



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



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Mr. Christian Williams
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New Hampshire Coastal Program - DES
222 International Drive, Suite 175
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September 29, 2011

RE: Portsmouth-Kittery, A000(9i1), I3678F (Memorial Bridge Replacement)
Coastal Zone Management Act Consistency Certification

Dear Mr. Williams:

This document provides the New Hampshire Coastal Program (NHCP) with the New Hampshire Department of Transportation's (NHDOT's) consistency certification and necessary data and information under CZMA § 307(c)(3)(A) and 15 CFR part 930, subpart D, for the **Memorial Bridge Facility Replacement**.

Certification:

The NHDOT certifies that the proposed activity complies with the enforceable policies of the NHCP and will be conducted in a manner consistent with such program.

Necessary Data and Information:

1. The project requires a U.S. Coast Guard permit per the Section 10 of the Rivers and Harbors Act of 1899.
2. The attached Narrative and attachments provide findings relating the probable coastal effects to the relevant enforceable policies of the NHCP.

By this certification that the **Memorial Bridge Facility Replacement** is consistent with the NHCP, the NHCP is hereby notified that it has six months from the receipt of this letter and accompanying information in which to concur with or object to the NHDOT certification. Pursuant to 15 CFR § 930.62(b), if the NHCP has not issued a decision within three months following commencement of its review, it shall notify the NHDOT and the U.S. Coast Guard of the status of the matter and the basis for further delay. Please send the NHCP's concurrence, objection or notification of review to me at the address listed below.

Sincerely,

Keith Cota,
Chief Project Manager
Bureau of Highway Design



CZM CONSISTENCY REVIEW

MEMORIAL BRIDGE (US ROUTE 1) REPLACEMENT PROJECT
PORTSMOUTH, NH - KITTERY, ME
A000(911), 13678F

August 2011



Coastal Zone Management Consistency Review

Contents

Introduction	1
Project Need	1
Statement of Purpose	2
Proposed Bridge Replacement	2
Coastal Program Policies.....	3
Protection of Coastal Resources	3
<i>Rare Marine Species</i>	4
<i>Rare Species (Non-Marine)</i>	5
<i>Essential Fish Habitat</i>	5
Recreation and Public Access	6
Managing Coastal Development.....	7
Coastal Dependent Uses	10
Preservation of Historic and Cultural Resources	10
Marine and Estuarine Research and Education.....	11

Attachments

Photographs

Consultation Letters:

- NOAA, NMFS Essential Fish habitat
- FHWA Essential Fish Habitat Response
- NOAA, NMFS Endangered Species
- FHWA Endangered Species Response
- NOAA Concurrence Letter
- USFWS NH
- USFWS Maine
- NHFG Marine Fisheries
- NHNHB
- NH Fish and Game Department email
- NH Audubon email
- MDIFW email
- Maine Department of Inland Fisheries and Wildlife
- Maine Natural Areas Program
- NH Office of Energy and Planning, National Flood Insurance Program

Section 106 Documentation

Memorandum of Agreement Submitted to the Advisory Council on Historic Preservation
Pursuant to 36 CFR Part 800.6

Essential Fish Habitat Assessment

Worksheet

Biological Assessment

Eelgrass Map

US Coast Guard Bridge Permit Application

Figures:

Figure 1 Locus

Figure 2 Project Area

Figure 3 Existing Bridge - Elevation View

Figure 4 Wetland Impacts

Plan:

Permit Drawing P-1

Introduction

The States of New Hampshire and Maine propose to replace the Memorial Bridge, connecting Portsmouth, New Hampshire with Kittery, Maine, along with the Scott Avenue Bridge (the approach bridge in Portsmouth) and the Kittery Approach Spans in Maine. This document has been prepared to satisfy the requirements of the Coastal Zone Management Act (CZMA), which is triggered because the project requires a U.S. Coast Guard bridge permit. (Locus, Figure 1) The project will be conducted in a manner consistent with the NHCP's enforceable policies to the maximum extent possible, as described below.

Project Need

The Memorial Bridge is a gateway to the Seacoast Regions of New Hampshire and Maine. U.S. Route 1 on the Memorial Bridge carried an average annual daily traffic volume of approximately 11,000 vehicles per day in 2009. The vertical lift span on the bridge currently lifts approximately 4,000 times per year for navigational traffic on the Piscataqua River, which is an important port that accommodates major industrial users, regional fuel deliveries, and recreational and tourist boat traffic. The bridge is also a heavily used recreational corridor for cyclists and pedestrians, and is the only pedestrian/bicycle connection between New Hampshire and Maine in this region.

Three separate structures carry U.S. Route 1 a distance of approximately 0.22 miles over the Piscataqua River: the Scott Avenue Bridge, the Memorial Bridge, and the Kittery Approach Spans (Figures 1 through 13). The Memorial Bridge is jointly owned by the NHDOT and MaineDOT, and the Scott Avenue Bridge is owned and maintained by the City of Portsmouth. The MaineDOT owns and maintains the Kittery Approach Spans (Figures 2 and 3).

The Memorial Bridge (U.S. Route 1) is 87 years old and has experienced considerable structural deterioration. Emergency repairs on the Memorial Bridge were performed in 2004, allowing the weight limit of the bridge to be raised from 6 tons to 20 tons, and in 2006 to replace several counterweight ropes for the lift span. However, the current weight restriction still prohibits larger trucks and some emergency vehicles from crossing over the bridge. The Memorial Bridge is the # 1 ranked bridge on the NHDOT Bridge Priority List, signifying that this is the highest priority bridge project in the state for repair/replacement. The Memorial Bridge is also on the NHDOT Red List of bridges with low Federal Sufficiency Ratings. The list includes bridges that require two annual inspections, because of their known deficiencies, poor conditions, weight restrictions, or construction type. According to the March 2007 NHDOT Red List, the Federal Sufficiency Rating of the Memorial Bridge, on a scale of 0 to 100 (0=worst, 100=best), is a 6.0.

A previous project, the "Memorial Bridge (US Route 1) Rehabilitation Project," proposed to replace the Scott Avenue Bridge, to rehabilitate the Memorial Bridge (including a replacement of the lift span), and to repair the Kittery Approach Spans. Following the approval of the 2008 Environmental Study by FWHA for the Memorial Bridge Rehabilitation Project, the project was put out to bid, and a NHDES wetland permit was acquired (NHDES Wetland Permit 2008-00203). The bid costs were 30% higher than had been anticipated, and as a result, the two states of Maine and New Hampshire signed a Memorandum of Agreement (MOA) to conduct a bi-state planning study to assess long-term transportation needs,

which resulted in the “Maine-New Hampshire Connections Study” (Connections Study). The MOA included provisions for inspections of both the Sarah Mildred Long and Memorial bridges.

Structural inspections performed as a result of this agreement in May and June of 2009 revealed that deterioration of the Memorial Bridge had progressed further, and it was determined that the bridge was not repairable and would have to be replaced. The weight limit was set at three tons, where it remains.

Statement of Purpose

The Purpose of the Project is to address the current structural deficiencies associated with the Memorial Bridge, Scott Avenue Bridge, and Kittery Approach Spans in order to provide, in a cost-effective manner, for the safe, secure and effective multi-modal movement of people and goods across and upon the Piscataqua River between Kittery, Maine and Portsmouth, New Hampshire, while supporting the region’s economic, cultural, historic, archeological, and natural resources and the community’s quality of life.

Proposed Bridge Replacement

The proposed project involves replacing the three existing 300-ft spans of the Memorial Bridge. The two existing concrete piers in the middle of the Piscataqua River would remain, with repairs made to their concrete surfaces and the potential replacement of the fendering system. While the replacement design has not yet been determined, the replacement bridge would be a three span bridge with a moveable center span that would accommodate at least as much horizontal and vertical clearance as the existing lift span. The roadway width would be increased from the existing 28 feet to 32 feet to accommodate one 11-foot travel lane and a 5-foot shoulder/bike lane in each direction. The roadway would have a solid surface as opposed to the open grate that currently exists on the lift span. Sidewalks would be provided on both sides of the bridge and would be 6 feet in width for the entire length of the bridge and would have a solid surface. The horizontal and vertical clearance for each of the three spans would not substantially change.

The existing south pier that is shared with the Scott Avenue Bridge in Portsmouth (Pier 1) would be replaced. The existing north pier that is shared with the Kittery Approach Spans (Pier 4) would also be replaced. These two piers would be completely removed and the new piers would likely be located in the same location, however, they would be six feet wider to accommodate the wider Memorial Bridge.

Impacts to the Piscataqua River associated with the replacement of the Memorial Bridge include temporary impacts associated with repairs to the two central piers (Piers 2 and 3) and permanent impacts associated with the replacement of Piers 1, 4, and the Kittery Approach Span piers. Repair of Pier 2 will involve approximately 4,695 square feet of temporary impact to the riverbed, and the replacement of Pier 1 will involve approximately 1,823 square feet of impact, of which 1,225 will be permanent impact for stone for scour protection around the pier. There will also be 15,000 square feet of temporary impact to the 100’ jurisdictional tidal buffer zone in New Hampshire. Proposed impacts are depicted on Figure 4.

Design and construction of this project would follow a Design-Build process. Design-Build (DB) is a method of project delivery in which the design and construction phases of a project are combined into one contract. This can provide substantial time savings compared with the more traditional Design-Bid-Build approach, where the design and construction services must be undertaken in sequence. Proposed wetland impacts, therefore, are based on the maximum probable impact from the project.

Coastal Program Policies

The New Hampshire Coastal Program Final Environmental Impact Statement, July, 1998, established policies that must be followed for compliance with the CZMA. The policies are outlined below, with narrative describing compliance with each policy, where applicable.

Protection of Coastal Resources

1. Protect and preserve and, where appropriate, restore the water and related land resources of the coastal and estuarine environments. The resources of primary concern are coastal and estuarine waters, tidal and freshwater wetlands, beaches, sand dunes, and rocky shores.

The Memorial Bridge Facility, consisting of the Scott Avenue Bridge, Memorial Bridge, and the Kittery Approach Spans, crosses the Piscataqua River, an estuary that flows into Portsmouth Harbor. Tidal influence in the Piscataqua extends upstream approximately 17 miles to Great Bay. The bridge is supported by four piers that are in the river or its bank (two in Maine and two in New Hampshire), along with 10 piers for the Kittery Approach spans. The shoreline on the Portsmouth side of the river is entirely developed, with commercial and residential buildings lining the shoreline. There will be no changes to the land use of the Portsmouth shoreline resulting from the proposed project.

During construction, the river will be protected from turbidity and sedimentation by conducting all work inside cofferdams, and with the use of construction BMPs through the development and implementation of a Storm Water Pollution Prevention Plan. Work in the river to install the cofferdams is restricted to November 15 – March 15 to protect fisheries, as described below.

2. Manage, conserve and, where appropriate, undertake measures to maintain, restore, and enhance the fish and wildlife resources of the state.

The terrestrial wildlife habitat in the vicinity of the bridge site is constrained by the extent of urbanized development in downtown Portsmouth and on Badger's Island. Vegetation is restricted primarily to grassed or landscaped areas within parks or residential yards.

The Piscataqua River accommodates both resident and transient species that migrate to and from Great Bay. According to the NHFGD, resident species in this section of the river would generally be sessile invertebrates (that are attached to the river bottom) as river currents are high, and finfish are few and primarily seasonal. Literature on fisheries surveys and files at the NHFGD were reviewed regarding commercial and recreational species that pass through the river as adults, juveniles, and larval stages. Studies performed for the Newington Power Generation Station, upstream identified three indigenous anadromous species that migrate upriver to spawn: rainbow smelt, alewife, and blueback herring. Species that are important recreational fisheries in the Piscataqua River upstream of the project site

include striped bass, eels, tomcod, shad, smelt, and flounder. Other species of finfish found in the upstream segments of the river include Atlantic silverside, mummichog and striped killifish, sticklebacks, Atlantic tomcod, and grubby. In a meeting on October 6, 2005, the NHFCD indicated that they introduced Coho salmon and Atlantic salmon in the past, but these stocking programs have since been abandoned, since upstream dams impede fish passage. At present, no resident salmon populations were reported to naturally occur in the river.

Four commercially important species of shellfish that are commonly found in the Piscataqua River and upstream estuaries (Little Bay and Great Bay) are the lobster, rock crab, oyster, and the soft-shelled clam. However, the lower Piscataqua River has been closed to shellfishing, due to bacterial contamination and proximity to pollution sources.

3. Regulate the mining of sand and gravel resources in offshore and onshore locations so as to ensure protection of submerged lands, and marine and estuarine life. Ensure adherence to minimum standards for restoring natural resources impacted from onshore sand and gravel removal operations.

Not applicable to this project.

4. Undertake oil spill prevention measures, safe oil handling procedures and, when necessary, expedite the cleanup of oil spillage that will contaminate public waters. Institute legal action to collect damages from liable parties in accordance with state law.

All appropriate Best Management Practices will be employed during the bridge demolition and construction to ensure that the Piscataqua River is protected from potential oil spills. The contractor will prepare a Stormwater Pollution Prevention Plan that will address all erosion, sedimentation and turbidity controls, and a safety plan that would address measures to be employed in the event of an oil spill.

5. Encourage investigations of the distribution, habitat needs, and limiting factors of rare and endangered animal species and undertake conservation programs to ensure their continued perpetuation.

Rare Marine Species

Section 7 of the Endangered Species Act, 16 U.S.C. Section 1536(a)(2), requires all federal agencies to consult with the US National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) for marine and anadromous species, or the United States Fish and Wildlife Service (FWS) for fresh-water fish and wildlife. FWS and the NOAA Protected Resources Division were consulted for this project. NOAA responded that Atlantic sturgeon, which is a candidate species for listing under the federal Endangered Species Act, is known to be present, and that shortnose sturgeon, which is federally endangered, is assumed to be present in the Piscataqua River. Because they are anadromous, both of these are under the jurisdiction of NOAA. If such species may be present, the local government must conduct a Biological Assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat in order to establish and justify an "effect determination." A Biological Assessment was prepared for these species which recommended that if construction date restrictions and measures to contain turbidity were employed (as outlined below under "Essential Fish Habitat") that the project may affect, but would be unlikely to adversely affect, the Atlantic and short-nosed sturgeon. In a letter dated March 17, 2011, NOAA indicated that it concurs with the BA. Additional

coordination will continue during the design-build and permitting phases of the project once the contractor's means and methods of construction are more fully developed, as needed.

Rare Species (Non-Marine)

The New England Field Office of the FWS, and the FWS Maine Office, indicated that no federally listed species under their jurisdiction (fresh-water fish or wildlife) are known to occur in the project area and that further consultations under Section 7 of the U.S. Endangered Species Act with FWS are not required.

The New Hampshire Fish and Game Department reported that the peregrine falcon (*Falco peregrinus*), a federal species of concern and state-endangered species in New Hampshire and Maine, had been observed using the Memorial Bridge as a hunting perch and nests at the nearby Portsmouth Naval Shipyard. In the spring of 2006, a peregrine falcon established a nest on the movable counterweight on the Memorial Bridge. Spring-time inspections of the counterweight on the Memorial Bridge were suspended to avoid disturbing the nest. The nest was subsequently abandoned during a rainstorm in mid-May and was not productive. The NHDOT has since established a more stable platform/nesting site atop the I-95 Bridge as an alternative site. In the spring of 2007, peregrine falcons were observed on the I-95 Bridge, although nesting was not confirmed, and the peregrine falcons have not been observed on, and did not return to nest on, the Memorial Bridge. Correspondence with NHFG dated January 28, 2011 has confirmed that although there are records of the peregrine falcons using the Memorial Bridge for perching, there have been no further efforts to nest on Memorial Bridge by peregrine falcons, and they had no additional concerns. If a pair were to be observed attempting to nest on the Memorial Bridge prior to construction, additional coordination would take place.

The Maine Department of Inland Fisheries and Wildlife (MDIFW) responded in an email dated 3/17/2011 that there are records of occurrences of peregrine falcons upstream at the I-95 bridge, and downstream at the Portsmouth Naval Shipyard on Seavey Island, and requested that there be further coordination with MDIFW prior to construction.

Consultation letters and documentation relating to rare species are attached to this application.

Essential Fish Habitat

The NMFS was consulted regarding Essential Fish Habitat (EFH), protected under the Magnuson-Stevens Fisheries Conservation and Management Act. The NMFS initial assessment indicates that the work borders on, or may include, areas identified as EFH for the life history stages of several species managed by the New England and Mid Atlantic Fishery Management Councils and NMFS. These include:

- the eggs, larvae, juveniles, and adults of Atlantic cod, red and white hake, winter and windowpane flounder, and sea scallops;
- the juveniles and adults of Atlantic salmon, whiting and bluefish;
- the eggs and larvae of haddock;
- the larvae and adults of yellowtail flounder;
- the larvae, juveniles, and adults of Atlantic herring;
- adult American plaice; and
- the eggs, larvae, and juveniles of Atlantic mackerel.

The NMFS noted in particular that winter flounder are known to utilize sand and mud habitats within the Piscataqua River for spawning and, once present on the substrate, could be directly impacted by elevated suspended sediments and turbidity during pier removal and replacement. Winter flounder eggs are demersal (sink to the riverbed), adhesive, and stick together in clusters and, because eggs, larvae, and young-of-year are non-dispersive, spawning areas and nursery areas tend to be close together.

The NMFS also indicated that this area is known to support a number of NMFS's trust resources, such as soft-shelled clams, blue mussels, American lobster, Atlantic silverside, striped bass, alewife, blueback herring, rainbow smelt, Atlantic and shortnose sturgeon, as well as important salt marsh and eelgrass habitats. According to eelgrass survey maps provided by Dr. Fred Short of the University of New Hampshire, there are no identified eelgrass beds within the footprint or in close proximity of the Memorial Bridge.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires that a federal agency that funds, authorizes or undertakes an action that may adversely affect EFH must consult with NMFS. Because the area of the Memorial Bridge has been identified as Essential Fish Habitat for 17 federally managed species, the NMFS recommends, and FHWA concurs that:

1. To protect managed species such as winter flounder, no in-water work should be conducted between March 16 and November 14 of any year.
2. Any in-water, silt producing work conducted between March 16 and November 14 should occur within coffer dams or similar silt-containment structures, provided these structures are installed during the recommended work window.

