resources and EFH, threatened and endangered species, cultural and historic resources, land uses, and demographics) with the preferred alternative are also fully summarized in the draft Inclusion Analysis under "Project Impact Analysis," core questions 4 and 5 (Appendix B).

The Trustees have also determined that the preferred alternative would not have adverse impacts beyond the scope of those analyzed in the RC PEIS, or meet any other criteria for exclusion from analysis under the RC PEIS (refer to Table 10 of the RC PEIS).

Ultimately, the RC PEIS concludes that the anticipated impacts would not be significant, and the Trustees propose to adopt that conclusion and the analysis in this case. A more detailed description of the Trustees' justification for doing so can be found in the draft Inclusion Analysis (Appendix B).

4.6 Evaluation of the No Action Alternative

The Trustees evaluated the impacts of the no action alternative on geology and soils, water, air, living coastal and marine resources and Essential Fish Habitat, threatened and endangered species, cultural and historic resources, land use and recreation, and socioeconomics. As noted above, the no action alternative was a non-preferred alternative because it fails to compensate the public for losses associated with releases from the Site. However, NEPA mandates that federal agencies evaluate the environmental impacts of no action.

By definition, the no action alternative lacks physical interaction with the environment. Accordingly, the no action alternative would cause no direct impacts to any of the elements of the environment listed above. However, if the Trustees undertook no action, the environment would not benefit from the ecological uplift created by active restoration. Conversely, the type of active restoration with the proposed action would restore the resources and services that were injured by the Chevron oil discharges.

Based on this evaluation, the Trustees concluded that the no action alternative would have either no effect or minor to moderate short or long-term indirect adverse effects on the environment, including living coastal resources and threatened and endangered species.

4.7 Cumulative Effects

Under NEPA, federal agencies are required to consider the cumulative effects of their proposed actions within the affected environment, taking into consideration other activities that have occurred, are occurring and are likely to occur in the future. The Trustees expect that there will be a long-term, minor to moderate positive cumulative effect on the biological and physical health of the Penobscot River watershed and its three specific sub-watersheds under Alternative 1 (preferred). However, relative to the magnitude of adverse ecological impacts that currently exist in the watershed, the positive cumulative benefits of these proposed restoration actions are not expected to be significant as defined under NEPA. Cumulative impacts to relevant resources (geology and soils, water resources, living coastal and marine resources and EFH, threatened and endangered species, cultural and historic resources, land uses, and demographics) with the proposed action are also summarized in the draft Inclusion Analysis under "Project Impact Analysis," core question 5 (Appendix B).

Cumulatively, it is anticipated that there would be a long-term adverse effect to the physical and biological resources of the Penobscot River watershed were Alternative 2 (no action) selected because no active restoration would occur. However, relative to the magnitude of adverse ecological impacts that currently exist in the watershed, the adverse cumulative effect of the no action alternative is not expected to be significant as defined under NEPA.

4.8 NEPA Conclusion

Through the analysis in this Draft Restoration Plan/NEPA Evaluation, the Trustees have made a preliminary determination that the corresponding project type descriptions and impacts fall entirely within the scope of the project descriptions and analysis contained in the RC PEIS sections referenced herein. Moreover, there are no site-specific considerations, sensitivities, unique habitat, or resources that warrant additional NEPA analyses beyond what is provided in the RC PEIS. The public will be invited to provide feedback on the Trustees' proposed action and alternatives and the analysis conducted in the Draft Restoration Plan/NEPA Evaluation, which includes a draft Inclusion Analysis (Appendix B). If, after the public comment period and review of any additional information it is determined that no substantive changes are needed to the Draft Restoration Plan/NEPA Evaluation and draft Inclusion Analysis, the Trustees will not be preparing any further NEPA analysis or seeking a FONSI or Record of Decision (ROD) for the proposed restoration, and the Final Restoration Plan/NEPA Evaluation will be prepared. Alternatively, if after the public review it is determined that the proposed activities do not fall within the scope of alternatives or environmental consequences considered in the RC PEIS, they will require additional analysis under NEPA through the use of a subsequent NEPA document.

Only those activities described and analyzed in the Final Restoration Plan/NEPA Evaluation and Inclusion Analysis shall be implemented. Upon implementation of the technical assistance phase of the project(s) (e.g., planning, engineering and design), if the Trustees make a determination

that modifications or refinement to the fish passage alternatives presented in the Final Restoration Plan/NEPA Evaluation are needed beyond what was described and analyzed, then any such activities would need to be addressed in a subsequent NEPA analysis prior to implementation.

5. COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS AND POLICIES

The proposed restoration projects have been evaluated for consistency with applicable Federal, State, and local laws, regulations, and programs. A brief description of the Draft Restoration Plan's compliance with these governing bodies is provided in Table 1.