NMFS further requests additional consultation and coordination with FHWA and NHDOT during the Design Build process as construction details are identified.

The Essential Fish Habitat Assessment prepared for this project is attached.

6. Identify, designate, and preserve unique and rare plant and animal species and geologic formations which constitute the natural heritage of the state. Encourage measures, including acquisition strategies, to ensure their protection.

The New Hampshire Natural Heritage Bureau (NHNHB) did not report any state-listed rare plant species in the project area. The Maine Natural Areas Program provided a list of plant species within a four mile radius of the project area, but none specifically within the project area. Rare animal species are discussed under 5, above.

Recreation and Public Access

7. Provide a wide range of outdoor recreational opportunities including public access in the seacoast through the maintenance and improvement of the existing public facilities and the acquisition and development of new recreational areas and public access.

The Memorial Bridge is currently the only bridge in this area that allows pedestrian and bicycle traffic. The proposed replacement bridge will include accommodations for pedestrian and bicycle traffic, and

will be an improvement over current conditions. The bridge currently has wood planking on the sidewalks, which is slippery when wet. The new surface will be a composite lumber surface which will be safer for pedestrians.

The Memorial Bridge is also adjacent to the Memorial Park, which occupies the triangular areas between Scott Avenue, Dutton Avenue, and municipal parking north of a short one-way eastbound connector road, Wright Avenue. The project will involve temporary impacts to the park during construction, however, the small size and location of this park within the midst of the U.S. Route 1 approach roadways does not promote heavy use for recreation. The park has been determined to be eligible for the National Register of Historic Places and is considered to be a historic Section 4(f) resource. Memorial Park is not considered by the City of Portsmouth to be a significant recreational resource, in the context of the city's recreational goals and objectives and given the project's setting (its proximity to nearby Prescott Park, a significant recreational resource) (see correspondence from the City of Portsmouth, attached). The memorial plaque in Memorial Park will be temporarily relocated during construction. The park will be restored to preconstruction conditions upon completion of construction. Coordination has been performed with the City of Portsmouth and cultural resource agencies regarding plans for the park, and this coordination will continue regarding plans for construction and restoration within the park and for the plaque.

The project will also involve construction in close proximity to the Harbour Place marina and will temporarily displace parking spaces along the waterfront in this area during construction. It is anticipated that several spaces along the waterfront and on the south side of Memorial Park will be affected by the construction activities. These spaces represent a very small proportion of parking in the downtown area and should not have a substantial impact on recreational access. Access to the sidewalk connecting to the marina will be maintained at all times.

A privately owned dock that extends partly under the bridge will be moved during construction.

Managing Coastal Development

8. Preserve the rural character and scenic beauty of the Great Bay estuary by limiting public investment in infrastructure within the coastal zone in order to limit development to a mixture of low and moderate density.

The Memorial Bridge is downstream of the Great Bay Estuary. The proposed replacement represents a significant public investment in existing infrastructure. The bridge has been in place since 1923, and development has been concentrated in the areas on either end of the bridge, in downtown Portsmouth and Kittery. The area in Portsmouth connected by the Memorial Bridge is appropriately zoned as Central Business. The replacement of the bridge in its existing footprint minimizes the impact to the surrounding communities.

9. Reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to preserve the natural and beneficial value of floodplains, through the implementation of the National Flood Insurance Program and applicable state laws and regulations, and local building codes and zoning ordinances.

The project will involve work within the jurisdictional floodplain of the Piscataqua River. The 100-year flood elevation at the bridge site has been established within a Special Flood Hazard Area by the Federal Emergency Management Agency (FEMA) at 9 feet, as referenced to the National Geodetic Vertical Datum (NGVD) of 1929. The 100-year flood hazard area is shown extending landward to the northern edge of the Scott Avenue bridge abutment. According to the Portsmouth Department of Public Works, an instance of coastal flooding extending above the Portsmouth seawall has not occurred in recent history.

For the Scott Avenue Bridge replacement and abutment reconstruction, the existing contours of the surrounding areas would be maintained. The project would not change the elevations of land within the 100-year floodplain and would not involve placement of fill within the 100-year floodplain, except for minor amounts of stone fill at the base of the piers. Therefore, the project would not increase the elevation of the 100-year flood and would not affect the flood storage capacity of areas within the 100-year floodplain. Emergency management officials in New Hampshire and Maine were contacted on August 18, 2005, September 29, 2005, and March 11, 2011. The New Hampshire Office of Energy and Planning (NHOEP) responded that, although it appears that the proposed project is located within the special flood hazard area (Zone AE), it does not appear that the proposed project would impact the area. Other emergency management officials contacted did not comment on the project. In addition, NHOEP indicated that if there is going to be a decrease in flood elevations after construction, then some coordination with FEMA may be necessary to change the maps. There is not expected to be either an increase or decrease in flood elevations after construction.

10. Maintain the air resources in the coastal area by ensuring that the ambient air pollution level, established by the New Hampshire State Implementation Plan pursuant to the Clean Air Act, as amended, is not exceeded.

Pursuant to requirements established under the Clean Air Act Amendments of 1990, the project area within the State of New Hampshire is located within a moderate nonattainment area for ozone. In Maine, the project area was redesignated in December 2006 by the U.S. Environmental Protection Agency as a maintenance area for ozone. The project area is in attainment with respect to the National Ambient Air Quality Standards (NAAQS) for other criteria pollutants (carbon monoxide, nitrogen dioxides, volatile organic compounds, and particulate matter (PM10)). For those areas in non-attainment, transportation projects must demonstrate conformity with the State Implementation Plan for air quality. In Maine, the project is part of the *Kittery Area Comprehensive Transportation Study (KACTS) Transportation Improvement Program (2008-2011)* (June 20, 2007). In New Hampshire, the project was considered in the *FY 2007-2010 Conformity Determinations for Transportation Improvement Programs, Transportation Plans, and Regional Emissions Analysis of Transportation Projects in New Hampshire's Non-attainment Areas* (January 10, 2007). As a bridge rehabilitation project that does not involve capacity improvements, the project was determined to be exempt from conformity requirements. Though exempt from the requirements of the U.S. Clean Air Act, the National Environmental Policy Act (NEPA) also requires consideration of the project's impact on air quality.

The proposed action is to replace the Memorial Bridge (US Route 1) over the Piscataqua River, including its components: the Memorial Bridge lift span / flanking spans, the Kittery Approach Spans, and the Scott Avenue Bridge (Portsmouth approach). Following construction, this project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that will cause an increase in emissions impacts relative to pre-construction conditions (prior to vehicle weight restrictions). As such, FHWA has determined that this project will generate minimal air quality

effects, and no impacts, for Clean Air Act criteria pollutants and has not been linked with any special Mobile Source Air Toxic (MSAT) concerns. Consequently, this project is exempt from analysis for MSATs.

Moreover, U.S. Environmental Protection Agency regulations for vehicle engines and fuels will cause overall MSATs to decline significantly over the next 20 years. FHWA predicts MSATs will decline in the range of 57 percent to 87 percent from 2000 to 2020, based on regulations now in effect, even with a projected 64 percent increase in vehicle miles traveled (VMT) nationally. This will both reduce the background level of MSATs as well as the possibility of even minor increases in MSAT emissions from this project.

In summary, the project will not involve increases in roadway capacity or substantial alterations to the existing roadway geometry. The project will not change traffic patterns or generate additional traffic that will result in changes in vehicular emissions after completion of construction. When completed, the project will not contribute to violations of the NAAQS and will not have any long-term substantial impacts on air quality.

During the construction period, complete closure of the roadway may divert traffic from the Memorial Bridge to the US Route 1 Bypass or I-95. This may result in localized reductions in vehicular emissions over the short term in the more heavily populated areas of downtown Portsmouth and Kittery along US Route 1.

11. Protect and preserve the chemical, physical, and biological integrity of coastal water resources, both surface and groundwater.

The project is located on the Piscataqua River, 4 miles upstream from the outlet into the ocean at Portsmouth Harbor and 6 miles downstream of Little Bay. The drainage area for the river encompasses 1,495 square miles and includes the Salmon Falls River (which forms part of the boundary between Maine and New Hampshire), Great Bay, Bellamy River, Cocheco River, and the Oyster River. The tidal range on the river varies from 6.4 feet upstream at Dover Point to 8.7 feet at Kittery Point north of Portsmouth Harbor. The Piscataqua River, an estuarine river, is the third fastest navigable river in the world, due in part to the presence of a large waterbody (Great Bay) upstream.

The project would involve both temporary and permanent impacts to the Piscataqua River bed for the construction of the Memorial Bridge and the replacement of the Kittery Approach Span piers. All appropriate Best Management Practices would be employed and all wetland permit conditions would be followed to minimize impacts to aquatic resources. Measures would include enclosures and containment systems on the Memorial Bridge to prevent debris from entering the Piscataqua River during construction. Erosion and sedimentation controls would be installed prior to the Scott Avenue Bridge replacement to protect the water quality of the Piscataqua River. A Soils and Materials Management Plan, to be implemented by the contractor, would be in place in the event that contaminated materials are encountered during construction, and proper disposition of any contaminated soils or groundwater would be implemented during construction.

If dewatering were required during construction, provisions would be made for either discharge to the sanitary system or discharge to surface waters, provided that the water quality of the discharge complies with applicable provisions under the NPDES General Permit for Construction Dewatering Activity Discharges or the NPDES Remediation General Permit, or other permit programs, as applicable. If

applicable standards for the water quality of the discharge could not be met through treatment, then the discharges would be directed to holding tanks and transported off-site.

12. Ensure that the siting of any proposed energy facility in the coast will consider the national interest and will not unduly interfere with the orderly development of the region and will not have an unreasonable adverse impact on aesthetics, historic sites, coastal and estuarine waters, air and water quality, the natural environment and the public health and safety.

Not applicable to this project.

Coastal Dependent Uses

13. Allow only water dependent uses and structures on state properties in Portsmouth-Little Harbor, Rye Harbor, and Hampton-Seabrook Harbor, at state port and fish pier facilities and state beaches (except those uses or structures which directly support the public recreation purpose). For new development, allow only water dependent uses and structures over waters and wetlands of the state. Allow repair of existing over-water structures within guidelines. Encourage the siting of water dependent uses adjacent to public waters.

The proposed bridge replacement is a water-dependent use, and its construction will follow all permit conditions.

14. Preserve and protect coastal and tidal waters and fish and wildlife resources from adverse effects of dredging and dredge disposal, while ensuring the availability of navigable waters to coastal-dependent uses. Encourage beach renourishment and wildlife habitat restoration as a means of dredge disposal whenever compatible.

The project will involve excavation to remove Pier I and Pier 4. In addition, the piers that support the Kittery Approach Spans, in Maine, will also be removed. Although the means and methods of construction have not yet been determined, the Kittery Approach Span piers will likely be removed at their base, and the footings will not be removed. All dredged material will be appropriately disposed of off-site. The suitability of the material for beach renourishment or wildlife habitat restoration is not known, and only a relatively small amount of material would be removed.

The NMFS has requested that all in water work occur between November 15 – March 15, in order to limit the impact to fisheries resources. Work outside of this window would occur within cofferdams.

Preservation of Historic and Cultural Resources

15. Support the preservation, management, and interpretation of historic and culturally significant structures, sites and districts along the Atlantic coast and in the Great Bay area.

The Memorial Bridge was completed in 1923 and is one of the oldest operational moveable bridges in the U.S. The bridge was determined eligible for the National Register of Historic Places in 1988, as was the Memorial Bridge Historic Bridge District. This district was determined to include the Memorial Bridge itself (lift span and flanking spans), the Scott Avenue Bridge, and Memorial Park in Portsmouth

and the Maine approach span (Kittery Approach Spans) to Memorial Bridge. The district also includes elements that are outside of the project area: the road connecting the Maine approach spans to the Badger's Island Bridge, the Badger Island Bridge, and John Paul Jones Memorial Park in Kittery.

Because of the historic significance of the bridge, a Determination of Effects Memorandum was prepared that details the effects under Section 106 of the National Historic Preservation Act, as was a Section 4(f) Evaluation, detailing the impact to resources protected under Section 4(f) of the U.S. Department of Transportation Act of 1966.

A Memorandum of Agreement (MOA) among the New Hampshire State Historic Preservation Officer, the Maine Historic Preservation Officer, the New Hampshire Department of Transportation, the Maine Department of Transportation, and the Federal Highway Administration was prepared that detailed design stipulations and mitigation to be performed to compensate for the loss of the original structure. The MOA was submitted to the Advisory Council on Historic Preservation pursuant to 36 CFR Part 800.6(a), and is attached to this document.

Marine and Estuarine Research and Education

16. Promote and support marine and estuarine research and education that will directly benefit coastal resource management.

Not applicable to this project.



Photo 1: Pier 1 view facing northeast, high tide



Photo 2. Pier 1, low tide



Photo 3: Pier 1, east side of bridge. Low tide.



Photo 4: Shoreline next to Pier 1, west side



Photo 5: Pier 2 from Portsmouth shoreline – high tide



Photo 6: Pier 2, low tide, wooden fenders visible



Photo 7: River substrate next to Pier 1



Photo 8: West side tidal buffer, view south from bridge



Photo 9: Tidal buffer (Scott Avenue Bridge approach)



Photo 10: Tidal buffer on west side – Daniels Street, view northeast



Photo 11: Tidal buffer on east side, view north



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

MAR 14 2011

Mr. Jamison S. Sikora
NH Division Environmental Programs Manager
Federal Highway Administration
19 Chenell Drive, Suite One
Concord, NH 03301

**Re: Portsmouth Memorial Bridge (Route 1) Replacement, Federal No. A000(911),
State No. 13678F**

Dear Mr. Sikora:

This letter is in response to your request for an expedited Essential Fish Habitat (EFH) consultation with NOAA's National Marine Fisheries Service (NMFS) for the Memorial Bridge replacement project over the Piscataqua River. According to the correspondence you have provided, the New Hampshire Department of Transportation (NHDOT) has been awarded a Federal TIGER II grant for a design-build process for complete bridge replacement. Because of the requirements to obligate these funds within a short time frame, the Federal Highway Administration (FHWA) requests an expedited review of the proposed project by Thursday, March 17, 2011.

An EFH consultation was completed in 2007 for the rehabilitation of the Memorial Bridge. However, at that time the project was limited to portions of the bridge above the water and no in-water work was proposed. Since that time the bridge structure has deteriorated to the point where it can no longer viably be rehabilitated and a complete replacement is now proposed. The proposed activities include repair of the piers supporting the Memorial Bridge, removal of the piers supporting the Kittery Approach Spans, and the construction of new piers to support new Kittery Approach Spans. According to your correspondence, the proposed work now involves work within the intertidal and subtidal zones. However, because this project will follow a design-build process, specific information associated with the impacts from the pier replacement is not known at this time.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act (FWCA) require federal agencies to consult with one another on projects such as this. Insofar as a project involves EFH, as this project does, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure. An EFH Assessment should include at a minimum the following information: 1) a description of the proposed action; 2) an



analysis of reasonably foreseeable impacts including secondary and cumulative effects on EFH, federally-managed species and major prey species; 3) the action agencies views regarding the effects on EFH; and 4) proposed mitigation, as appropriate. Other information that should be contained in the EFH assessment, as appropriate, includes: the results of on-site inspections to evaluate the habitat and site-specific effects; the views of recognized experts on the habitat or the species that may be affected; a review of pertinent literature and related information; and an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH. The NMFS has received the EFH worksheet prepared by the NHDOT for the proposed project. However, because this project will follow a design-build process, details of the in-water work are unknown at this time and were not provided in the assessment.

The proposed work site includes areas identified as EFH for the life history stages of several species managed by the New England and Mid Atlantic Fishery Management Councils and NMFS. These include the eggs, larvae, juveniles, and adults of Atlantic cod, pollock, red and white hake, winter and windowpane flounder, and Atlantic sea scallop; the juveniles and adults of Atlantic salmon, whiting and bluefish; the eggs and larvae of haddock; the larvae and adults of yellowtail flounder; the larvae, juveniles, and adults of Atlantic herring; adult American plaice; and the eggs, larvae, and juveniles of Atlantic mackerel. In particular, winter flounder are known to utilize sand and mud habitats within the Piscataqua River for spawning and, once present on the substrate, could be directly impacted by elevated suspended sediments and turbidity during pier removal and replacement (Berry et al. 2004; Johnson et al. 2008). Winter flounder eggs are demersal, adhesive, and stick together in clusters (Pereira et al. 1999) and, because eggs, larvae, and young-of-year are non-dispersive, spawning areas and nursery areas tend to be close together (Percy 1962; Crawford and Carey 1985). In addition, this area is known to support a number of NOAA trust resources such as soft-shelled clams, blue mussels, American lobster, Atlantic silverside, striped bass, alewife, blueback herring, rainbow smelt, Atlantic and shortnose sturgeon, as well as important salt marsh and eelgrass habitats. According to eelgrass survey maps provided by Dr. Fred Short of the University of New Hampshire, there are no identified eelgrass beds within the footprint or in close proximity of the Memorial Bridge.

Essential Fish Habitat

Section 305(b)(2) of the MSA requires all federal agencies to consult with NMFS on any action authorized, funded, or undertaken by that agency that may adversely affect EFH. The area of the Memorial Bridge on the Piscataqua River has been identified as EFH under the MSA for 17 federally-managed species. NMFS recommends pursuant to Section 305(b)(4)(A) of the MSA that the FHWA adopt the following EFH conservation recommendations:

1. To protect managed species such as winter flounder, no in-water work should be conducted between March 16 and November 14 of any year.

2. Any in-water, silt producing work conducted between March 16 and November 14 should occur within coffer dams or similar silt-containment structures, provided these structures are installed during the recommended work window.

Please note that Section 305(b)(4)(B) of the MSA requires the FHWA to provide NMFS with a detailed written response to these EFH conservation recommendations, including a description of measures adopted by the FHWA for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with NMFS' recommendations, Section 305(b)(4)(B) of the MSA also indicates that the FHWA must explain its reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with NMFS over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects pursuant to 50 CFR 600.920(k).

Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920(l) if new information becomes available or the project is revised in such a manner that affects the basis for the above EFH conservation recommendations. In this regard, we understand that because the proposed project will follow a design-build process, the details of the in-water work (e.g., the number and locations of the proposed replacement piers, construction methods such as the use of blasting to install replacement piers) are unknown at this time and were not provided in the assessment. Therefore, NMFS requests that coordination with FHWA and NHDOT continue during the design phase and as construction details are identified. At that time, should details of the project's scope and construction methods result in new or increased impacts to NOAA trust resources beyond those identified in the EFH worksheet provided by NHDOT, reinitiation of the EFH consultation and modification to our EFH conservation recommendations may be necessary.

Fish and Wildlife Coordination Act

As discussed above, the Piscataqua River supports a number NOAA trust resources, such as soft-shelled clams, blue mussels, American lobster, Atlantic silverside, striped bass, alewife, blueback herring, American eel, rainbow smelt, Atlantic and shortnose sturgeon, and salt marsh and eelgrass habitats. To protect spawning migrations of anadromous alewife and blueback herring, no in-water work should be conducted between March 16 and November 14 of any year. Any in-water, silt producing work conducted between March 16 and November 14 should occur within coffer dams or similar silt-containment structures, provided these structures are installed within the recommended work window. Recommendations for the protection of shortnose sturgeon and Atlantic sturgeon will be provided separately under Section 7 of the Endangered Species Act (ESA).

Conclusions

In summary, NMFS recommends that no in-water work should be conducted between March 16 and November 14 of any year. Any in-water, silt producing work conducted between March 16 and November 14 should occur within coffer dams or similar silt-containment structures. In addition, NMFS requests that coordination with FHWA and

NHDOT continue during the design phase and as construction details are identified. We look forward to your response to our EFH conservation recommendations as well as our other recommendations on this project. Related correspondence on EFH and FWCA should be addressed to the attention of Michael Johnson at the letterhead address above, or by phone at (978) 281-9130. We note that discussions regarding consultation under Section 7 of the ESA are ongoing between our agencies. Information regarding listed species will be provided for the NEPA process and Section 7 consultation must be completed prior to the final agency action. More information concerning species listed under the ESA and section 7 consultations can be directed to David Bean at (978) 281-8483.

Sincerely,



Peter D. Colosi, Jr.
Assistant Regional Administrator
for Habitat Conservation Division

cc:
NERO: Pat Kurkul
NERO: Dan Morris
PRD: Mary Colligan/David Bean
ACOE: Richard Roach
EPA: Mark Kern
USFWS: Clayton Hawkes/Maria Tur
NHDES: Dori Wiggins
NHF&G: Cheri Patterson
NHDOT: Kevin Nyhan

References

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U.S. Department
of Transportation
**Federal Highway
Administration**

New Hampshire Division

19 Chenell Drive, Suite One
Concord, NH 03301

March 16, 2011

In Reply Refer To:
HEC-NH

Mr. Peter D. Colosi, Jr.
Assistant Regional Administrator for Habitat Conservation Division
National Oceanic and Atmospheric Administration
National Marine Fisheries Service – Northeast Region
55 Great Republic Drive
Gloucester, MA 01930-2276

Attn: Mr. Michael R. Johnson

Subject: Portsmouth, NH – Kittery, ME, Memorial Bridge Project, X-A000 (911), 13678F

Dear Mr. Colosi;

This letter is in response to your March 14, 2011 letter regarding conservation recommendations relative to Essential Fish Habitat (EFH) associated with the subject project, pursuant to Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Please find below a detailed written response to the EFH conservation recommendations in your March 14, 2011 letter:

1. To protect managed species such as winter flounder, no in-water work should be conducted between March 16 and November 14 of any year.

The design-build contract for this project will include a prohibition of in-water work between March 16 and November 14 of any year. If during the design phase of the project it becomes necessary for in-stream work to be conducted during the exclusion timeframe, consultation will recommence to determine appropriate actions and mitigation, if necessary.

2. Any in-water, silt producing work conducted between March 16 and November 14 should occur within coffer dams or similar silt-containment structures, provided these structures are installed during the recommended work window.

The design-build contract for this project will include the requirement that work within the Piscataqua River be conducted within cofferdams or other silt containment structures. These containment structures will be installed during the recommended work window.



[Recipient Name]

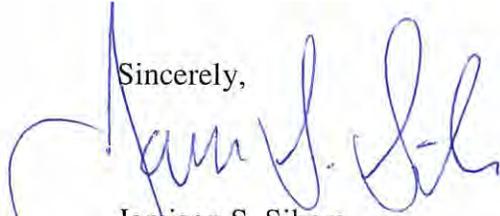
March 15, 2011

Page 2

If new information becomes available or the project is revised in such a manner that affects the basis for the above EFH conservation recommendations, a distinct and further EFH consultation will be reinitiated pursuant to 50 CFR 600.920(l).

Coordination among the National Marine Fisheries Service, FHWA and NHDOT will continue during the design phase and as construction details are identified. Should you have any questions or require additional information please contact me at Jamie.Sikora@dot.gov or (603) 228-3057 X 107.

Sincerely,



Jamison S. Sikora
Environmental Programs Manager

Cc: Kevin Nyhan, NHDOT Environment (electronic copy)
Mark Hasselmann, FHWA ME Division (electronic copy)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

MAR 15 2011

Vicki Chase
McFarland-Johnson, Inc.
53 Regional Drive
Concord, New Hampshire 03301

Re: Memorial Bridge - Route 1 Portsmouth, New Hampshire and Kittery, Maine

Dear Ms. Chase,

This is in response to your letter dated March 11, 2011, requesting information on the presence of any threatened and/or endangered species listed under the jurisdiction of NOAA's National Marine Fisheries Service (NMFS) within the vicinity of the Route 1 Memorial Bridge located in Portsmouth, New Hampshire and Kittery, Maine. The New Hampshire Department of Transportation, in cooperation with the Federal Highway Administration (FHWA) and the Maine Department of Transportation, is proposing to reconstruct the Memorial Bridge, which carries US Route 1 over the Piscataqua River.

Species Listed Under the Endangered Species Act (ESA)

The Protected Resources Division has the responsibility of overseeing programs for species under NMFS jurisdiction that are listed as threatened or endangered. Several species of listed marine mammals and sea turtles are known to be seasonally present off the coast of the New Hampshire and Maine; however, these species are not known to occur in the project area.

Federally endangered shortnose sturgeon (*Acipenser brevirostrum*) occur along the U.S. Atlantic coast. Several large river systems in the vicinity of the Piscataqua River support shortnose sturgeon populations (e.g., Merrimack, Kennebec and Androscoggin Rivers). It is thought that historically shortnose sturgeon were once abundant in the Piscataqua River, though there are few records of sturgeon captures, none of which distinguish between Atlantic and shortnose sturgeon. There was one reported capture of a shortnose sturgeon in the Piscataqua River in 1971 (Dadswell et al. 1984). During 1988 and 1989 the New Hampshire Fish and Game Department surveyed suspected shortnose spawning and feeding areas, though no sturgeon were encountered. Most recently in 2007, a sturgeon was found dead on the Kittery, Maine side of the river, although it was not determined whether this individual was an Atlantic or shortnose (C. Patterson, pers. comm. 2008, cited in Draft Shortnose Sturgeon Status Review Report). With few records and no current directed studies underway in this river, it is unclear whether a shortnose sturgeon population currently exists in the Piscataqua River. However, current telemetry data does indicate that there is a potential for migrating individuals to be present.



It is clear from recent telemetry data that shortnose sturgeon tagged in the Merrimack, Kennebec, and Penobscot rivers undertake significant coastal migrations. Telemetry data also indicates that shortnose sturgeon utilize smaller coastal river systems during these migrations. For example, a fish tagged in the Merrimack River was recently documented in the Saco River and individuals tagged in the Kennebec River have been detected in the Merrimack River and vice versa. Further, fish moving between the Penobscot and Kennebec rivers have been documented utilizing a number of small coastal rivers in between these two larger systems i.e., Dammariscotta, St. George, Medomak, and Passagasawakeag. There is no information on telemetry tagged shortnose sturgeon within the Piscataqua River given that there are no receivers in the River. However, migrating shortnose sturgeon may potentially be utilizing the Piscataqua River during interbasin movements. As such, it is reasonable to expect listed shortnose sturgeon to be present in the lower portion of the Piscataqua River where the proposed action is anticipated to occur based on; (1) telemetry information which demonstrates interbasin movements of the species and utilization of smaller coastal river systems during migration; (2) the proximity of the Piscataqua River to other river systems where shortnose sturgeon are known to occur, and; (3) historical information on sturgeon presence in the Piscataqua.

As ESA-listed shortnose sturgeon are likely to be present in the action area of this project, a consultation pursuant to section 7 of the ESA, may be necessary. In addition, under the provisions of 50 CFR §402.10, federal agencies shall confer with NMFS on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. The lead Federal agency for the proposed action, or the designated non-Federal representative, is responsible for determining whether the proposed action is likely to affect listed species or species proposed for listing. The lead Federal agency should submit their determination of effects, along with justification for the determination and a request for concurrence, to the attention of the Section 7 Coordinator, NMFS, Northeast Regional Office, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930. After reviewing this information, NMFS would then be able to conduct a consultation under section 7 of the ESA. As more information becomes available in regard to construction activities and proposed project timelines and milestones are further developed, the FHWA should contact NMFS to discuss whether a section 7 consultation is needed and if so, what information needs to be provided to NMFS.

Technical Assistance for Candidate Species

On October 6, 2010, NMFS proposed to list four distinct population segments (DPS) of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered and one DPS, the Gulf of Maine (GOM) DPS, as threatened (75 FR 61872; 75 FR 61890). The GOM DPS of Atlantic sturgeon includes all anadromous Atlantic sturgeon whose range occurs in watersheds from the Maine/Canadian border and extending southward to include all associated watersheds draining into the Gulf of Maine as far south as Chatham, MA. Within this range, Atlantic sturgeon have been documented in the Penobscot, Kennebec, Androscoggin, Sheepscot, Saco, Piscataqua, and Merrimack rivers. The marine range, including coastal bays and estuaries, of all Atlantic sturgeon extends from the Bay of Fundy, Canada to the Saint Johns River, FL. Therefore, the proposed action by the applicant falls within the geographic range of each of the five DPSs of Atlantic sturgeon that are proposed to be listed as threatened or endangered.

Should you have any questions regarding the section 7 consultation process or the species discussed in this letter, please contact David Bean at our Maine Field Station at (207)866-4172.

Sincerely,

A handwritten signature in black ink, appearing to read "Mary A. Colligan". The signature is fluid and cursive, with a long, sweeping tail that extends to the right.

Mary. A. Colligan
Assistant Regional Administrator
National Marine Fisheries Service
Northeast Regional Office



U.S. Department
of Transportation
**Federal Highway
Administration**

New Hampshire Division

19 Chenell Drive, Suite One
Concord, NH 03301

March 15, 2011

In Reply Refer To:
HEC-NH

Mary A. Colligan
Assistant Regional Administrator, Protected Resources
National Marine Fisheries Service
Northeast Regional Office
55 Great Republic Drive
Gloucester, Massachusetts 01930-2298

Attn: David Bean

RE: Memorial Bridge Replacement Project over Piscataqua River between Kittery, ME and Portsmouth, NH (Portsmouth, NH – Kittery, ME, A000(911), 13678F)

Dear Ms. Colligan:

The Federal Highway Administration is seeking informal consultation under Section 7 of the Endangered Species Act regarding the referenced project based upon the species list provided by your letter of March 15, 2011. Attached is a Biological Assessment for the project regarding potential effects on the shortnose sturgeon (*Acipenser brevirostrum*) and Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). No other federally listed species are known to occur in the action area. Based upon the best available scientific and commercial information, FHWA has determined the project as proposed may affect, is likely to not adversely affect, the endangered shortnose sturgeon or the candidate species Atlantic sturgeon. The FHWA requests your concurrence of our determination.

The NH Department of Transportation (NHDOT) and ME Department of Transportation (Maine DOT) are seeking a TIGER II grant in the amount of \$20M for the replacement of the Memorial Bridge (Encl.).

This letter follows our conference call with the National Marine Fisheries Service (NMFS) on Monday, March 14, 2011. At that time, it was generally understood the time constraints on the project and that through the design-build process (outlined in the enclosures), opportunities exist for continued consultation as the project proceeds. The NMFS is familiar with the project area due to the prior Memorial Bridge Rehabilitation project, which was ultimately found to not be a viable alternative following additional structural inspections and environmental studies. The rehabilitation project did not involve in-stream work. However, this bridge replacement project involves work within the water of the Piscataqua River associated with construction of the bridge piers.



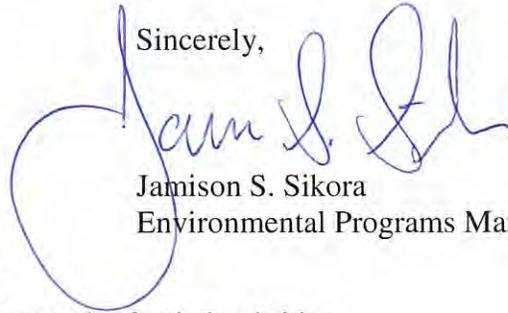
[Recipient Name]

March 16, 2011

Page 2

If you need further information or have any questions please contact me at 603-228-3057 ext 107 or Jamie.Sikora@dot.gov.

Sincerely,



Jamison S. Sikora
Environmental Programs Manager

Enclosures: Biological Assessment
Location maps and photograph of existing bridge
25% design plan sheet
eelgrass habitat

Cc: Kevin Nyhan, NHDOT Environment (electronic copy)
Charlie Hood, NHDOT (electronic copy)
Mark Hasselmann, FHWA ME Division (electronic copy)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

MAR 17 2011

Jamison Sikora
Environmental Program Manager
New Hampshire Division
Federal Highway Administration
19 Chenell Drive Suite 1
Concord, New Hampshire 03301

Re: Memorial Bridge - Route 1 Portsmouth, New Hampshire and Kittery, Maine

Dear Mr. Sikora,

This is in response to your letter dated March 16, 2011, requesting consultation pursuant to Section 7 of the ESA of 1973, as amended, with NOAA's National Marine Fisheries Service (NMFS) for the proposed Memorial Bridge replacement project over the Piscataqua River. According to the correspondence you have provided, the Federal Highway Administration (FHWA) is providing funds for this project to the New Hampshire Department of Transportation (NHDOT) through a Federal TIGER II grant for a design-build process for complete bridge replacement. Because of the requirements to obligate these funds within a short time frame, the FHWA requests an expedited review of the proposed project by Friday, March 18, 2011.

NHDOT, in cooperation with the FHWA and the Maine Department of Transportation (MDOT), is proposing to reconstruct the Memorial Bridge, which carries US Route 1 over the Piscataqua River. US Route 1 is a principal urban arterial, connecting Portsmouth's business district in New Hampshire with Badger's Island in the Town of Kittery, Maine. FHWA has made the preliminary determination that the proposed action may affect, but is not likely to adversely affect, any species listed under the jurisdiction of NMFS and has requested that NMFS concur with this determination.

Proposed Action

The project, as described, will replace the Memorial Bridge (US Route 1) over the Piscataqua River. This project includes replacement of multiple components; the Memorial Bridge lift span/flanking spans, the Kittery Approach Spans, and the Scott Avenue Bridge (Portsmouth approach) on the existing alignment. The area of in-water work is relatively small and limited to new footings, piers and fendering system, and should not substantially change water flow in the river. The work site will be accessed via a work barge. Appropriate construction techniques, and mitigation measures will be implemented to minimize potential impacts during construction.



Design and construction of this project will follow a design-build process. Design-Build (DB) is a method of project delivery in which the design and construction phases of a project are combined into one contract. The existing Memorial Bridge has three 300-ft spans that will be replaced with three 300-ft spans. The two existing concrete piers in the middle of the Piscataqua River will remain, with repairs made to their concrete surfaces and the potential replacement of the fendering system. While the replacement design will be determined during the DB process, the replacement bridge will be a three span bridge with a moveable center span that would accommodate at least as much horizontal and vertical clearances as the existing lift span. The roadway width will be increased from the existing 28 feet to 32 feet to accommodate one 11-foot travel lane and a 5-foot shoulder/bike lane in each direction. The roadway will have a solid surface and sidewalks will be provided on both sides of the bridge. The horizontal and vertical clearance for each of the three spans will not substantially change. The existing north pier that is shared with the Kittery Approach Spans will be replaced. These two piers would be completely removed and the new piers will likely be located in the same location; however, they would be wider to accommodate the wider Memorial Bridge.

Kittery Approach Spans

The proposed project includes the complete replacement of the Kittery Approach Spans, the northern approach component of the Memorial Bridge. While the replacement structure type will be determined during the DB process, the replacement bridge will likely be a multi-span structure, but with fewer than the existing ten piers because of design and maintenance considerations. The existing piers will be removed to several feet below the river substrate or to bedrock. The existing north pier of the Memorial Bridge is shared with the Kittery Approach Spans and will be replaced as discussed above. The north abutment will also be replaced near its existing location and will be 4 feet wider to accommodate a wider bridge. The roadway width will be increased from the existing 28 feet to 32 feet to accommodate one 11-foot travel lane and 5-foot shoulder/bike lane in each direction. Solid surface sidewalks will be provided on both sides of the bridge and will be 6 feet in width.

For the in-water work in the Piscataqua River, prior to any work on the bridge structure, cofferdams will be placed around the area where the work will be conducted (Kittery Approach Spans to the north and around the immediate flanking span piers being replaced) so that work could be completed in the dry. Cofferdams would likely consist of driven sheet piles anchored into bedrock. According to the Biological Assessment (BA) completed by the FHWA, all cofferdams will be constructed, installed and removed during the period of November 15th to March 15th in any year. Once cofferdams are installed, work would be performed in the dry with the discharge of sediment laden water to upland areas. This measure will significantly reduce the amount of sedimentation to the Piscataqua River.

Footings for new bridge piers supporting the bridge will be constructed of concrete. There would likely also be drilling for bridge pile shafts to be seated in bedrock or ledge. There will be the need to control and dispose of the sediments that are excavated from the shaft. The material will be removed to an appropriate upland disposal site.

Removal of the existing concrete piers and footings would be limited to cutting them below the mud line, as identified in the BA. As such, there will be no blasting required for this project. All material from the bridge demolition will be removed from the site.

The demolition of the existing truss spans of the bridge facility will be conducted by floating out the truss spans on barges to a suitable dry land location for dismantling. The Kittery Approach Spans will be removed by mechanical methods to prevent construction debris from entering the Piscataqua River.

NMFS ESA Listed Species in the Action Area

The action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50CFR§402.02). For this project, the action area includes the footprint of the existing bridge as well as the area encompassed by the cofferdams and the underwater area where effects of sheet pile installation for the cofferdams (i.e., increase in suspended sediment and noise) will be experienced. This area is expected to encompass all of the effects of the proposed construction project.

The federally endangered shortnose sturgeon (*Acipenser brevirostrum*) is believed to be present in the Piscataqua River. Shortnose sturgeon occur along the U.S. Atlantic coast with several large river systems in the vicinity of the Piscataqua River supporting reproducing shortnose sturgeon populations (e.g., Merrimack, Kennebec and Androscoggin Rivers). Historically, it is thought that shortnose sturgeon were once abundant in the Piscataqua River, though there are few records of sturgeon captures, none of which distinguish between Atlantic and shortnose sturgeon. There was one reported capture of a shortnose sturgeon in the Piscataqua River in 1971 (Dadswell et al. 1984). During 1988 and 1989, the New Hampshire Fish and Game Department surveyed suspected shortnose spawning and feeding areas, though no sturgeon were encountered. Most recently in 2007, a sturgeon was found dead on the Kittery, Maine side of the river, although it was not determined whether this individual was an Atlantic or shortnose (C. Patterson, pers. comm. 2008, cited in Draft Shortnose Sturgeon Status Review Report). With few records and no current directed studies underway in this river, it is unclear whether a shortnose sturgeon population currently exists in the Piscataqua River. However, as discussed below, current telemetry data does indicate that there is a potential for migrating individuals to be present.

It is clear from recent telemetry data that shortnose sturgeon tagged in the Merrimack, Kennebec, and Penobscot rivers undertake significant coastal migrations. Telemetry data also indicate that shortnose sturgeon utilize smaller coastal river systems during these migrations. For example, a fish tagged in the Merrimack River was recently documented in the Saco River, and individuals tagged in the Kennebec River have been detected in the Merrimack River and vice versa. Further, fish moving between the Penobscot and Kennebec rivers have been documented utilizing a number of smaller coastal rivers in between these two larger systems i.e., Damariscotta, St. George, Medomak, and Passagassawakeag. There is no information on telemetry tagged shortnose sturgeon within the Piscataqua River given that there are no receivers in the River. However, migrating shortnose sturgeon may potentially be utilizing the Piscataqua River during interbasin movements. As such, it is reasonable to expect listed shortnose sturgeon to be present in the lower portion of the Piscataqua River where the proposed action will occur

based on; (1) telemetry information which demonstrates interbasin movements of the species and utilization of smaller coastal river systems during migration; (2) the proximity of the Piscataqua River to other river systems where shortnose sturgeon are known to occur, and; (3) historical information on sturgeon presence in the Piscataqua. Based on the best available information, shortnose sturgeon are only likely to be present in the action area between mid April and mid October of any year.

Effects of the Action

As noted above, the proposed project involves the re-construction of a bridge over the Piscataqua River. In-water work will be limited to structural repairs to existing bridge piers and placement of new piers in close proximity to the existing piers. Work will be accomplished within sheet-pile cofferdams and from barges temporarily sited within the river. An in-water work window will prohibit the installation and removal of cofferdams between March 16 and November 14 of any year. Temporary effects from the project will likely be associated with water quality impacts and noise; however, BMPs will minimize the extent and duration of these impacts such that they are expected to be insignificant. No permanent impacts to water quality are expected as a result of the proposed project.

As noted above, shortnose sturgeon are only likely to occur in the action area between mid-April and mid-October; as such, shortnose sturgeon are not expected to be present in the action area when cofferdams are installed and removed (November 15-March 15 only). As no shortnose sturgeon are likely to be in the action area, no shortnose sturgeon will be exposed to increased levels of underwater noise resulting from the installation or removal of the steel sheet piles that will compose the cofferdam. Additionally, as any temporary increases in turbidity resulting from the installation or removal of cofferdams will be limited to the immediate area surrounding the sheet piles. Installing and removing sheet piles are expected to produce some sedimentation in the Piscataqua River. However, due to the large discharge of water in the river, NMFS anticipates that TSS levels will remain well below 50 mg/l. While there have been no directed studies on the effects of TSS on shortnose sturgeon, shortnose sturgeon juveniles and adults are often documented in turbid water and Dadswell (1984) reports that shortnose sturgeon are more active under lowered light conditions, such as those in turbid waters. As such, shortnose sturgeon are assumed to be at least as tolerant to suspended sediment as other estuarine fish. Additionally, shortnose sturgeon are not expected to be in the immediate vicinity due to the time of year restriction on conducting any in water work. Therefore, there would not be any disruption of essential behaviors such as migrating or foraging. As a result, any effects of increased suspended sediment or turbidity on shortnose sturgeon will be insignificant. As such, the effects of cofferdam installation and removal on shortnose sturgeon are discountable.

During the time of year when shortnose sturgeon could be migrating through the action area, work will be ongoing from barges and within the cofferdams. However, as only an extremely small percentage of the river will be enclosed within cofferdams, there will be sufficient zone of passage for any shortnose sturgeon in the action area and any effect to migratory movements of shortnose sturgeon will be insignificant. Further, while the cofferdams will preclude the use of the enclosed area by foraging shortnose sturgeon, the extremely small area affected combined with the location within a migratory corridor where only opportunistic foraging is likely to occur,

makes any effects to the availability of prey for shortnose sturgeon insignificant. The presence of barges and work occurring on these barges will not affect shortnose sturgeon as it is not expected to cause any changes in their behavior or otherwise affect any individuals. As all of the other work on the bridge (i.e., replacement and/or repair of decking) will occur above the water line where shortnose sturgeon do not occur, there will be no effect to this species from this work.

Conclusions

Based on the determination that all effects, if adverse, will be insignificant or discountable, NMFS concurs with the FHWA's determination that the proposed project is not likely to adversely affect listed shortnose sturgeon. Additional details will be provided during the design-build process. As more information becomes available in regard to construction activities and proposed project timelines are further developed, the FHWA should contact NMFS to discuss anticipated project impacts and determine whether further consultation would be needed. Reinitiation of consultation is required and shall be requested by the Federal agency or by the NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the consultation; or, (c) if a new species is listed or critical habitat designated that may be affected by the identified action.

Technical Assistance for the Proposed GOM DPS of Atlantic sturgeon

On October 6, 2010, NMFS proposed to list four distinct population segments (DPS) of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered and one DPS, the Gulf of Maine (GOM) DPS, as threatened (75 FR 61872; 75 FR 61890). The GOM DPS of Atlantic sturgeon includes the following: all anadromous Atlantic sturgeon whose range occurs in watersheds from the Maine/Canadian border and extending southward to include all associated watersheds draining into the Gulf of Maine as far south as Chatham, MA, as well as wherever these fish occur in coastal bays and estuaries and the marine environment. Within this range, Atlantic sturgeon have been documented in the following rivers: Penobscot, Kennebec, Androscoggin, Sheepscot, Saco, Piscataqua, and Merrimack. The marine range of Atlantic sturgeon from the GOM DPS extends from the Bay of Fundy, Canada to the Saint Johns River, FL. The GOM DPS also includes Atlantic sturgeon held in captivity (e.g., hatcheries, scientific institutions) and which are identified as fish belonging to the GOM DPS based on genetics analyses, previously applied tags, previously applied marks, or documentation to verify that the fish originated from (hatched in) a river within the range of the GOM DPS, or is the progeny of any fish that that originated from a river within the range of the GOM DPS. The proposed action by the applicant falls within the geographic range of the GOM DPS of Atlantic sturgeon.

Under the provisions of 50 CFR §402.10, Federal agencies shall confer with NMFS on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. Similar to the discussion of effects to shortnose sturgeon above, if present in the action area, Atlantic sturgeon would be exposed to effects of the proposed project. However, the time of year restriction for in-water work makes interactions with any Atlantic sturgeon unlikely as this species is unlikely to occur in the action area during the November 15-March 15 period. Also, as any effects to the benthic

environment will be minor and temporary and there is not likely to be any change in species composition or substrate type in the action area, effects to Atlantic sturgeon resulting from effects of pier placement are also unlikely. Based on the best available information, effects to Atlantic sturgeon from the proposed action are unlikely. As such, a conference is not needed at this time for Atlantic sturgeon. Should project plans change, NMFS recommends that the FHWA discuss the potential need for conference with NMFS.

Should you have any questions about this correspondence please contact David Bean at our Maine Field Station at (207) 866-4172 or by e-mail (David.Bean@noaa.gov)

Sincerely,



Patricia A. Kurkul
Regional Administrator

EC: Murphy, Crocker, Bean – F/NER3

CC: Johnson – F/NER4

Hawkes – USFWS

File Code: Sec. 7 FHWA – NH/Maine Piscataqua River Memorial Bridge
PCTS: I/NER/2011/00923



United States Department of the Interior



FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>

January 3, 2011

To Whom It May Concern:

This project was reviewed for the presence of federally-listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

Based on the information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Anthony Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Maine Field Office
1168 Main Street
Old Town, ME 04468-2023
(207) 827-5938

HNTB
BOSTON
SEP 19 2005
RECEIVED

September 9, 2005

Addie Kim
HNTB Corporation
75 State St.
Boston, MA 02109

Dear Ms. Kim:

Thank you for your letter requesting information or recommendations from the U.S. Fish and Wildlife Service. This form provides the Service's response pursuant to Section 7 of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1543), and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667d).

Project Name/Location/County: NHDOT Portsmouth Memorial Bridge Rehabilitation

Date of Receipt of Incoming Letter: August 22, 2005 **Log Number:** 05-391

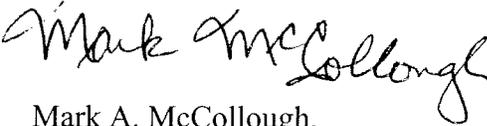
Based on the information currently available to us, no federally-listed species under the jurisdiction of the Service are known to occur in the project area, with the exception of occasional, transient bald eagles (*Haliaeetus leucocephalus*). Accordingly, no further action is required under Section 7 of the ESA, unless: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

The peregrine falcon, a Federal species of concern (which was formerly designated as a threatened species) nests at the nearby Portsmouth Naval Shipyard and has been observed using the bridge as a hunting perch. At this time, the peregrine falcon is afforded no protection under the Federal ESA. However, we strongly encourage you to consider this species in your project planning. The peregrine falcon is listed as endangered by Maine Inland Fisheries and Wildlife, and as such, is protected from taking. We encourage you to contact MDIFW's Regional Office (Scott Lindsay, Maine Inland Fisheries and Wildlife, RR 1, 358 Shaker Road, Gray, ME 04039 Phone: 207 657-2345) for more information.

A list of federally-listed species in Maine is enclosed for your information. Please contact the Maine Department of Inland Fisheries and Wildlife and Maine Natural Areas Program for an up to date account of state-listed species in the project area.

If you have any questions, please call me at (207) 827-5938.

Sincerely,

A handwritten signature in black ink that reads "Mark A. McCollough". The signature is written in a cursive style with a large, stylized "M" and "C".

Mark A. McCollough,
Endangered Species Biologist

Enclosure



Lee E. Perry
Executive Director

New Hampshire Fish and Game Department

Region 3

225 Main Street, Durham, NH 03824-4732
(603) 868-1095
Headquarters: 11 Hazen Drive, Concord, NH 03301
(603) 271-3421

FAX (603) 868-3305
TDD Access: Relay NH 1-800-735-2964
Web site: www.wildlife.state.nh.us

August 25, 2005

Ms. Addie Kim
HNTB Corp
75 State St.
Boston, MA 02109

Dear Ms. Kim,

Thank you for contacting us on this project. Certainly there is a lengthy list of species that are both resident and transient within the project area described in your August 18th communication. Since the Piscataqua River serves as the sole seaward conduit of transport to the complete Great Bay System we are of course very interested in the project. Resident populations in the project area would generally be those such as sessile invertebrates as the river currents there are quite high energy. Finfish residents are few and primarily of a seasonal nature (i.e. Cottids, Pholids, Labrids). More detailed lists of what may be present there as residents are available from numerous study reports that are in our library here in Durham.

Of greater concern to us than resident species in the project area are the many commercially and recreational species that pass through the river as adults, juveniles, and larval stages this list is lengthy and contains many that are of special concern to our agency. A review of some of the above mentioned study reports would be useful to you.

I see this contact as a first step towards developing for both of us a better understanding of the project and its potential environmental impact. I would suggest you schedule a meeting with us at our office during which we can share relevant information.

Sincerely,

John Nelson
Chief Marine Fisheries

Memo



NH NATURAL HERITAGE BUREAU

To: Vicki Chase, McFarland Johnson, Inc.
10 Ferry Street, Unit 11, Suite 210
Concord, NH 03301-5022

From: Melissa Coppola, NH Natural Heritage Bureau

Date: 11/12/2010 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB10-2778

Town: Portsmouth

Location: Tax Maps: Map 105

Description: NHDOT proposes to replace the Memorial Bridge and the Scott Avenue Bridge in New Hampshire and Maine.

cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments:

Vertebrate species

	State ¹	Federal	Notes
Peregrine Falcon (<i>Falco peregrinus anatum</i>)	T	M	Contact the NH Fish & Game Dept (see below).

¹Codes: "E" = Endangered, "T" = Threatened, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

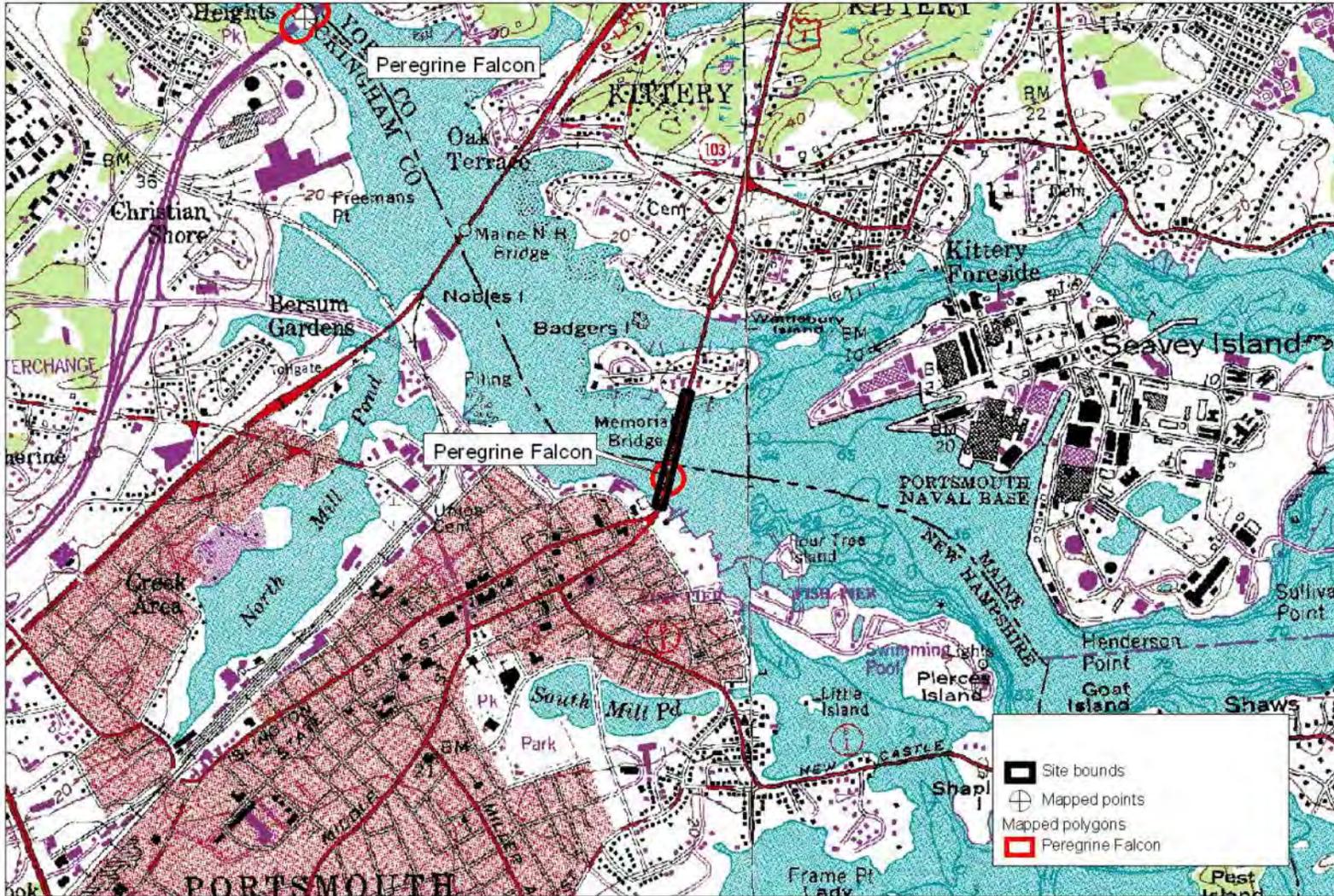
Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. For some purposes, including legal requirements for state wetland permits, the fact that no species of concern are known to be present is sufficient. However, an on-site survey would provide better information on what species and communities are indeed present.



Known locations of rare species and exemplary natural communities

Note: Mapped locations are not always exact. Occurrences that are not in the vicinity of the project are not shown.