Table 1. Consistency and compliance with state and federal laws, regulations, and programs.

Law, Regulation or Program	Compliance Description
Maine Oil Discharge Prevention and Pollution Control Law (Oil Law)	This document is consistent with the Oil Law. The Oil Law establishes the importance of protecting Maine's natural resources and provides the authority for natural resource damages assessment and restoration.
Maine Natural Resources Protection Act (NRPA)	This document is consistent with the NRPA. The NRPA establishes that the state's rivers and streams, great ponds, fresh water and coastal wetlands, among other natural features, are resources of state significance and establishes standards for storm water management plans, and performing work such as installing culverts, and improving habitat in these areas.
National Environmental Policy Act (NEPA)	This document has been developed in compliance with NEPA. Formal NEPA compliance documentation will be published along with the Final Restoration Plan, in which the Trustees' will make their official selection of restoration projects.
Oil Pollution Act (OPA)	This Draft Restoration Plan has been developed in compliance with OPA
Magnuson-Stevens Fisheries Conservation and Management Act	Impacts to Essential Fish Habitat (EFH) for Atlantic salmon will be minimized and projects will restore habitat and provide a beneficial impact. Consultations with NMFS on EFH will be conducted in accordance with this Act, as required.
Watershed Protection and Flood Prevention Act	The projects proposed here are expected to assist in the reduction of erosion, floodwater and sediment damages.
Clean Water Act of 1977 (Federal Water Pollution Control Act Amendments of 1972)	Any necessary applications for 404 General Permits to the U.S. Army Corps of Engineers will be filed in compliance with this Act. Any necessary steps and activities will take place to ensure compliance with existing industrial storm water permits as well as requirements for the municipal separate storm sewer systems (MS4) for the Bangor Area MS4.
Endangered Species Act of 1973, as Amended (16 USC 1531 et seq.)	Impacts to identified State- and federally protected species will be minimized during the construction phase of the proposed projects; projects will enhance fish and wildlife habitat value. Consultations with the USFWS and NOAA's National Marine Fisheries Service for proposed projects will be conducted in accordance with this Act.
Rivers and Harbors Act of 1899	Any necessary applications for General Permits to the U.S. Army Corps of Engineers will be filed in compliance with this Act.
Presidential Executive Order 12898 – Environmental Justice	The proposed projects will enhance safety and recreational opportunities for all residents and visitors, regardless of ethnic background. Public meetings and comments are open to the public.
Fish and Wildlife Coordination Act	The USFWS is a Lead Federal Agency for the projects proposed and has played an integral role in the development of the proposed projects and alternatives analysis.
Presidential Executive Order 11990 – Protection of Wetlands	The proposed projects avoid, to the extent possible, the long- and short-term adverse impacts associated with the alteration of wetlands.
Presidential Executive Order 11988 – Floodplain Management	The proposed projects will not encourage any human development or building within the existing mapped floodplain.

National Historic Preservation Act of 1966 as amended (16 USC 470 et seq.)	The USFWS will consult with the State Historic Preservation Office and the Advisory Council for Historic Preservation on any projects that could involve historic and/or cultural resources. Project designs may be modified based upon these consultations, if necessary.
Water Resources Development Act of 1990	The proposed projects seek to increase acreage and enhance the quality of wetland resources.
Federal Noxious Weed Control Act and Executive Order 13112	The proposed projects are not expected to introduce or spread noxious weeds or non-native invasive species.

6. CONCLUSION

After significant and meaningful consultation with the public and interested stakeholders, state and federal fish and wildlife biologists, and restoration project proponents – and after evaluating the proposed restoration alternatives under the OPA NRDA regulations and all other relevant state and federal laws and policies, the Trustees propose to implement Alternative 1 (preferred) using the Chevron Site natural resource damage settlement funds. The preferred alternative involves expending $800,000 in order to help implement the following projects:

- **Bagaduce Watershed Fish Passage Restoration Project ($250,000)**
- **Snow Brook Fish Passage Restoration Project ($125,000)**
- **Kenduskeag Headwaters Resiliency Project ($380,000)**
- **Sucker Brook Corridor and Watershed Improvement Project ($45,000)**

The Trustees may distribute any unused administrative funds as well as interest that has accrued on the settlement funds to these four projects. Should any of the proposed projects under the preferred alternative not require the full amount provided by the Trustees or not be fully implemented due to unforeseen reasons, the Trustees may distribute unused project funds to any of the other proposed projects under the preferred alternative.