*Historical record



New Hampshire Natural Heritage Bureau - Animal Record

Peregrine Falcon (*Falco peregrinus anatum*)

Legal Status

Federal: Monitored
State: Listed Threatened

Conservation Status

Global: Apparently secure but with cause for concern
State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Poor quality, condition and/or lanscape context ('D' on a scale of A-D).

Comments on Rank: Only 1 extant nesting site within EO.

Detailed Description: 2010: I-95, Nest 2: 3 chicks fledged.2009: I-95 Bridge: 3 chicks fledged.2008: I-95 Bridge: 1 chick fledged, not banded.2007: I-95 Bridge: 1 chick fledged, not banded.2006: Memorial Bridge: Nest failed after hatch.

General Area: 2007: I-95 Bridge: Used cavity in superstructure beam of bridge.2006: Memorial Bridge: Southwest tower of bridge

General Comments: 2007: I-95 Bridge: Adult male and female unbanded both legs.2006: Memorial Bridge: Formerly nested at Portsmouth Navel Shipyard in Maine. Both adults unbanded both legs. Collected 1 unhatched egg.

Management Comments: 2007: I-95 Bridge: Area normally restricted access, so no recreational closure signs necessary. Birds did not use nest tray/box placed below bridge deck in March 2007. Need to know future maintenance schedule.

Location

Survey Site Name: Portsmouth Harbor

Managed By:

County: Rockingham

USGS quad(s): Portsmouth (4307017)

Town(s): Portsmouth

Lat, Long: 430533N, 0704600W

Size: 5.4 acres

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: Memorial Bridge: Rte.1 north of Portsmouth near the border of NH and ME. I-95 Bridge: Nested in cavity of a superstructure beam on the Interstate 95 bridge just south of the border between NH and ME.

Dates documented

First reported: 2006

Last reported: 2010

Martin, Chris. 2007. Status of Breeding Peregrine Falcons in New Hampshire in 2007. Final report submitted to NH Fish and Game, October, 15, 2007.

Vicki Chase - RE: Memorial Bridge NHB 10-2778

From: "Tuttle, Kim" <Kim.Tuttle@wildlife.nh.gov>
To: Vicki Chase <vchase@mjinc.com>
Date: 1/28/2011 9:54 AM
Subject: RE: Memorial Bridge NHB 10-2778

Vicki,

The NHFG Nongame and Endangered Species Program concurs with Chris Martin's assessment. Impacts to peregrine falcon are unlikely as the peregrine falcons have not nested on the Memorial Bridge structure in the last several years. If for some reason, a pair is observed building a nest on the bridge, contact Mike Marchand, John Kanter (NHFG) or Chris Martin (NH Audubon) immediately and we will decide what has to happen (e.g. discourage nesting).

Regards,

Kim Tuttle
Wildlife Biologist
NH Fish and Game
Nongame and Endangered Species Program
603-271-6544

From: Vicki Chase [mailto:vchase@mjinc.com]
Sent: Friday, January 28, 2011 9:18 AM
To: Tuttle, Kim
Subject: RE: Memorial Bridge NHB 10-2778

Hi Kim,

I received the correspondence from Chris Martin about the peregrine falcons on the Memorial Bridge, as did you - please let me know how you would like to proceed.

Thanks,

Vicki

Vicki Chase
Environmental Analyst

McFarland-Johnson, Inc.
53 Regional Drive
Concord, NH 03301

Phone: 603-225-2978
Fax: 603-225-0095

www.mjinc.com

>>> "Tuttle, Kim" <Kim.Tuttle@wildlife.nh.gov> 1/25/2011 8:17 AM >>>
Vicki.

Any further details will help NHFG review for potential impacts to peregrine falcon. Is there a timeline for the construction? Will the new bridge be built alongside the old one and then removed or will the current structure be torn down and the new one built in its place?

Thanks,
Kim

Kim Tuttle
Wildlife Biologist
NH Fish and Game
Nongame and Endangered Species Program
603-271-6544

From: Vicki Chase [mailto:vchase@mjinc.com]
Sent: Monday, January 24, 2011 4:19 PM
To: Tuttle, Kim
Subject: Memorial Bridge NHB 10-2778

Hi Kim,

McFarland Johnson is providing environmental permitting services for the NHDOT for the proposed replacement of the Memorial Bridge connecting Portsmouth with Kittery, Maine. We recently submitted a rare species review request to the NH Natural Heritage Bureau, which responded that there is a record of a peregrine falcon previously nesting on the bridge superstructure. (NHB 10-2778)

The previous environmental study prepared for the bridge rehabilitation, approved in May, 2008, stated

"The USFWS, Maine Office, reported that the peregrine falcon (*Falco peregrinus*), a Federal species of concern and State-endangered species in New Hampshire and Maine, had been observed using the Memorial Bridge as a hunting perch and nests at the nearby Portsmouth Naval Shipyard. In the spring of 2006, a peregrine falcon nest was established on the movable counterweight on the Memorial Bridge. Spring-time inspections of the counterweight on the Memorial Bridge were suspended to avoid disturbing the nest. The nest was subsequently abandoned during a rainstorm in mid-May and was not productive. The NHDOT has since established a more stable platform/nesting site atop the I-95 Bridge as an alternative site. In the spring of 2007, peregrine falcons were observed on the I-95 Bridge, although nesting was not confirmed, and the peregrine falcons have not been observed on, and did not return to nest on, the Memorial Bridge.."

Because the project has changed and now involves removing and replacing the existing bridge, we request guidance or information about the known presence of peregrine falcons on the Memorial Bridge.

Thank you for your assistance in this matter.

Vicki Chase
Environmental Analyst

McFarland-Johnson, Inc.
53 Regional Drive
Concord, NH 03301

Phone: 603-225-2978
Fax: 603-225-0095

www.mjinc.com

From: Christian Martin <CMartin@NHAudubon.org>
To: Vicki Chase <vchase@mjinc.com>
CC: Tony Tur <anthony_tur@fws.gov>, Charlie Todd <charlie.todd@maine.gov>, K...
Date: 1/25/2011 2:41 PM
Subject: Re: FW: Memorial Bridge NHB 10-2778
Attachments: PEFA incubating eggs on Memorial Bridge 5-2-06 by NHDOT.JPG; I-95 PEFA chicks 6-7-10 by Chris Martin.JPG; Mem Bridge 1-10-11 by Steve Bennett.bmp; PEF A on Memorial Bridge 2-6-10 by Steve Mirick.jpg

Vicki and others -

The information that you have presented below about peregrine falcons nesting at the Memorial Bridge and the Portsmouth Naval Shipyard is largely accurate, however it is dated. I can provide you with updated info covering 2007 thru 2010. Much of what I am about to tell you is information that has previously been provided to both the NH Natural Heritage Bureau and to the NH Fish & Game Nongame Wildlife Program. In New Hampshire, these two agencies remain the appropriate State-level contacts for this information. As this is a bi-state bridge, Maine's Department of Inland Fisheries and Wildlife should also be consulted.

In Spring of 2006, the Portsmouth Harbor peregrine falcon pair did attempt to nest on the Memorial Bridge (see attachment) but failed due primarily to excessive rainfall during incubation. From 2007-2010, the peregrine falcon pair has nested successfully 4 out of 4 years on the Interstate 95 Bridge upstream about one mile from the Memorial Bridge. The adults have raised 8 fledglings during that time: 1 in 2007, 1 in 2008, 3 in 2009, and 3 in 2010. In 2007-2009, they nested in three different locations in hollow beams in the superstructure of the bridge (in NH in 2007 and 2008, in Maine in 2009). In 2010 they nested on a gravel-filled tray (see attachment) placed on beams located under the road surface. Two such trays/boxes were installed under the bridge in March 2007 by US Fish & Wildlife Service and NH Department of Transportation staff.

These local peregrines continue to utilize both the Memorial and Sarah Long bridges as two of many available perching sites, but appear to have selected the I-95 Bridge as their primary nesting location. Perching on the Memorial Bridge is documented annually; in fact over the last several weeks birders have seen one or both members of the pair perching on the Memorial Bridge (see attachments) with regularity, as detailed below.

1/8/2011 1 Peregrine atop a tower of the Memorial Bridge checking out the peregrines at Prescott Park (Dave Tucker)
1/9/2011 2 Peregrines together on Memorial Bridge in Portsmouth (Steve Bennett)
1/11/2011 1 ad Peregrine sitting on Memorial Bridge (NH side) in Portsmouth (Steve Mirick)
1/22/2011 1 Peregrine on Memorial Bridge about 12:30pm (Phil and Julie Brown)

I hope this addresses some of your initial questions and concerns. Please continue to work through the NH Fish & Game Wildlife Nongame Program and Maine DIF&W regarding this matter; I will endeavor to assist as appropriate.

- Chris

From: Vicki Chase [mailto:vchase@mjinc.com]
Sent: Monday, January 24, 2011 4:19 PM
To: Tuttle, Kim
Subject: Memorial Bridge NHB 10-2778

Hi Kim,

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Portsmouth with Kittery, Maine. We recently submitted a rare species review request to the NH Natural Heritage Bureau, which responded that there is a record of a peregrine falcon previously nesting on the bridge superstructure. (NHB 10-2778)

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Thank you for your assistance in this matter.

Vicki Chase
Environmental Analyst

McFarland-Johnson, Inc.
53 Regional Drive
Concord, NH 03301

Phone: 603-225-2978
Fax: 603-225-0095

www.mjinc.com

Chris Martin, Senior Biologist
Conservation Department, New Hampshire Audubon
84 Silk Farm Road, Concord, NH 03301

Office phone: 603/224-9909 x317; Fax: 603/226-0902;
E-mail: cmartin@nhaudubon.org; Web: www.nhaudubon.org

New Hampshire Audubon -- Protecting New Hampshire's natural environment for wildlife and for people.

Vicki Chase - RE: Memorial Bridge Portsmouth - Kittery

From: "Timpano, Steve" <Steve.Timpano@maine.gov>
To: Vicki Chase <vchase@mjinc.com>
Date: 3/17/2011 9:42 AM
Subject: RE: Memorial Bridge Portsmouth - Kittery
CC: "Lindsay, Scott" <Scott.Lindsay@maine.gov>, "Camuso, Judy" <Judy.Camuso@...>

Vicki;

Confirming and updating MDIFW's 2005 finding of no known state-listed Endangered or Threatened wildlife species at the Memorial Bridge in Kittery. No records of occurrence at the specific bridge location as of the current date.

Note we do have records of occurrences of Peregrine Falcon upstream at the I-95 bridge, and downstream at the Portsmouth Naval Shipyard on Seavey Island. Breeding populations of Peregrine Falcon are State-listed as Endangered. If a bridge replacement project does go forward we request additional consultation with our department during project planning. There may be a need for specific nesting Peregrine surveys and considerations for seasonal scheduling of certain construction activities if birds are within the project area at that time.

Steve T.

STEVEN A. TIMPANO
ENVIRONMENTAL COORDINATOR
MAINE DEPARTMENT OF INLAND FISHERIES & WILDLIFE
41 SHS, 284 STATE STREET
AUGUSTA, ME 04333

TEL. (207) 287-5258
FAX (207) 287-6395
E-MAIL: STEVE.TIMPANO@MAINE.GOV

From: Vicki Chase [mailto:vchase@mjinc.com]
Sent: Tuesday, March 15, 2011 2:37 PM
To: Timpano, Steve
Subject: Memorial Bridge Portsmouth - Kittery

Good Afternoon Steve,

The New Hampshire Department of Transportation, in collaboration with the Federal Highway Administration and the Maine Department of Transportation, proposes to replace the Memorial Bridge connecting Portsmouth, New Hampshire to Kittery, Maine. The project is on an extremely aggressive schedule in order to secure a \$20 million TIGER grant. We are aiming to complete a NEPA document by Thursday, March 17. To this end, we would like to confirm the finding of no known state listed wildlife species for the previous Memorial Bridge



STATE OF MAINE
DEPARTMENT OF CONSERVATION
93 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0093

PAUL R. LEPAGE
GOVERNOR

WILLIAM H. BEARDSLEY
COMMISSIONER

RECEIVED

FEB 17 2011

17513.01

McFarland Johnson
Concord, NH

February 14, 2011

Vicki Chase
McFarland-Johnson, Inc.
53 Regional Drive
Concord, NH 03301-8500

Re: Rare and exemplary botanical features in proximity to: Memorial Bridge, Kittery, Maine.

Dear Ms. Chase:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of February 7, 2011 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in Kittery, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

Letter to: Vicki Chase, McFarland-Johnson
Comments RE: Memorial Bridge, Kittery
February 14, 2011
Page 2 of 2

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$75.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,



Don Cameron
Ecologist
Maine Natural Areas Program
207-287-8041
don.s.cameron@maine.gov

Enclosures

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the Memorial Bridge, Kittery, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
<i>Lindera benzoin</i>	G5	S3	SC	22	1996-06-10	Forested wetland
<i>Chamaecyparis thyoides</i>	G4	S2	SC	13	1996-06-10	Forested wetland
<i>Carex laxiculmis</i>	G5	S2	E	4	1996-06-10	Hardwood to mixed forest (forest, upland)
<i>Ilex laevigata</i>	G5	S3	SC	25	1980	Forested wetland
<i>Lindera benzoin</i>	G5	S3	SC	19	2001-07-20	Forested wetland
<i>Sassafras albidum</i>	G5	S2	SC	11	1905-08-18	Old field / roadside (non-forested, wetland or upland)
<i>Allium canadense</i>	G5	S2	SC	9	1983	Hardwood to mixed forest (forest, upland)
<i>Carya cordiformis</i>	G5	S1	E	1	1995-02-02	Hardwood to mixed forest (forest, upland)
<i>Spartina saltmarsh</i>	G5	S3		7	2009-09-14	Tidal wetland (non-forested, wetland)
<i>Lindera benzoin</i>	G5	S3	SC	2	2006-08-03	Forested wetland
<i>Agalinis maritima</i>	G5	S3	SC	11	1982	Tidal wetland (non-forested, wetland)
<i>Liatris scariosa</i> var. <i>novae-angliae</i>	G5?T3	S1	T	7	1922	Dry barrens (partly forested, upland)
<i>Sericocarpus asteroides</i>	G5	S1	E	3	1891	Dry barrens (partly forested, upland)
<i>Verbena urticifolia</i>	G5	SH	PE	1	1905-08	Hardwood to mixed forest (forest, upland)
<i>Prunus maritima</i>	G4	S1	E	16	1941-09-05	Rocky coastal (non-forested, upland)
<i>Ranunculus ambigens</i>	G4	SH	PE	4	1907-07-08	Open water (non-forested, wetland)

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the Memorial Bridge, Kittery, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
<i>Thalictrum thalictroides</i>	G5	S1	E	2	2003-05-23	Hardwood to mixed forest (forest, upland)
<i>Chimaphila maculata</i>	G5	S2	E	21	2000	Conifer forest (forest, upland)
<i>Platanthera flava</i> var. <i>herbiola</i>	G4T4Q	S2	SC	25	1916-08-19	Non-tidal rivershore (non-forested, seasonally wet)
<i>Rhynchospora macrostachya</i>	G4	S1	E	1	1938-09-08	Open wetland, not coastal nor rivershore (non-forested, wetland)
<i>Verbena urticifolia</i>	G5	SH	PE	4	1887-08-25	Hardwood to mixed forest (forest, upland)
<i>Polygonum tenue</i>	G5	SH	PE	2	1896-08-26	Dry barrens (partly forested, upland)
<i>Triosteum aurantiacum</i>	G5	S1	E	6	1961-07-25	Hardwood to mixed forest (forest, upland)
<i>Bidens hyperborea</i>	G4	S3	SC	10	1936-07	Tidal wetland (non-forested, wetland)
<i>Chimaphila maculata</i>	G5	S2	E	25	2005-04-10	Conifer forest (forest, upland)
<i>Carex atherodes</i>	G5	S1	E	3	2008-06	Coastal non-tidal wetland (non-forested, wetland)

STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SU** Under consideration for assigning rarity status; more information needed on threats or distribution.
- SNR** Not yet ranked.
- SNA** Rank not applicable.
- S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: State Rarity Ranks are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (20-100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.
- GNR** Not yet ranked.

Note: Global Ranks are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's Endangered and Threatened plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E** ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T** THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

- SC** SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE** Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A, B, C, or D**, where **A** indicates an excellent example of the community or population and **D** indicates a poor example of the community or population. A rank of **E** indicates that the community or population is extant but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/doc/nrimc/mnap>



JOHN H. LYNCH
GOVERNOR

STATE OF NEW HAMPSHIRE
OFFICE OF ENERGY AND PLANNING
57 Regional Drive, Suite 3
Concord, NH 03301-8519
Telephone: (603) 271-2155
Fax: (603) 271-2615



www.nh.gov/oep

HNTB
BOSTON
SEP 01 2005
RECEIVED

HNTB
BOSTON
SEP 01 2005
RECEIVED

HNTB
BOSTON
SEP 01 2005
RECEIVED

August 25, 2005

Ms. Addie Kim
HNTB Corporation
75 State Street
Boston, MA 02109

**RE: NHDOT Portsmouth Memorial Bridge (Route 1) Rehabilitation
Portsmouth, NH – Kittery, ME
Project No. BHF-X-T-0101-1 (015), 13678**

Dear Ms. Kim,

I am writing in response to your letter of August 18, 2005 regarding the above referenced project.

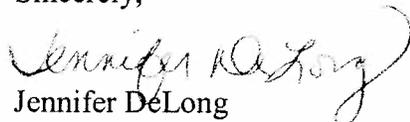
I have attached a copy of the Flood Insurance Rate Map for the project area. Although it appears that the proposed project is located within the special flood hazard area (Zone AE), the proposed project does not sound as if it will impact this area.

OEP is not authorized by the Federal Emergency Management Agency (FEMA) to make final determinations on the impacts of floodplain development. HNTB should use its best judgment in determining if further study is necessary. If HNTB feels that the proposed construction will have a negligible effect on flooding dynamics then additional coordination with FEMA is likely not necessary.

It is advisable to check with the City of Portsmouth to assure that this proposed project does not conflict with their floodplain development ordinance.

If you need further assistance please contact me at 271-2155 or jennifer.delong@nh.gov.

Sincerely,


Jennifer DeLong
Water Resources Planner

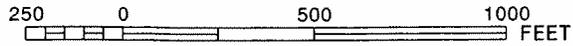
Enclosure

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 500'



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0259E

FIRM
FLOOD INSURANCE RATE MAP
ROCKINGHAM COUNTY,
NEW HAMPSHIRE
(ALL JURISDICTIONS)

PANEL 259 OF 681

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
PORTSMOUTH, CITY OF	330139	0259	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
33015C0259E

EFFECTIVE DATE
MAY 17, 2005

Federal Emergency Management Agency



ZONE AE
(EL 9)

ZONE AE
(EL 9)

ZONE X
X
OC0290

ZONE AE
(EL 9)

ZONE AE
(EL 9)

ZONE X

ZONE X

ZONE X

ZONE AE
(EL 9)

ZONE X

ZONE X

OC0413

SOUTH
MILL POND

HUMPHREYS
CT

MARKET ST

CITY OF PORTSMOUTH
RIVER

MAINE
NEW HAMPSHIRE
MEMORIAL
BRIDGE

1

Map labels for streets: MARKET ST, HIGH ST, CONGRESS ST, BRIDGE ST, PARKER ST, PEARL ST, BRICK ST, ISLINGTON ST, STATE ST, CHATHAM ST, AUSTIN ST, COFFINS CT, US 18 & MIDDLE ST, MERRIMAC ST, GREEN ST, WBEX RD, MAPLEWOOD AVE, HANOVER ST, FLEET ST, MIDDLE ST, PORTER ST, COURT ST, LADD ST, HIGH ST, CHURCH ST, PLEASANT ST, RICHMOND ST, HOWARD ST, MAREY ST, JUNIUS AVE, SOUTH ST, BLOSSOM ST, ROCKLAND ST, RENT ST, SHEBEN, MARKET ST, RENHALLOW ST, CHAPEL ST, DANIEL ST, SHEAFE ST, COURT ST, ATKINSON ST, MARCY ST, BOW ST, GARDNER ST, HUNKING ST, HUMPHEYS CT, SOUTH ST.

LEGEND



SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

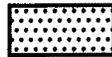
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.



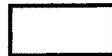
FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.



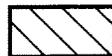
OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

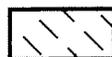


OTHER AREAS

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

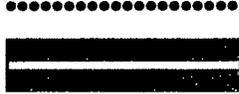
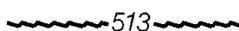


COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS



OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

-  1% annual chance floodplain boundary
-  0.2% annual chance floodplain boundary
-  Floodway boundary
-  Zone D boundary
-  CBRS and OPA boundary
-  Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
-  Base Flood Elevation line and value; elevation in feet*
(EL 987)
-  Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the National Geodetic Vertical Datum of 1929



Cross section line

Memorial Bridge Replacement Project
Portsmouth, NH-Kittery, ME
A000(911)
13678F
(Page 1)

Memorandum of Agreement
SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
PURSUANT TO 36 CFR PART 800.6(a)

WHEREAS, the NH Division of the Federal Highway Administration (NHFHWA) and the Maine Division of the Federal Highway Administration (MEFHWA) propose the replacement of all spans of the Memorial Bridge that carries US Route 1 over the Piscataqua River between Portsmouth, NH and Kittery, Maine; and

WHEREAS, the NHFHWA and MEFHWA in consultation with the NH State Historic Preservation Officer (NHSHP) and the Maine State Historic Preservation Officer (MESHPO) and pursuant to regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) have determined that the proposed undertaking will have an adverse effect on the following properties that are eligible for listing in the National Register of Historic Places:

Memorial Bridge Historic District, Portsmouth, NH and Kittery, Maine
Scott Avenue Bridge, Portsmouth, NH
Memorial Bridge (lift span and two flanking spans), Portsmouth, NH and Kittery, Maine
Memorial Park, Portsmouth, NH
Portsmouth Historic District, Portsmouth, NH
John Paul Jones Memorial Park, Kittery, Maine

and;

WHEREAS, the NHFHWA and the MEFHWA have agreed that the New Hampshire Department of Transportation (NH DOT) and the Maine Department of Transportation (Maine DOT) shall participate in the consultation with the NHSHP and MESHPO respectively to find ways to mitigate the effects to the above six properties through their respective standard consultation processes; and

WHEREAS, the NH DOT and Maine DOT on behalf of the NHFHWA and MEFHWA respectively will execute these efforts to mitigate the adverse effects of the project; and

WHEREAS, the NH DOT and Maine DOT have solicited public comment through the public involvement process and the consulting party procedures with NHFHWA and MEFHWA as stated in 36 CFR 800 (2); and

WHEREAS, the FHWA has consulted with the Aroostook Band of MicMacs, the Houlton Band of Maliseet Indians, the Passamaquoddy Tribe, and the Penobscot Nation and will apprise them of any findings; and

Memorial Bridge Replacement Project
Portsmouth, NH-Kittery, ME
A000(911)
13678F
(Page 2)

WHEREAS, the NHDOT and Maine DOT have consulted with the following Consulting Parties to the Section 106 Process: the National Trust for Historic Preservation, Port of Portsmouth Maritime Museum and Albacore Park, Historic Bridge Foundation, and the Portsmouth Historical Society in the development of this agreement; and

WHEREAS, the NHFHWA and MEFHWA have agreed that the NHDOT and Maine DOT shall participate in consultation with the NESHPO and the MESHPO to find ways to mitigate its effects on impacted archaeological sites found eligible for the National Register of Historic Places under its standard phased investigations; and

WHEREAS, to the best of our knowledge and belief, no human remains and/or associated or unassociated funerary objects or sacred objects of cultural patrimony as defined in the Native American Graves Protection Act (25 U.S.C. 3001), are expected to be encountered in the archaeological work; and

WHEREAS, in accordance with 36 CFR 800.6(a)(1), NHFHWA has notified the Advisory Council on Historic Preservation (Council) of its adverse effect determination with specified documentation and the Council has chosen not to participate in the consultation pursuant to 36 CFR 800.6(a)(1)(iii).

NOW, THEREFORE, NHFHWA with the assistance of MEFHWA, NHDOT, and Maine DOT shall ensure that the following terms and conditions will be implemented by the NHDOT and Maine DOT under this MOA in a timely manner and with adequate resources in compliance with the National Historic Preservation Act of 1966 16 U.S.C. 470.

Stipulations

NHFHWA, with the assistance of MEFHWA, NHDOT, and Maine DOT will ensure that the following stipulations are carried out:

Project Development

1. The NESHPO, the MESHPO, FHWA and the Parties consulted during the Section 106 and National Environmental Policy Act (NEPA) processes as listed above will be provided the opportunity to review and comment on the bridge design during the design-build process *at the following milestones: 25-30% (30 day review), 60% (10 day review), and 90% design (10 day review)*. The bridge design for the replacement of the bridge will follow *the Secretary of the Interior's Standards for Rehabilitation and Guidelines for the Rehabilitation of Historic Buildings*, Standards 9 and 10, as determined by FHWA in consultation with NESHPO and MESHPO. This continued consultation will focus on the design's conformance with Standards 9 and 10.

2. NHDOT will ensure that the Memorial Bridge, including the three-span Memorial Bridge, the Scott Avenue Bridge (Portsmouth Approach Span), and the Kittery Approach Spans are marketed together for reuse in compliance with 23 USC Sec. 144 for relocation. Marketing will occur once within a New Hampshire and Maine state and local newspaper by June 1, 2011. Additionally, the NHDOT and Maine DOT will market the bridge on their websites between April 1 and June 1, 2011. Ownership transfer will require the use of preservation covenants or other instruments to ensure the long-term protection of the qualifying characteristics of the Memorial Bridge.
3. FHWA shall ensure that NHDOT provides a letter report on all activities carried out under this agreement to the MESHPO, NESHPO, and the consulting parties to the Section 106 process. Each party who contributes to the mitigation of the Memorial Bridge Replacement Project will prepare a section of this letter report relative to such involvement annually due one month prior to the due date of the letter report on April 1 of each year beginning in 2012 and terminating at the termination of this MOA.

Historical Resources

4. NHDOT will provide NESHPO with funding in an amount not to exceed \$175,000 to prepare a National Register Historic District Nomination for the Portsmouth Downtown District.
5. The Maine DOT, in coordination with the MESHPO will develop a phased plan to identify National Register Eligible properties in the Town of Kittery. The survey plan will include geographically relevant areas of the town and a priority order to survey the areas. The Maine DOT will provide \$50,000 from the project for the completion of the survey that will be completed in accordance with the phased plan.
6. The NHDOT will fund and oversee the development of an interpretive panel as follows. A 36 CFR 61(Appendix A)-qualified architectural historian will prepare an interpretive panel explaining the history of the Memorial Bridge crossing, the Engineering significance of the bridge, and background of its design engineer, J.A.L. Waddell, the preeminent designer of lift bridges. The panel will be placed in Prescott Park or a location near the bridge identified by the Public Outreach Committee (see stipulation 10 below). The first location is contingent upon continuing consultation with and agreement by the Prescott Park Trustees, Trustees of Trust Funds. Any other location will be coordinated with the landowner. NHDOT will ensure that the interpretive panel is manufactured and erected with appropriate American with Disabilities Act access as part of this design-build project. The design and content of the panel will be subject to the

- approval of the NESHPO and MESHPO, who will be provided 45 calendar days for review; and will be subject to approval by the property owner on which the panel is placed. The panel will be erected as part of the design-build contract.
7. The preparation of the Historic Structures Report (HSR) for the Memorial Bridge, which included the distribution of thirty copies to state and local repositories and its placement on the NHDOT website, has been completed. The Historic American Engineering Record for the bridge is within this document and includes the detailed description, narrative history, discussion of engineering significance, archivally stable large format photographs, and archivally stable copies of the original design plans. NHDOT will also ensure that an annotation of the bibliography of the HSR is completed to provide the location and a brief description of the contents of primary sources. The bibliography will be placed on the NHDOT and NESHPO websites. The bibliographic annotation will be prepared by an architectural historian qualified under 36 CFR 61 (Appendix A) under the direction of the NHDOT and reviewed by NESHPO and MESHPO within 45 calendar days of submission. It will be completed by December 1, 2014.
 8. For the 2012 meeting schedules, the NHDOT will work towards setting up pre-defined educational forums for the maintenance and rehabilitation of historic bridges by the NHDOT at an appropriate venue, such as: Technology Transfer Center at UNH (Local Government Center), the American Council of Engineering Companies, Structural Engineers of New Hampshire, and the NHDOT Training. The NHDOT will ensure that this training is offered by qualified persons with demonstrated expertise in historic bridge maintenance and rehabilitation.

Archaeologically-Based Impacts

9. All necessary archaeological investigations will be completed before or during construction as specified in the stipulations below. If preservation in place is found necessary, then NHEHWA and MEFHWA will consult with their respective SHPOs and identified Native American groups that may attach religious or cultural importance to the affected property to resolve the treatment of such archaeological deposits. Such Native American groups will be identified prior to the commencement of construction under the design-build contract. NHDOT will oversee the following efforts.
 - a. Portsmouth Approach Span (Scott Avenue and Memorial Park)

NHEHWA will ensure that NHDOT conducts all necessary phases of archaeological investigation based on archaeological protocols and research designs incorporated into the design-build contract. Although the replacement

of the Portsmouth abutment may broaden the scope of work, the protocols and scope of work for the Rehabilitation of the Memorial Bridge were adequately defined in the following documents: *Memorial Bridge Rehabilitation: Scope of work for Archaeological Monitoring During Construction (October 23, 2007)* and *Memorial Bridge Rehabilitation: Archaeological Monitoring Protocol (April 2006)* by Independent Archaeological Consulting. The archaeological monitoring and investigations will be conducted by a historical archaeologist qualified under 36 CFR 61 (Appendix A) with the ability to consult with an archaeologist qualified in Native American archaeological studies. The historical archaeologist will have five years' experience in historical archaeology in the New England region. The final report will be reviewed and finalized by December 1, 2016.

b. Maine Approach Span

Independent Archaeological Consulting assessed the archaeological sensitivity of the Kittery Approach for the ME-NH Connections Study in the *ME-NH Connections Study Summary Report on Phase 0 (ME) / Phase IA (NH) Archaeological Sensitivity Assessment* (Rev. August 27, 2009). This portion of the project area was assessed at moderate archaeological sensitivity. If accessible prior to construction, all necessary phases of archaeological investigation will be completed prior to construction. If portions of the sensitive area are not accessible prior to construction, then a monitoring protocol and research goals will be developed for this portion of the construction monitoring. An archaeologist qualified under 36 CFR 61 (Appendix A) will conduct the archaeological investigations with the ability to consult with an archaeologist qualified in historical archaeological studies. The archaeologist will have five years' experience in the archaeology of Native American cultures in the New England region. The final report will be reviewed and finalized by December 1, 2016.

c. Data Recovery Process

The NHDOT and NHSHPPO agree that recovery of significant information from affected significant archaeological sites will be done in accordance with published guidance. In accordance with 36 CFR 800, the NHFHWA and MEFHWA acknowledge and accept the advice and conditions outlined in the Advisory Council on Historic Preservation's "Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites," and other mitigation procedures published in the Federal Register on May 18, 1999. Additionally, all consulting parties agree that Native American tribes that may attach religious or cultural importance to the affected property

will be consulted in the development of a mitigation approach to each significant Native American site as noted above in this stipulation.

d. Discovery of Burials

If human remains and/or grave-associated artifacts are discovered while carrying out the activities pursuant to this MOA, the NHFHWA, MEFHWA, NHDOT, and Maine DOT will immediately notify the appropriate authorities, as prescribed by New Hampshire and Maine statutes to determine an appropriate course of action in accordance with the Advisory Council on Historic Preservation's (Council's) Revised "Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects," adopted by the Council on February 23, 2007 at its quarterly business meeting in Washington, D.C.

Economic-Based Impacts

10. NHDOT/Maine DOT and FHWA will provide funding through the project to hire and supervise a Public Outreach Coordinator, that is 36 CFR 61 (Appendix A) qualified, for two years or for the duration of construction whichever is greater. This individual will, in part, act as the project's conduit for communication and interface with the public. To this end, NHDOT/ Maine DOT and FHWA will seek first to augment an existing part-time position at an existing entity, such as the Portsmouth or Kittery city/town offices and attempt to use existing office facilities. If no appropriate position(s) exist, NHDOT/ Maine DOT, and FHWA will create a new fulltime, temporary position for this purpose. This individual will be qualified under 36 CFR 61 (Appendix A) as a historian or architectural historian or closely related field with demonstrated five years' experience in conducting public programming, public coordination, and promotion of businesses and organizations within a historical setting. This position will have the following functions:

- a. Coordinate with an advisory committee, known as the Public Outreach Committee, established for this purpose. The Public Outreach Coordinator will invite the business community in Portsmouth and Kittery (i.e., Seacoast Chamber of Commerce); city and town representatives; historical societies and historic district commissions; museums; historic house museums; the arts community; and trustees of public parks and lands within the two communities to participate in the Public Outreach Committee.
- b. Market and promote the business districts in Portsmouth and Kittery during construction.
- c. Monitor visitorship at local museums / National Historic Landmarks (for example Strawberry Banke and the MacPhaedris-Warner House respectively).

- d. Assist the Design-Build Contractor and other city and state entities involved in access issues with continued vehicle access to the downtowns by designation of the placement and wording of directional signs; mapping; internet communication; coordination with the design/build contractor to establish sufficient parking; and any other transportation issues.
- e. Assist in access to planned events in the City of Portsmouth and the Town of Kittery.
- f. Coordinate planned cultural events within the two communities to promote the downtowns.
- g. Arrange public educational outreach programs concerning the history of the two communities, the significance of the Memorial Bridge, and other effective types of outreach education determined through the Public Outreach Committee. The program(s) identified by the committee will generate a lasting physical product, such as a book or film, which would be available to the communities and be within the budget established for this effort.

One suggested approach to fulfilling the above objectives would be to use the National Trust for Historic Preservation's Main Street Program model. The Trust provides guidance for this type of position. Guidance for this will be sought through Kathy LaPlante of the National Trust's Washington Office or her designated representative

Construction-Based Impacts

11. The existing plaques on the Memorial Bridge and in Memorial Park will be conserved and re-installed on the proposed replacement bridge and in an appropriate area adjacent to the bridge entrance. This installation will be completed by the Design-Build Contractor under the direction of NHDOT in close consultation with the conservator described below. The conservation of the plaques will follow the original proposal completed for the former Rehabilitation of the Memorial Bridge Project, but there would need to be some design modifications of the plaques to fit them onto the replacement bridge. The scope of this work will be incorporated in the Design-Build contract. The Design-Build Contractor will contract with an established and qualified metal conservator. The conservator will hold a Masters of Arts Degree in Art History or related field with a certificate or similar designation in Conservation and at least ten years of experience in the field of conservation that includes at least three major successful projects involving metal conservation. The NH Division of Historical Resources will approve a list of at least three metal conservators. The conservator will be hired within a timeframe sufficient to re-examine the plaques, verify the method of safe removal, and conserve the plaques for their installation on the replacement bridge during the design-build contract.

12. Modern dedication signs will be prepared and installed at each portal of the proposed bridge. They will place the bridge and other plaques into their historical contexts. The wording of the signs will be prepared by a 36 CFR 61 (Appendix A) architectural historian and reviewed by the NESHPO and MESHPO within 45 days of submission. The signs will be fabricated within sufficient time for their placement by the Design-Build contractor under the direction of NHDOT.