7. LIST OF PREPARERS, AGENCIES AND PERSONS CONSULTED

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Lauren Bennett, U.S Fish and Wildlife Service
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APPENDIX A: Signature Pages

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Maine Department of Environmental Protection
Approval of the
Draft Restoration Plan
for the
Chevron Marine Oil Terminal Site
Hampden, Maine

The Governor of the State of Maine has designated Gerald D. Reid, Commissioner, Maine Department of Environmental Protection, to act on behalf of the public as the State of Maine Lead Trustee for natural resources.

By the signature below, the Draft Restoration Plan is hereby approved. This approval does not extend to the Final Restoration Plan. The Draft Restoration Plan shall be released for public review and comment for a minimum of 30 days. After consideration of the public comments received, the Restoration Plan may be revised to address such comments.

Approved:

_____

Gerald D. Reid Date
Commissioner
Maine Department of Environmental Protection

Maine Department of Marine Resources
Approval of the
Draft Restoration Plan
for the
Chevron Marine Oil Terminal Site
Hampden, Maine

The Governor of the State of Maine has designated Patrick Keliher, Commissioner, Maine Department of Marine Resources, to act on behalf of the public as a State of Maine Trustee for natural resources.

By the signature below, the Draft Restoration Plan is hereby approved. This approval does not extend to the Final Restoration Plan. The Draft Restoration Plan shall be released for public review and comment for a minimum of 30 days. After consideration of the public comments received, the Restoration Plan may be revised to address such comments.

Approved:

_____

Patrick C. Keliher Date
Commissioner
Maine Department of Marine Resources

Maine Department of Agriculture, Conservation and Forestry
Approval of the
Draft Restoration Plan
for the
Chevron Marine Oil Terminal Site
Hampden, Maine

The Governor of the State of Maine has designated Amanda E. Beal, Commissioner, Maine Department of Agriculture, Conservation and Forestry, to act on behalf of the public as a State of Maine Trustee for natural resources.

By the signature below, the Draft Restoration Plan is hereby approved. This approval does not extend to the Final Restoration Plan. The Draft Restoration Plan shall be released for public review and comment for a minimum of 30 days. After consideration of the public comments received, the Restoration Plan may be revised to address such comments.

Approved:

_____

Amanda E. Beal Date
Commissioner
Maine Department of Agriculture,
Conservation and Forestry

Maine Department of Inland Fisheries and Wildlife
Approval of the
Draft Restoration Plan
for the
Chevron Marine Oil Terminal Site
Hampden, Maine

The Governor of the State of Maine has designated Judy A. Camuso, Commissioner, Maine Department of Inland Fisheries and Wildlife, to act on behalf of the public as a State of Maine Trustee for natural resources.

By the signature below, the Draft Restoration Plan is hereby approved. This approval does not extend to the Final Restoration Plan. The Draft Restoration Plan shall be released for public review and comment for a minimum of 30 days. After consideration of the public comments received, the Restoration Plan may be revised to address such comments.

Approved:

_____

Judy A. Camuso Date
Commissioner
Maine Department of Inland Fisheries and Wildlife

National Oceanic and Atmospheric Administration
Approval of the
Draft Restoration Plan
for the
Chevron Marine Oil Terminal Site
Hampden, Maine

Approved:

_____
Date

NOAA Restoration Center
Northeast Region
National Oceanic and Atmospheric
Administration

U.S. Department of the Interior
Approval of the
Draft Restoration Plan
for the
Chevron Marine Oil Terminal Site
Hampden, Maine

In accordance with U.S. Department of the Interior policy regarding documentation for natural resource damage assessment and restoration projects (521 DM 3), the Authorized Official for the Department must demonstrate approval of draft and final Restoration Plans, with concurrence from the Department's Office of the Solicitor.

The Authorized Official for the Chevron Marine Oil Terminal Facility is the Regional Director for the U.S. Fish and Wildlife Service's Northeast Region.

By the signatures below, the Draft Restoration Plan is hereby approved. This approval does not extend to the Final Restoration Plan. The Draft Restoration Plan shall be released for public review and comment for a minimum of 30 days. After consideration of the public comments received, the Restoration Plan may be revised to address such comments.

Approved:

_____

Wendi Weber Date
Regional Director
Northeast Region
U.S. Fish and Wildlife Service

Concurred:

_____

Mark Barash Date
Attorney
Department of the Interior
Office of the Solicitor

APPENDIX B: Project Idea Submission Form

Natural Resource Damage Assessment (NRDA)

Restoration Project Information Sheet

A General Information

Organization			
Contact Name (First Last)	*Title*		
Address	*City*	*State*	*ZIP*
Phone Number ext.	*Email*		
Organization Website			

B Project Information

Type of Project	*If this is a Change to an Existing Project, enter the Project ID Number*		
Project Name			
Location (e.g. John Smith National Wildlife Refuge)			
State(s) (Use 2-letter abbreviations separated by commas)	*County/Parish*	*Watershed/Basin*	
Latitude (decimal degrees) *Longitude (decimal degrees)*	*Project Size (Choose one)* miles acres tons	*Affected Area* acres	

C Project Description

Please provide more information about the proposed project. (Limit 2,500 characters.)

DOC / NOAA / NMFS / RC / NRDA Restoration Project Information Sheet

OMB Control #0648-0497 / Expiration Date 12/31/2013

Natural Resource Damage Assessment (NRDA)

Restoration Project Information Sheet *(continued)*

D Project Activity(s)

(Check all that apply)

- ☐ Restoration
- ☐ Protection
- ☐ Debris Removal
- ☐ Land Acquisition
- ☐ Maintenance/Management
- ☐ Education

E Project Habitat(s)

(Check all that apply)

- ☐ Upland
- ☐ Riverine
- ☐ Marine/Estuarine Wetlands
- ☐ Freshwater Wetlands
- ☐ Beach/Dune
- ☐ Subtidal (Nearshore/Offshore)

F Resource Benefit(s)

(Check all that apply)

- ☐ Marine Mammals
- ☐ Birds
- ☐ Reptiles/Amphibians
- ☐ Fish
- ☐ Shellfish
- ☐ Terrestrial Wildlife
- ☐ Corals
- ☐ Vegetation
- ☐ Water Column
- ☐ Sediment/Benthos
- ☐ Shoreline
- ☐ Human Use (Recreational, Cultural)

Will the project directly benefit State- or Federally-listed species? If so, please list them. If not, please indicate N/A.

G Project Status

Property/Resource Acquisition

Project Planning/Design

Project Permitting.

Time to Implementation

Time to Project Completion

Is this project included under a regional or statewide plan?
If so, please list:

H Project Costs

Estimated Cost	*Funding Available*

I Project Partners

Partner 1 Organization	
Partner 1 Contact	*Partner 1 Involvement*
Partner 2 Organization	
Partner 2 Contact	*Partner 2 Involvement*
Partner 3 Organization	
Partner 3 Contact	*Partner 3 Involvement*

Disclaimer:
The submission of project information **does not** guarantee project funding. Projects will be evaluated using criteria identified in OPA, NEPA, implementing regulations, and related laws. Selection and funding determinations will be made by the Trustee Council.

APPENDIX C: NOAA Restoration Center NEPA Inclusion Analysis Form

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NOAA Restoration Center NEPA Inclusion Analysis

Award Number

I. IDENTIFYING PROJECT INFORMATION

Project Name
Chevron Marine Oil Terminal Facility - Natural Resource Damage Settlement

Project State
ME

Project Proponent / Applicant
NOAA, USFWS, State of Maine (DEP, DMR, DIFW, DACF) - Trustees

Project Contact
Matthew Bernier, NOAA Restoration Center

II. OTHER FEDERAL PARTNERS AND LEVEL OF NEPA ANALYSIS

Has another Federal agency completed NEPA?	☐ *Yes*	☒ *No*
Is NOAA the lead federal agency for this NEPA analysis?	☒ *Yes*	☐ *No*

III. PROJECT DESCRIPTION / SCOPE OF ACTIVITIES FOR ANALYSIS

Please check one of the following conditions:

☐ *I am analyzing impacts of project planning and design activities, in order to gather all required project information*

☒ *I have all information needed to complete the final analysis of impacts for the entire project*

Has a NEPA review been conducted for prior project activities?	☐ *Yes* ☒ *No*	*Date of NEPA completion for prior phase*	N/A

Describe the full scope of the project, including historic/ geographic/ ecological context, the type of restoration, and how it will be conducted.

1) Bagaduce Watershed Fish Passage Restoration Project: Fish passage will be restored to two historic alewife ponds. At 66-acre Parker Pond, dam remnants will be removed and replaced with a constructed riffle at the outlet of the pond and meadow complex, restoring passage for diadromous fish (alewife, American eel) and maintaining water levels to support significant wading bird and waterfowl habitat. Downstream, at a former mill site, collapsed stone foundations will be rearranged into the weirs of a nature-like fishway to restore fish passage past a steep ledge drop. At Walker Pond, a stone masonry dam controlling water levels in the 693-acre lake, will be stabilized and an existing nature-like bypass fishway will be widened to support a larger run of alewives. The project will also include a chute and plunge pool for the safe passage of outmigrating fish past the dam. 2) Snow Brook Fish Passage Restoration Project: An undersized, perched culvert on Snow Brook will be replaced by a channel-spanning box culvert with natural stream bottom to restore passage for fish (alewife, American eel, sea-run brook trout), to 5.5 miles of stream and 155-acre Frost Pond. 3) Kenduskeag Headwaters Resiliency Project: Five undersized culverts will be replaced with arch culverts with natural stream bottoms, restoring passage for fish and wildlife. 4) Sucker Brook Corridor and Watershed Improvement Project: An undersized culvert will be replaced with a box culvert to restore fish passage.