13. Vibration levels will be monitored during construction. The Design-Build Contractor will hire a qualified individual whose qualifications are specified below to conduct a preconstruction survey. This survey will establish the area of vibration impact, provide details about the fragility of building materials, and specify the environmental conditions in the area of impact that would affect transmission of vibrations. This preconstruction survey will establish the baseline conditions for monitoring during construction, the construction activities that require monitoring, the general timeframes for monitoring, and the thresholds of vibration levels that will be maintained during construction. These elements will be placed in a Vibration Monitoring Plan. The NESHPO and MESHPO will be provided fourteen days in which to comment on the Vibration Monitoring Plan prior to its finalization prior to the beginning of construction. The NESHPO and MESHPO will also be afforded five days to review any modifications to the Vibration Monitoring Plan made during construction. While it is noted that the national standard for vibration threshold is established at 0.2 inches per second, the vibration limit for this project will be based on the findings of the preconstruction survey. Vibration will remain within safe levels for the historic buildings and structures within the Portsmouth Historic District that lie adjacent to the project area, including the National Historic Landmarks such as the MacPhaedris-Warner House, and Kittery properties in the vicinity of the construction. If vibrations are found to exceed the thresholds established for this project, the work causing that vibration will cease and corrective action will be taken to return the vibration level to acceptable thresholds. The vibration monitoring for these particular structures will be incorporated into the design-build "Request for Proposals" for the requirements of the contract. If damage should occur to buildings within the area of vibration impact, then the contractor will be responsible for repairing the damage in accordance with *the Secretary of the Interior's Standards for Rehabilitation and Guidelines for the Rehabilitation of Historic Buildings*.

When developing the vibration thresholds and preparing the Vibration Monitoring Plan, the Design-Build Contractor will contract with an individual trained in Historic Architecture or closely related field. The individual will have five years of professional experience as a Building Conservation Specialist and will have successfully completed three building conservation projects where he/she has taken into account the effects of different levels of vibration on historic masonry

and frame buildings. The standards cited herein are the *Secretary of the Interior's Historic Preservation Professional Qualification Standards 62, Fed. Reg. 33, 707 (June 20, 1997/Historic Architecture [http://www.cr.nps.gov/local-law/gis/html/quals.html])*. The NESHPO will provide the names and contact information of at least three individuals who would be qualified to perform such services.

Discovery of Unidentified Properties

14. The NHDOT and Maine DOT will ensure that if additional previously unidentified architectural and / or archaeological properties are discovered, which may be affected by the undertaking or known properties are affected in an unanticipated manner, it will notify FHWA and the NESHPO and MESHPO. FHWA and the NESHPO and MESHPO will apply the criteria of eligibility and consult pursuant to 36 CFR 800.13.

NHFHWA and MEFHWA shall also ensure that the following terms and conditions are implemented:

1. Dispute Resolution

Should the any party to this agreement or a consulting party to the Section 106 process for this project object within 30 days to any actions proposed or findings submitted for review, NHFHWA and MEFHWA shall consult with the objecting party(ies) to resolve the objection. If NHFHWA and MEFHWA determine that any objection(s) remains unresolved, NHFHWA and MEFHWA shall:

- a. Forward all documentation relevant to the dispute to the ACHP in accordance with 36 CFR 800.2(b)(2). On receipt of adequate documentation, the ACHP shall review and advise NHFHWA and MEFHWA on the resolution of the objection within 30 days. Any comment provided by the ACHP, and all comments from the parties to the agreement will be taken into account by FHWA in reaching a final decision regarding the dispute.
- b. If the ACHP does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, NHFHWA and MEFHWA may render a decision regarding the dispute. In reaching its decision, NHFHWA and MEFHWA will take into account all comments regarding the dispute from the parties to this agreement.
- c. NHFHWA's and MEFHWA's responsibility to carry out all other actions subject to the terms of this agreement that are not subject of the dispute remain unchanged. NHFHWA and MEFHWA will notify all parties of its decision in writing before implementing that portion of the undertaking subject to the dispute under this stipulation. NHFHWA's and MEFHWA's decision will be final.

2. Termination of Agreement

If any signatory determines that the terms of the MOA cannot be executed, the signatories shall consult to seek amendment of the agreement. If the agreement is not amended, any signatory may terminate the agreement. If the terms of this agreement have not been implemented by December 1, 2016, this agreement shall be considered null and void. In such event, the agency shall notify the parties to this agreement, and if it chooses to continue with the undertaking, shall reinitiate review of the undertaking in accordance with 36 CFR 800.

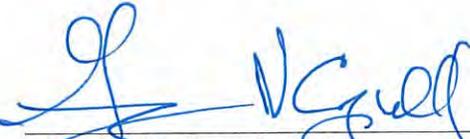
3. Amendment

Any party to this agreement may propose to other parties that the agreement be amended, whereupon the agency will consult with the other parties to this agreement to consider the amendment. An amendment shall be executed when it has been signed by all of the signatories to this MOA.

Execution of this MOA by NHFHWA, NESHPO, NHDOT, MEFHWA, MESHPO, and the Maine DOT and its subsequent filing with the Council, and implementation of its terms are evidence that FHWA has afforded the Council an opportunity to comment on this project, and that FHWA has taken into account the effects of the undertaking on historic properties.

Memorial Bridge Replacement Project
Portsmouth, NH-Kittery, ME
A000(911)
13678F
(Page 11)

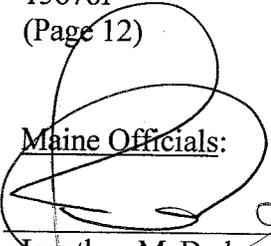
New Hampshire Officials:

	<u>3-15-11</u>		<u>3/15</u>
Patrick Bauer	Date	George N. Campbell, Jr.	Date
Acting Administrator		Commissioner	
Federal Highway Administration		NH Department of Transportation	
NH Division			

Wanda Ray Wilson, DSHPO, for 3/15/2011
Elizabeth H. Muzzey Date
State Historic Preservation Officer
NH Division of Historical
Resources

Memorial Bridge Replacement Project
Portsmouth, NH-Kittery, ME
A000(911)
13678F
(Page 12)

Maine Officials:


Jonathan McDade
Administrator
Federal Highway Administration
ME Division

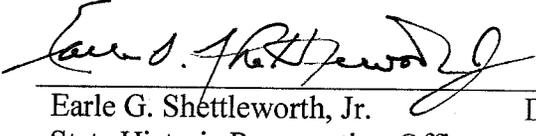
Date

3/15/11


David Bernhardt
Commissioner
ME Department of Transportation

Date

3/15/11


Earle G. Shettleworth, Jr.
State Historic Preservation Officer
ME Historic Preservation Commission

Date

3/15/11

**NOAA FISHERIES
NORTHEAST REGIONAL OFFICE
EFH ASSESSMENT WORKSHEET FOR
FEDERAL AGENCIES
(modified 08/04)**

Introduction:

The Magnuson-Stevens Fishery Conservation and Management Act mandates that federal agencies conduct an EFH consultation with NOAA Fisheries regarding any of their actions authorized, funded, or undertaken that may adversely effect essential fish habitat (EFH). An adverse effect means any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

This worksheet has been designed to assist Federal agencies in determining whether an EFH consultation is necessary, and developing the needed information should a consultation be required. This worksheet will lead you through a series of questions that will provide an initial screening to determine if an EFH consultation is necessary, and help you assemble the needed information for determining the extent of the consultation required. The information provided in this worksheet may also be used to develop the required EFH Assessment.

Consultation through NOAA Fisheries regarding other NOAA-trust resources may also be necessary if a proposed action results in adverse impacts. Part 6 of the worksheet is designed to help assess the effects of the action on other NOAA-trust resources. This helps maintain efficiency in our interagency coordination process. In addition, consultation with NOAA Fisheries may be required if a proposed action impacts marine mammals or threatened and endangered species for which we are responsible. Staff from our Northeast Regional Office, Protected Resources Division should be contacted regarding potential impacts to marine mammals or threatened and endangered species.

Instructions for Use:

An EFH Assessment must be submitted by a Federal agency to NOAA Fisheries as part of the EFH consultation. An EFH Assessment must include the following information:

- 1) A description of the proposed action.
- 2) An analysis of the potential adverse effects of the action on EFH, and the managed species.
- 3) The Federal agency=s conclusions regarding the effects of the action on EFH.
- 4) Proposed mitigation if applicable.

In some cases, this worksheet can be used as an EFH Assessment. If the Federal agency determines that the action will not cause substantial impacts to EFH, then this worksheet may suffice. If the action may cause substantial adverse effects on EFH, then a more thorough discussion of the action and its

impacts in a separate EFH Assessment will be necessary. The completed worksheet should be forwarded to NOAA Fisheries Northeast Regional Office, Habitat Conservation Division (HCD) for review.

The information contained on the HCD website (<http://www.nero.noaa.gov/hcd/>) will assist you in completing this worksheet. The HCD web site contains information regarding: the EFH consultation process; Guide to EFH Designations which provides a geographic species list; Guide to EFH Species Descriptions which provides the legal description of EFH as well as important ecological information for each species and life stage; and other EFH reference documents including examples of EFH Assessments and EFH Consultations.

EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES (modified 08/04)

PROJECT NAME: Memorial Bridge Replacement DATE: March 17, 2011

PROJECT NO.: Federal No. A000(911), State No. 13678F

LOCATION: Portsmouth NH and Kittery Maine

PREPARER: Vicki Chase/ Kevin Nyhan

Step 1. Use the Habitat Conservation Division EFH webpage, Guide to Essential Fish Habitat Designations in the Northeastern United States to generate the list of designated EFH for federally-managed species for the geographic area of interest (<http://www.nero.noaa.gov/hcd/index2a.htm>). Use the species list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. Attach that list to the worksheet because it will be used in later steps. Make a preliminary determination on the need to conduct an EFH Consultation.

1. INITIAL CONSIDERATIONS		
EFH Designations	Yes	No
Is the action located in or adjacent to EFH designated for eggs?	X	
Is the action located in or adjacent to EFH designated for larvae?	X	
Is the action located in or adjacent to EFH designated for juveniles?	X	
Is the action located in or adjacent to EFH designated for adults?	X	
Is the action located in or adjacent to EFH designated for spawning adults?	X	
If you answered no to all questions above, then EFH consultation is not required -go to Section 5. If you answered yes to any of the above questions proceed to Section 2 and complete remainder of the worksheet.		

Step 2. In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Please note that, there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts.

2. SITE CHARACTERISTICS	
Site Characteristics	Description
Is the site intertidal, sub-tidal, or water column?	The project site is a bridge spanning the river and includes areas within the intertidal and subtidal zones. Proposed activities include repair of piers supporting the Memorial Bridge, removal of the piers supporting the Kittery Approach Spans, and construction of new piers to support new Kittery Approach Spans. The Kittery Approach spans are within the intertidal and subtidal zones and will require work in the riverbed.
What are the sediment characteristics?	The Piscataqua River is the third fastest navigable river in the world. The lower estuary of the Piscataqua River is characterized by hard substrate, consisting largely of rock ledge, gravel, and cobble. Little sedimentation occurs due to the high tidal currents in the lower estuary. Because of the fast currents, the river bottom substrate is expected to consist of a hard (rocky, consisting of boulders or gravel) or sandy substrate. The depth to bedrock at the bridge site, based on the 1920 and 1943 bridge plans, ranges from 0 to 20 feet. The Memorial Bridge foundation components (south abutment, south pier, north pier, north abutment) were all constructed on rock ledge. Four of the piers for the Kittery approach spans are founded directly on bedrock. Not much silty or fine-grained sediment is anticipated within the substrate materials. The shorelines are developed (seawall in Portsmouth) or rocky or riprapped (in Maine).
Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so what type, size, characteristics?	There are no identified Habitat Areas of Particular Concern designated at the project site.
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the spatial extent.	As discussed above, the currents in this reach of river are high, and there is little submerged aquatic vegetation at or adjacent to the project site. The swift currents in this section of the Piscataqua River are not conducive to eelgrass/SAV growth. There is an area of eelgrass mapped by the Maine Department of Marine Resources approximately 100 feet downstream of the Kittery Approach Spans. This area measures 2,493 square feet and supports 40-70% cover. Eelgrass has been mapped in calmer waters upstream in Great Bay, and in areas of Portsmouth Harbor downstream of the project site.
What is typical salinity and temperature regime/range?	Salinities can be expected to range from approximately 25 parts per thousand upwards to approximately 30 parts per thousand, which is typical for an estuarine/near coastal environment. Water temperature can be expected to range from 32 degrees to 68 degrees Fahrenheit.

What is the normal frequency of site disturbance, both natural and man-made?	The area is heavily trafficked by recreational boats, fishing vessels, barges, and large commercial freighters and vessels. The Piscataqua River is an important commercial deepwater port for the Seacoast regions of New Hampshire and Maine. The Memorial Bridge is located within Portsmouth Harbor, which is the only harbor for deep draft vessels between Portland, Maine and Gloucester, Massachusetts. The main navigational channel under the bridge can accommodate deep draft vessels up to 34 feet. The combination of greater depths in the river and swift currents keeps the river icefree in the winter, making this the closest icefree port to Europe and the only deep water port in the State of New Hampshire.
What is the area of proposed impact (work footprint & far afield)?	Removal of the nine Kittery Approach span piers will require work below the high tide line and in the riverbed, as would construction of the three replacement piers. Installation of dolphins in front of the Memorial Bridge piers would require drilling of shafts into the riverbed. Repairs of bridge piers and fendering would be performed above the waterline. Replacement of a drainage outfall along the seawall in Portsmouth will not alter the adjoining tidal flats. The project will not result in a measurable increase in impervious surfaces that would affect runoff characteristics. If construction dewatering will require a discharge into the river, existing catch basins will be used and all discharges will comply with applicable NPDES effluent limitations.

Step 3. This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	Y	N	Description
Nature and duration of activity(s)			The entire construction duration will extend over approximately 18 months. However, the process for advertising and constructing this project is a design-build process. Design-build (DB) is a method of project delivery in which the design and construction phases of a project are combined into one contract. This can provide substantial time savings compared with the more traditional Design-Bid-Build approach. As such, until the eventual DB contractor is selected the number and location of new piers for the Kittery Approach Spans and dolphin system is not known.
Will benthic community be disturbed?	X		Yes. The work will require disturbance to the benthic community for the drilling of the dolphin shafts for the Memorial Bridge and for the replacement of the Kittery Approach Span piers.
Will SAV be impacted?		X	No alterations to submerged aquatic vegetation will occur as a result of the project.
Will sediments be altered and/or sedimentation rates change?		X	Existing drainage patterns on the Memorial Bridge and Scott Avenue Bridge will largely be maintained. However, until the eventual DB is contractor selected the number and location of new piers for the Kittery Approach Spans and dolphin system is not known. Best management practices will be employed during construction to avoid impacts to the water quality of the Piscataqua River. A professionally prepared Erosion and Sedimentation Control Plan will be prepared by the contractor and will require NHDOT approval prior to commencement of construction, specifying measures designed to protect the water quality of the Piscataqua River during Memorial Bridge, Kittery Approach Span, and Scott Avenue Bridge construction.
Will turbidity increase?		X	All appropriate technologies will be used to minimize turbidity in the Piscataqua River during construction. See also discussion above regarding the proposed water treatment system for the permanent drainage system and Best Management Practices to be in place during construction. Best management practices will be employed during construction to avoid impacts to the water quality of the Piscataqua River. A professionally prepared Erosion and Sedimentation Control Plan will be prepared by the contractor and will require NHDOT approval prior to commencement of construction, specifying measures designed to protect the water quality of the Piscataqua River during Memorial Bridge, Kittery Approach Span, and Scott Avenue Bridge construction.

Will water depth change?		X	It is not expected that alterations to the water depth will occur as a result of the project.
Will contaminants be released into sediments or water column?		X	Containment systems will be used on the Memorial Bridge during demolition and construction to prevent debris from entering the river. A Soils and Materials Management Plan will be in place for handling of materials during on land excavations for the Scott Avenue Bridge and for the Kittery Approach Span replacements.
Will tidal flow, currents or wave patterns be altered?	X		The number and location of piers associated with the Kittery Approach Spans may be changed/ modified. The process for advertising and constructing this project is a design-build process. As such, until the eventual DB contractor is selected the number and location of new piers for the Kittery Approach Spans and dolphin system is not known.
Will ambient salinity or temperature regime change?		X	If there are discharges to the river as a result of the bridge construction, these discharges will comply with applicable NPDES effluent limitations, and would represent a negligible proportion of the total flow in the river. There will be no changes in ambient salinity or temperature as a result of the project.
Will water quality be altered?		X	If dewatering is required during construction, provisions will be made for either discharge to the sanitary system or discharge to surface waters, provided that the water quality of the discharge complies with applicable provisions under the National Pollutant Discharge Elimination System (NPDES) permit program. If applicable water quality standards for the discharge to comply with either the NPDES General Permit for Construction Dewatering Activity Discharges or the NPDES Remediation General Permit cannot be met through treatment, then the contractor will be required to direct discharges to holding tanks and transport them off-site.