Describe the proposed action (i.e. the portion of the project that NOAA is funding/approving).

Funding will be provided to the four individual fish passage restoration projects and will support all or portions of technical assistance (i.e., design, permitting, and monitoring) for the Bagaduce Watershed (design, permitting, monitoring), Snow Brook (monitoring), and Sucker Brook (design) projects, as well as fish passage construction for the Bagaduce Watershed (fish passage/ fishways), Snow Brook (culvert replacement), Sucker Brook (culvert replacement), and Kenduskeag Headwaters (culvert replacement) projects. The monitoring will consist of project implementation monitoring (such as as-built surveys) and the monitoring of fish passage, including the documentation of diadromous fish use and alewife counts at the Bagaduce Watershed (Parker Pond, Walker Pond) and Snow Brook/Frost Pond projects.

Non-preferred alternatives to the proposed action described above include the no action alternative, which is premised on natural recovery and is further described and evaluated in the Draft Restoration Plan/NEPA Evaluation for the Chevron Marine Oil Terminal Facility-Natural Resource Damage Settlement.

Check the types of activities being conducted in this project:

Technical Assistance

☒ Implementation and Effectiveness Monitoring	☐ Environmental Education Classes, Programs, Centers, Partnerships and Materials; Training Programs	☒ Fish and Wildlife Monitoring
☒ Planning, Feasibility Studies, Design Engineering, and Permitting →	*Check the specific project planning activities being analyzed in this checklist*	☐ Feasibility Studies ☒ Permitting and Consultations
		☒ Engineering and Design ☐ Other (enter here)

Riverine and Coastal Habitat Restoration

NEPA Inclusion Analysis

☐ Beach and Dune Restoration	☐ Bank Restoration and Erosion Reduction	☐ Water Conservation and Stream Diversion
☐ Debris Removal	☐ Coral Reef Restoration	☐ Levee & Culvert Removal, Modification, Set-back
☒ Dam and Culvert Removal & Replacement	☐ Shellfish Reef Restoration	☐ Fringing Marsh and Shoreline Stabilization
☒ Technical and Nature-like Fishways	☐ Artificial Reef Restoration	☐ Sediment Removal
☐ Invasive Species Control	☐ Road Upgrading/Decommissioning; Trail Restoration	☐ Sediment/Materials Placement
☐ Prescribed Burns/Forest Management	☐ Signage and Access Management	☐ Wetland Planting
☐ Species Enhancement	☐ SAV Restoration	
☐ Channel Restoration	☐ Marine Algae Restoration	
Conservation Transactions		
☐ Land Acquisition	☐ Water Transactions	☐ Restoration/Conservation Banking

IV. PROJECT IMPACT ANALYSIS

Core Questions

*1. Are the **activities** to be carried out under this project fully described in Section 2.2 of the NOAA RC PEIS?*	☒ *Yes*	☐ *No*
*2. Are the specific **impacts** that are likely to result from this project fully described in Section 4.5.2 of the NOAA RC PEIS?*	☒ *Yes*	☐ *No*
3. Does the level of adverse impact for the project exceed that described in Table 11 of the NOAA RC PEIS for any resource, including significant adverse impact?	☐ *Yes*	☒ *No*

4. Describe the project impacts to resources (including beneficial impacts) and any mitigating measures being implemented.

1. Culvert Replacement and Fishway Construction - Proposed fish passage construction activities are similar to those described in section 2.2.2.3 of the RC PEIS. Project impacts from the proposed construction activities are consistent with those described in the RC PEIS (section 4.5.3 and tables 18 and 19) and are summarized below.

Geology and Soils:
All projects will require the use of heavy construction equipment for culvert replacements and nature-like fishways, and include the removal of instream structures and temporary grading. Impacts such as soil erosion and sedimentation will be mitigated using best management practices such as temporarily cofferdamming and bypassing flow around work areas, using turbidity curtains to prevent sedimentation from extending beyond work areas, and stabilizing banks with native seed and vegetation. Construction will occur in the summer, during low flow periods, minimizing erosion and sedimentation. All projects are on relatively small tributaries to the Penobscot River and estuary. Therefore, direct and indirect impacts may be adverse but will be localized, minor and short term.

Water:
All projects will require temporarily cofferdamming and bypassing flow around work areas, with some short term impacts to stream sedimentation. Short term impacts of construction will be minimized by using turbidity curtains to prevent further migration of sediment and construction during summer (low flow) months, July through September. Long term indirect impacts will be beneficial, by restoring sites with channel-spanning culverts or nature-like fishways that allow for the migration of fish and wildlife and restore natural stream processes and flow regimes. As described earlier, impacts related to sedimentation may be direct and adverse but will be localized, minor and short term.

Air:
All projects will require the use of heavy construction equipment that will cause short term impacts due to noise and exhaust. The impacts will be temporary and will only occur for several hours during each workday. The work sites are in sparsely populated, rural areas in Maine and are not adjacent to homes or businesses. While direct and adverse impacts will occur, they will be localized, minor and short term.

Living Coastal and Marine Resources and EFH:
Impacts of all projects will be similar to those described for geology, soils, and water, including temporarily cofferdamming work sites and bypassing flows during construction. In addition, bank vegetation may be disturbed during construction and require native seed and tree plantings. All sites are on relatively small streams with coarse substrates, and there are minimal sediments and instream vegetation to be disturbed. The long term impacts of restoration, with projects restoring fish passage, will be of long term benefit to coastal resources. Therefore, the long term benefits of restoration will be direct, major and beneficial, with some indirect and direct impacts in the short term (such as work in streams) having adverse effects on a minor to moderate scale.

NEPA Inclusion Analysis

Core Questions (continued)

Threatened and Endangered Species:
The culvert replacements in the Kenduskeag River watershed/headwaters are within designated critical habitat for Atlantic salmon, an endangered species. Culvert replacements in critical habitat are addressed by a programmatic Section 7 (Endangered Species Act) interagency consultation (USFWS) detailing best practices for the protection of Atlantic salmon and their habitat, such as erosion and sediment control practices described above. The consultation will also apply to culvert replacements in areas outside of critical habitat designations (Snow Brook, Sucker Brook). Nature-like fishways in the Bagaduce Watershed (Walker and Parker Ponds) are outside of critical habitat for Atlantic salmon and will be addressed by an intra-agency consultation within NMFS, which is responsible for Endangered Species Act consultations involving dams (including former dams) and fishways, and include the best practices previously described for minimizing instream impacts such as soil disturbance and sedimentation. All projects are on small, non-tidal streams and are not within habitat for other listed species such as shortnose and Atlantic sturgeon. Direct, adverse effects may occur with construction work in streams, but will be localized, minor and short term.

Cultural and Historic Resources:
Culvert replacement projects (Kenduskeag Headwaters, Snow Brook, Sucker Brook) are located in areas of extensive prior disturbance and are not historically or archaeologically significant. For the Bagaduce River Watershed projects (Walker Pond, Parker Pond), remaining historic structures (such as mill foundation remnants) will be surveyed in accordance with a Memorandum of Agreement with the Maine Historic Preservation Commission, who serves as the State Historic Preservation Office (SHPO) in Maine. The construction of nature-like fishways (Parker Pond) and widening of a current nature-like bypass and installation of chute for downstream passage (Walker Pond) may require removing some historic structure (granite blocks) from fish passageways, requiring documentation of historic resources, historic research, and mitigation such as interpretive signage. As described in the RC PEIS, direct, adverse and long term impacts related to historic resources may occur, but will be of minor to moderate intensity due to the altered condition of sites due to past damage from erosion and repairs with modern materials such as concrete.

Land Use and Recreation:
Projects will not alter existing land uses. Culvert replacement projects (Kenduskeag Headwaters, Snow Brook, Sucker Brook) will continue to provide road transportation over streams and be more resilient to high flow events. All of the projects are on small streams that do not provide for recreation such as canoeing and kayaking, although recreational activities such as fishing and wildlife watching may benefit from improved fish passage and therefore impacts would be indirect, long term, and beneficial on a minor to moderate scale.

Socioeconomics:
All projects will have short term beneficial impacts through the temporary increase of economic activity related to construction. Long term, maintenance activities (such as the repair and replacement of failing culverts) will be greatly reduced, and the restoration of native fish such as alewives, an important prey species, may benefit activities such as recreational and commercial fishing in coastal areas and wildlife viewing. Beneficial impacts will therefore be both short term and long term, and be localized and moderate in scope.

2. Technical Assistance - Proposed technical assistance activities are similar to those described in section 2.2.1 of the RC PEIS. Project impacts from the proposed technical assistance activities are consistent with, or less than, those described in the RC PEIS (section 4.5.1 and tables 12 - 14) and are summarized below.

Design Engineering and Permitting:

The completion of project Design Engineering studies and Permitting activities would cause minor, indirect, long-term beneficial impacts to the affected environment, including living coastal and marine resources and threatened and endangered species, since these activities would support the continued implementation of successful fish passage projects and therefore result in effective and efficient habitat restoration. Adverse impacts to resources are not anticipated as there would be no direct contact with the environment during the design engineering or permitting activities.

Fish and Wildlife Monitoring:

Fish and Wildlife Monitoring activities are related to monitoring the performance and progress of restoration projects relative to their established project goals, and could cause indirect, long-term, minor to major beneficial impacts to geology and soils, water resources, living coastal and marine resources, and threatened and endangered species that may be localized or extend beyond the project site. Despite the beneficial impacts expected from this activity, monitoring could cause adverse impacts. Indirect and direct, short-term, localized, minor to moderate adverse impacts to living coastal and marine resources and EFH, and threatened

and endangered species may include effects from handling, noise, turbidity, and displacement. Some monitoring activities may disturb cultural or historic resources (e.g., dam/mill remains); however, these impacts would be minor, short-term, and highly localized, and would be mitigated through the section 106 consultation process with the Maine SHPO. Certain sampling techniques, such as electrofishing, may also result in direct and indirect, short- and long-term, localized, minor adverse impacts to living coastal and marine resources and threatened and endangered species, such as some fish and invertebrate species. Direct, short-term, localized, minor adverse impacts are expected to geology and soils, water, and air quality from the human presence and movement around the project site and the resulting soil compaction, in-stream turbidity, and construction equipment emissions. Further, direct, short-term, localized, minor, adverse impacts may occur to land use and recreation because anglers or other individuals recreating at the project site may need to vacate or avoid the site in order to avoid interacting with monitoring activities. Impacts would be minimized through the implementation NOAA mitigation measures and Best Management Practices.

Implementation and Effectiveness Monitoring:

Implementation and Effectiveness Monitoring could cause direct and indirect, short-term, minor, localized, adverse impacts to geology and soils, water, air, living coastal and marine resources and EFH, threatened and endangered species, historic resources, and land use and recreation as a result of disturbances associated with in-water or on-site observations and sampling. Although these adverse impacts may occur, the monitoring products would result in indirect, long-term, minor to major beneficial impacts that extend beyond the project site, and that would inform future restoration planning efforts of these types.

3. No action - The no action alternative, which is premised on natural recovery, is the non-preferred alternative to the proposed activities described above and is further described and analyzed in the Draft Restoration Plan/NEPA Evaluation.

5. Describe any potential cumulative impacts that may result from past, present or reasonably foreseeable future actions (beneficial or adverse).

The removal of barriers to fish passage--including the construction of nature-like fishways and culvert replacements--has been occurring throughout Maine and the Penobscot River watershed for many years and the proposed restoration will set no precedents for future actions of a type that would affect the quality of the natural or human environment.

Cumulative project impacts would not be significant or occur at a regional scale, and are consistent with those described in the RC PEIS. Overall, any adverse impacts from project construction and related technical assistance are likely to be short-term and localized, and only minor to moderate when they do occur. Because projects are restoring natural habitat structure and function, they should lead to overall longer-term minor to moderate beneficial impacts on the community, living coastal resources, and endangered species of the Penobscot River watershed and its three specific sub-watersheds under the preferred alternative.

6. Describe the public outreach and/or opportunities for public comment that have taken place to this point. Are any future opportunities for public input anticipated?

As part of the restoration planning process, the trustees publicly invited the submittal of restoration ideas and received four recommendations (Kenduskeag Headwaters, Bagaduce Watershed, Snow Brook and Sucker Brook). The trustees propose to provide funding to design, permit, implement and monitor all four submitted project ideas. A Draft Restoration Plan/NEPA Evaluation, including this draft Inclusion Analysis, will be made available to the public for review and comment. All comments on the Draft Restoration Plan/NEPA Evaluation and Inclusion Analysis will be addressed prior to finalization and approval of the Restoration Plan.

7. Have any public comments raised issues of scientific/environmental controversy? Please describe.

There have been no public comments to date identifying issues of scientific and environmental controversy. All comments on the Draft Restoration Plan/NEPA Evaluation and Inclusion Analysis will be addressed prior to finalization and approval of the Restoration Plan.

8. Describe the most common positive and negative public comments on issues other than scientific controversy described above in Question 7.

Apart from the submittal of the restoration project ideas, there have been few public comments made as part of the restoration planning process. Projects are similar to those that have been occurring throughout the Penobscot River watershed for many years, and the public has generally been supportive of funding on-the-ground restoration projects, especially those associated with human use (such as road crossings). Any positive and negative public comments received on the Draft Restoration Plan/NEPA Evaluation and this draft Inclusion Analysis will be addressed and summarized in the Final Restoration Plan/NEPA Evaluation.

Dam and Culvert Removal, Modification, or Replacement

(These considerations are most likely applicable to dams, not culvert removal or modification, but should be addressed for all projects of this type)

Describe the amount and type of sediment in the reservoir behind the dam, its impact on downstream areas, and how the impact has been evaluated.

Culvert replacement projects (Kenduskeag Headwaters, Snow Brook, Sucker Brook) are located in relatively small watersheds without large sediment loads, with very little fine sediment accumulated upstream of culverts. Existing culverts are undersized and perched, and have scour pools at their outlets that will require the transport of sediment from upstream areas to restore a

NOAA Restoration Center NEPA Inclusion Analysis

Supplemental Questions (continued)

natural and sustainable channel morphology. Therefore, the movement of small amounts of sediment from upstream areas will have a beneficial impact for downstream areas.

Will the restored river channel be in the same location as the original channel? Please describe any changes.

Culvert replacements (Kenduskeag Headwaters, Snow Brook, Sucker Brook) will restore channels to former alignments and will be at least 1.2 times the natural bankfull widths of streams, allowing for stream processes be unimpeded by the new road crossings.

Are there contaminated sediments behind the dam? Describe the disposal method (i.e., will these be released downstream or taken off-site?).

Culvert replacements (Kenduskeag Headwaters, Snow Brook, Sucker Brook) are not located in areas subject to past discharges of hazardous material, and existing structures retain little to no sediment upstream. There are no known contaminated sediments and disposal of sediments will not be required by local, state or federal permitting.

Describe the anticipated changes to the flood zone.

Culvert replacements (Kenduskeag Headwaters, Snow Brook, Sucker Brook) will provide larger openings at road crossings, lowering upstream water levels during floods, a beneficial impact. The sites have relatively small drainage areas and the amount of lowering of water levels will vary by site.

Technical and Nature-like Fishways
(These considerations are most likely applicable to nature-like fishways, but should be addressed for all fishways)

Describe the amount and type of sediment in the reservoir behind the dam. Compare it to the stream's usual sediment load.

The Bagaduce Watershed project includes two sites, at Walker Pond and Parker Pond.

At Walker Pond, an existing nature-like bypass fishway will be widened to increase its capacity for sea-run fish, especially alewives. An existing dam at Walker Pond will be stabilized and provided with a chute and plunge pool for downstream passage. Because the existing water level regime will be retained, there will be no mobilization of sediments. (The sediment load is also very small, being just downstream of a large lake.)

At Parker Pond, a nature-like fishway (constructed riffle) will be constructed at the pond outlet, maintaining the existing water level regime upstream and not resulting in sediment mobilization. Farther downstream, a series of boulder weirs will be constructed at a former mill site to restore fish passage. The site consists of exposed ledge and large, coarse substrate (mostly boulders) and has very little fine sediment accumulated.

Will the restored river channel be in the same location as the original channel? Please describe any changes.

For the Bagaduce Watershed project (Walker Pond, Parker Pond) nature-like fishway construction will occur in the same alignment as the original channel and restore natural stream features (riffles) appropriate to the stream morphology.

Are there contaminated sediments behind the dam? Describe the disposal method (i.e., will these be released downstream or taken off-site?).

For the Bagaduce Watershed project (Walker Pond, Parker Pond), industry at the sites consisted of water-powered sawmills not associated with the discharge of hazardous materials or oil spills. There are no known contaminated sediments at either site and no sediment disposal will be required by local, state or federal permitting.

Describe the anticipated changes to the flood zone.

For the Bagaduce Watershed project (Walker Pond, Parker Pond), the nature-like fishways will have the effect of slightly increasing the hydraulic capacity at the outlets of dams, lowering water levels slightly (several inches) at high flood flows. Otherwise, normal upstream water levels will be retained.

See following page for NEPA Determination

NEPA Inclusion Analysis

V. NEPA DETERMINATION

☒ The action is completely covered by the impact analysis within the NOAA RC Programmatic EIS (PEIS). The project and its potential impacts may be limited through terms or conditions placed on the recipient of NOAA funds. It requires no further environmental review. An EIS Inclusion Document will be prepared.

☐ The action analyzed here has unknown impacts. At this time, funding will be limited to those portions of the action and impacts analyzed in the PEIS. These limitations will be described in terms or conditions placed on the recipient of NOAA funds. If all remaining activities and impacts are later determined to be described in the PEIS, this analysis will be documented in the program record and the applicant may then proceed with the project. If all remaining activities and impacts are later determined to not be described in the PEIS, further NEPA review will be required; see below.

☐ The action or its impacts are not covered by the analysis within the PEIS. It will require preparation of an individual EA, a supplemental EIS, adoption of another agency's EA or EIS, or will be covered by a Categorical Exclusion.

Signature _____ *Date Signed* _____