Step 4. This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species from the EFH species list (generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. The Guide to EFH Descriptions webpage (<http://www.nero.noaa.gov/hcd/list.htm>) should be used during this assessment to determine the ecological parameters/preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	Y	N	Describe habitat type, species and life stages to be adversely impacted
Will functions and values of EFH be impacted for:			
Spawning	X		<p><u>Habitat type:</u> rock ledge, gravel and cobbles <u>Species:</u> Atlantic cod, Winter flounder, Atlantic halibut, Atlantic sea scallop, Atlantic salmon, Whiting, Atlantic herring, and Pollock <u>Life cycle stages:</u> Spawning adults <u>Impacts:</u> Impacts are associated with bridge pier work and installation of dolphins and fenders.</p>
Nursery	X		<p><u>Habitat type:</u> rock ledge, gravel and cobbles <u>Species (life cycle stage(s)):</u> Atlantic cod (eggs), Red hake (eggs, larvae, juveniles), White hake (eggs), Winter flounder (eggs), Windowpane flounder (eggs), Atlantic halibut (juveniles), Atlantic sea scallop (eggs, juveniles), Whiting (eggs, larvae, juveniles), Haddock (juveniles), Atlantic herring (eggs), and Pollock (juveniles) <u>Impacts:</u> Impacts are associated with bridge pier work and installation of dolphins and fenders.</p>
Forage	X		<p><u>Habitat type:</u> rock ledge, gravel and cobbles <u>Species:</u> Atlantic cod, Winter flounder, Atlantic halibut, Atlantic sea scallop, Atlantic salmon, Whiting, Atlantic herring, Pollock, and Haddock <u>Life cycle stages:</u> Adults, and juveniles <u>Impacts:</u> Impacts are associated with bridge pier work and installation of dolphins and fenders.</p>
Shelter	X		<p><u>Habitat type:</u> rock ledge, gravel and cobbles <u>Species (life cycle stages):</u> Atlantic cod (adults, eggs), Winter flounder (adults, eggs), Atlantic halibut (adults, juveniles), Atlantic sea scallop (adults, eggs, juveniles), Atlantic salmon (adults), Whiting (adults, eggs, larvae, juveniles), Atlantic herring (adults, eggs), Pollock (adults, juveniles), Red hake (larvae, juveniles), and Haddock (juveniles) <u>Impacts:</u> Impacts are associated with bridge pier work and installation of dolphins and fenders.</p>

<p>Will impacts be temporary or permanent?</p>			<p>There will be temporary impact and permanent impact to the riverbed of the Piscataqua River for the construction of the Kittery Approach Span piers and installation of dolphins and fenders.</p>
<p>Will compensatory mitigation be used?</p>		<p>X</p>	<p>In river work will completed between November 15th and March 15th. Any in-water, silt producing work conducted between March 16 and November 14 should occur within cofferdams or similar silt-containment structures, provided these structures are installed during the recommended work window.</p>

Step 5. This section provides the Federal agency's determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

5. DETERMINATION OF IMPACT		
	/	Federal Agency's EFH Determination
Overall degree of adverse effects on EFH (not including compensatory mitigation) will be: (check the appropriate statement)		There is no adverse effect on EFH EFH Consultation is not required
	X	The adverse effect on EFH is not substantial. This is a request for an abbreviated EFH consultation. This worksheet is being submitted to NMFS to satisfy the EFH Assessment requirement.
		The adverse effect on EFH is substantial. This is a request for an expanded EFH consultation. A detailed written EFH assessment will be submitted to NMFS expanding upon the impacts revealed in this worksheet.

Step 6. Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT	
Species known to occur at site (list others that may apply)	Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat).
alewife	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
blueback herring	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
rainbow smelt	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
Atlantic sturgeon	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
Atlantic menhaden	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
American shad	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
American eel	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
American lobster	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
blue mussels	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.

soft-shell clams	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
quahog	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.
Other species:	The project will have no impact on spawning, egg development, juvenile nursery, and/or adult feeding or migration habitat.

Biological Assessment
Memorial Bridge Replacement Project over Piscataqua River between
Kittery, ME and Portsmouth, NH
Portsmouth, NH – Kittery, ME, A000(911), 13678F

Affected Species

Our review of the project vicinity, and species list provided by the National Marine Fisheries Service (NMFS) on March 15, 2011, indicates that the federally listed endangered species, shortnose sturgeon (*Acipenser brevirostrum*), and candidate species Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) may be present in the project area. The proposed action has the potential to cause a disruption of habitat and migration patterns as outlined below.

Status of Shortnose Sturgeon

The shortnose sturgeon was originally listed as endangered by the USFWS on March 11, 1967, under the Endangered Species Preservation Act. Shortnose sturgeon remained on the list of endangered species with enactment of the Endangered Species Act in 1973. The NMFS assumed jurisdiction for shortnose sturgeon in 1974. Although listed as endangered range wide, the NMFS recognizes 19 distinct population segments inhabiting 25 river systems ranging from the Saint John River in New Brunswick, Canada, to the St. John's River in Florida (NMFS, 1998).

Although once numerous, shortnose sturgeon numbers have declined drastically from pollution and over fishing to the point where the species is severely depleted in most of its former range. A Final Recovery Plan for the shortnose sturgeon was prepared by the NMFS in 1998 (NMFS, 1998). The plan indicates that dredging and bridge construction/removal projects may adversely affect the species. However, only hydraulic dredging methods and not mechanical dredging methods have been attributed to possible adverse effects to the species (PCC, 2000).

Status of Atlantic Sturgeon

On October 6, 2010, NMFS proposed to list four distinct population segments (DPS) of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered and one-DPS, the Gulf of Maine (GOM) DPS, as threatened (75 FR 61872; 75 FR 61890). The GOM DPS of Atlantic sturgeon includes all anadromous Atlantic sturgeon whose range occurs in watersheds from the Maine/Canadian border and extending southward to include all associated watersheds draining into the Gulf of Maine as far south as Chatham, MA. Within this range, Atlantic sturgeon have been documented in the Penobscot, Kennebec, Androscoggin, Sheepscot, Saco, Piscataqua, and Merrimack rivers. The marine range, including coastal bays and estuaries, of all Atlantic sturgeon extends from the Bay of Fundy, Canada to the Saint Johns River, FL (NMFS, 2010).

Project Setting/ Existing Conditions

The project is located on the Piscataqua River, four miles upstream from the outlet into the ocean at Portsmouth Harbor and six miles downstream of Little Bay. The drainage area for the river encompasses 1,495 square miles and includes the Salmon Falls River (which forms the boundary between Maine and New Hampshire upstream of the project), the Kennebunk River, Hampton Harbor, Great Bay, Bellamy River, Coheco River, Oyster River, and York River. The tidal range on the river varies from 6.4 feet upstream at Dover Point to 8.7 feet at Kittery Point north

of Portsmouth Harbor. The Piscataqua River, an estuarine river, is the third fastest navigable river in the world, due to the presence of a large waterbody (Great Bay) upstream.

The lower Piscataqua River bottom is primarily a hard substrate, consisting largely of rock ledge, gravel, and cobble. Little sedimentation occurs due to the high tidal currents in the lower estuary. This river is approximately 1,200 feet across at the bridge site, where it is adjoined by the seawall in Portsmouth and rocky/riprapped shoreline in Maine.

The Piscataqua River within the project site in both New Hampshire and Maine is classified according to the *Classification of Wetlands and Deepwater Habitats of the United States* (U.S. Fish and Wildlife Service Manual FWS-OBS-79/31) as estuarine subtidal unconsolidated bottom (E1UBL). This waterway is classified as Class B in New Hampshire, suitable for fishing, swimming, and other recreational purposes. In Maine, the Piscataqua River is classified as SC, suitable for recreation in and on the water and fishing.

The wetland resources adjoining the river at the project site are defined by tidal range, in accordance with the definition of coastal wetlands in both New Hampshire and Maine. In New Hampshire, tidal jurisdiction includes all submerged lands, salt marsh, sand dunes, and tidal flats. The Portsmouth waterfront at the project site is characterized by a seawall that defines the limit of the highest observable tideline. In Kittery, the shoreline includes riprapped embankment on the northeast side of the bridge and riprapped/rocky shoreline on the northwest side of the bridge.

Aquatic habitats within the affected section of the Piscataqua River are limited to primarily unvegetated subtidal areas dominated by a hard substrate as described above. Submerged aquatic vegetation (SAV) is not present in this portion of the river based on our visual inspection of the river, and information from the University of New Hampshire.

Habitat Suitability

Shortnose sturgeon are found in rivers, estuaries, and the ocean, but are mainly confined to their natal rivers and estuaries (NMFS, 1998). The Woodrow Wilson Bridge Project (WWB), which was prepared by Potomac Crossing Consultants (PCC) in 2000, biological assessment assumed that a hypothetical Potomac River population would have life historic characteristics more like the north-central stocks than those of the southern rivers. The northern stocks of shortnose sturgeon appear to be freshwater amphidromous, i.e., adults spawn in freshwater, but regularly enter saltwater during their life (NMFS, 1998). Most immature shortnose sturgeon (less than 5 years) of the northern stocks appear to remain in freshwater or near the freshwater/saltwater interface (PCC, 2000). Shortnose sturgeon typically spawn in their natal rivers in the vicinity of the farthest upstream locations they can access (NMFS, 1998).

Atlantic sturgeon are "anadromous"; adults spawn in freshwater in the spring and early summer and migrate into "estuarine" and marine waters where they spend most of their lives. In some southern rivers a fall spawning migration may also occur. They spawn in moderately flowing water (46-76 cm/s) in deep parts of large rivers. Sturgeon eggs are highly adhesive and are deposited on bottom substrate, usually on hard surfaces (e.g., cobble). It is likely that cold, clean water is important for proper larval development. Once larvae begin migrating downstream they use benthic structure (especially gravel matrices) as refuges. Juveniles usually reside in estuarine waters for months to years (NMFS, 2010).

Subadults and adults live in coastal waters and estuaries when not spawning, generally in shallow (10-50 m depth) nearshore areas dominated by gravel and sand substrates. Long distance migrations away from spawning rivers are common (NMFS, 2010).

The habitat in the vicinity of the Memorial Bridge consists of a hard substrate with water depths ranging from about 1 foot along the shore of the river to about 45 feet in the channel. There are no submerged aquatic vegetation beds in the vicinity of the project site.

Early Life Cycle Stages

At hatching, shortnose sturgeon are ill equipped to survive as free-swimming fish in the open river. In the laboratory, 1 to 8-day old shortnose sturgeon were photonegative, actively sought cover under any available material, and swam along the bottom until cover was found (Richmond and Kynard 1995). Due to the nature of the currents and resulting substrate of this section of the Piscataqua River (hardened), it is not expected that appropriate early life cycle stage habitat exists at the site.

Atlantic sturgeon spawning occurs upriver in flowing water between the salt front and fall line of large rivers. Although the substrate exists for this life cycle stage of Atlantic sturgeon at the site, the Piscataqua River at this location is entirely salt water (NMFS, 2010).

Juveniles

Juveniles of shortnose sturgeon (3-10 year olds) occur in at the saltwater/freshwater interface in most rivers (Saint John River: Dadswell 1979; Pottle and Dadswell 1979; Hudson River: Dovel et al. 1992; Savannah River: Hall et al. 1991; and Altamaha River: Flournoy et al. 1992, Ogeechee River: Weber 1996). Juveniles move back and forth in the low salinity portion of the salt wedge during summer (Pottle and Dadswell 1979). Juveniles in the Savannah River use sand/mud substrate in 10-14 m depths (Hall et al. 1991); Saint John River juveniles use similar substrate in channels 10-20 m deep (Pottle and Dadswell 1979); and Hudson River juveniles have been collected over silt substrates in similar depths (Dovel et al. 1992; Haley et al. 1996). The appropriate type of substrate does not exist at the site based on this information (sand/mud). In addition, as this portion of the Piscataqua River is entirely salt water, it is not expected that habitat suitable for juveniles is available at the site.

Once larval Atlantic sturgeon begin migrating downstream they use benthic structure (especially gravel matrices) as refuges. Juveniles of Atlantic sturgeon usually reside in estuarine waters for months to years (NMFS, 2010). It appears that sites suitable for juvenile Atlantic sturgeon exist at the site. In addition, sites appear to exist upstream at and near the Great Bay estuary good for adult Atlantic sturgeon habitat

Adults

Adult sturgeon occurring in freshwater or freshwater/tidal reaches of rivers in summer and winter often occupy only a few short reaches of the total river length (Connecticut River: Buckley and Kynard 28 1985a; Savoy and Shake 1992; Savannah River: Hall et al. 1991; Altamaha River: Flouronoy et al. 1992; Delaware River: O'Herron et al. 1993; and Merrimack River: Kieffer and Kynard 1993). In the Connecticut and Merrimack Rivers, the "concentration areas" used by fish were reaches where natural or artificial features cause a decrease in river

flow, possibly creating suitable substrate conditions for freshwater mussels (Kieffer and Kynard 1993), a major prey item for adult sturgeon (Dadswell et al. 1984). The flow of water in this area is extremely strong, and features at the site do not decrease river flow. In addition, as this portion of the Piscataqua River is entirely salt water, it is not expected that habitat suitable for adults is available at the site.

Atlantic sturgeon spawning occurs upriver in flowing water between the salt front and fall line of large rivers. Although the substrate exists for this life cycle stage of Atlantic sturgeon at the site, the Piscataqua River at this location is entirely salt water. Subadults and adults live in coastal waters and estuaries when not spawning, generally in shallow (10-50 m depth) nearshore areas dominated by gravel and sand substrates. Long distance migrations away from spawning rivers are common (NMFS, 2010). It appears that sites suitable for adult Atlantic sturgeon exist at the site. In addition, sites appear to exist upstream at and near the Great Bay estuary good for adult Atlantic sturgeon habitat.

Proposed Action

The project will replace the Memorial Bridge (US Route 1) facility over the Piscataqua River, including its components: the Memorial Bridge lift span / flanking spans, the Kittery Approach Spans, and the Scott Avenue Bridge (Portsmouth approach) on the existing alignment. US Route 1 is a principal urban arterial, connecting Portsmouth's business district in New Hampshire with Badger's Island in the Town of Kittery, Maine.

Design and construction of this project will follow a design-build process. Design-Build (DB) is a method of project delivery in which the design and construction phases of a project are combined into one contract. This can provide substantial time savings compared with the more traditional Design-Bid-Build approach, where the design and construction services must be undertaken in sequence.

The project is proposed to be constructed within an 18-month construction window beginning in early 2012.

Proposed Bridge

Memorial Bridge Lift/Flanking Spans

The existing Memorial Bridge has three 300-ft spans that will be replaced with three 300-ft spans. The two existing concrete piers in the middle of the Piscataqua River will remain, with repairs made to their concrete surfaces and the potential replacement of the fendering system. While the replacement design will be determined during the DB process, the replacement bridge will be a three span bridge with a moveable center span that would accommodate at least as much horizontal and vertical clearances as the existing lift span. The roadway width will be increased from the existing 28 feet to 32 feet to accommodate one 11-foot travel lane and a 5-foot shoulder/bike lane in each direction. The roadway will have a solid surface as opposed to the open grate that currently exists on the lift span. Sidewalks will be provided on both sides of the bridge and will be 6 feet in width for the entire length of the bridge and will have a solid surface. The horizontal and vertical clearance for each of the three spans will not substantially change.

The existing north pier that is shared with the Kittery Approach Spans will also be replaced. These two piers would be completely removed and the new piers will likely be located in the same location, however, they would be wider to accommodate the wider Memorial Bridge.

Kittery Approach Spans

The proposed project includes the complete replacement of the Kittery Approach Spans, the northern approach component of the Memorial Bridge facility. While the replacement structure type will be determined during the DB process, the replacement bridge will likely be a multi-span structure, but with fewer than the existing ten spans because of design and maintenance considerations. The existing piers will be removed to several feet below the river substrate or to bedrock. The existing north pier of the Memorial Bridge is shared with the Kittery Approach Spans and will be replaced as discussed above. The north abutment will also be replaced near its existing location and will be 4 feet wider to accommodate a wider bridge. The roadway width will be increased from the existing 28 feet to 32 feet to accommodate one 11-foot travel lane and 5-foot shoulder/bike lane in each direction. Solid surface sidewalks will be provided on both sides of the bridge and will be 6 feet in width.

Construction

For the work in the Piscataqua River, cofferdams will be placed around the area where the work will be conducted (Kittery Approach Spans to the north and around the immediate flanking span piers being replaced) so that work could be completed in the dry. Cofferdams would likely consist of driven sheet piles anchored into bedrock. Once cofferdams are installed, within the agreed to timeframe of November 15th to March 15th, based on our March 15, 2011 conference call with NMFS, work would be performed in the dry with the discharge of sediment laden water to upland areas. It is acknowledged that installation and removal of cofferdams can cause temporary sedimentation increases, however the time of year restriction would limit any adverse effects on shortnose sturgeon.

Footings for new bridge piers for the bridge will be constructed of concrete as they are today. There would likely also be drilling for bridge pile shafts to be seated in bedrock or ledge. As such, there will be no blasting required for this project. There will be the need to control and dispose of the sediments that are excavated from the shaft. The material will be removed to an appropriate upland disposal site.

Removal of the existing concrete piers and footings would be limited to cutting them below the mud line, as requested by NMFS in our March 15, 2011 conference call. All material from the bridge demolition will be removed from the site.

The work site will be accessed via a barge. Additional details will be provided during the design-build process.

The area of work is relatively small and limited to new footings, piers and fendering system, and will not impact migration by affecting water flow.

The demolition of the existing truss spans of the bridge facility will be conducted by floating out the truss spans on barges to a suitable dry land location for dismantling. The Kittery Approach

Spans will be removed by mechanical methods to prevent construction debris from entering the Piscataqua River.

Predicted Effects/ Conclusions

It is the intent of this project to construct the proposed replacement bridges in a manner to minimize impacts to shortnose sturgeon and Atlantic sturgeon. New piers that are constructed will be constructed to minimize permanent impacts, as described below:

- The driving of sheet pile cofferdams will be conducted between November 15th and March 15th of any year. The noise generated during this activity is not expected to affect shortnose sturgeon or Atlantic sturgeon due to the window of in stream work and the expectation that shortnose sturgeon and Atlantic sturgeon are not present at these times. Once cofferdams are constructed, work within them can be performed in the dry throughout the year.
- Pier construction will not affect shortnose sturgeon or Atlantic sturgeon since this work will be conducted in the dry, behind fully effective cofferdams.
- The removal of existing piers will be conducted by saw cutting or similar methods.

Appropriate construction techniques, and mitigation measures will be implemented to minimize potential impacts during construction. These include:

- The existing truss spans of the bridge facility will be removed from the piers and floated on barges to a dry land location for dismantling.
- The Kittery Approach Spans will be demolished by mechanical methods.
- Sediment-laden water removed from cofferdam areas will be pumped to upland areas to minimize the potential for sedimentation increases during construction.
- The contractor selected for construction will be required to prepare a Stormwater Pollution Prevention Plan specific to this project. The plan will detail the types of sediment control devices and the timing of construction and dewatering, subject to the agreed upon time of year restriction of no instream work between March 16th and November 14th of any year.
- There will be no blasting for construction.
- Sediments removed from drill shafts and cofferdams will be disposed of at an acceptable upland disposal site.

Given these commitments, it appears that the Memorial Bridge project “May Affect, But is Not Likely to Adversely Affect” the shortnose sturgeon and the Atlantic sturgeon.

We feel that the information contained herein is justification for requesting that the National Marine Fisheries Service concurs with this determination.

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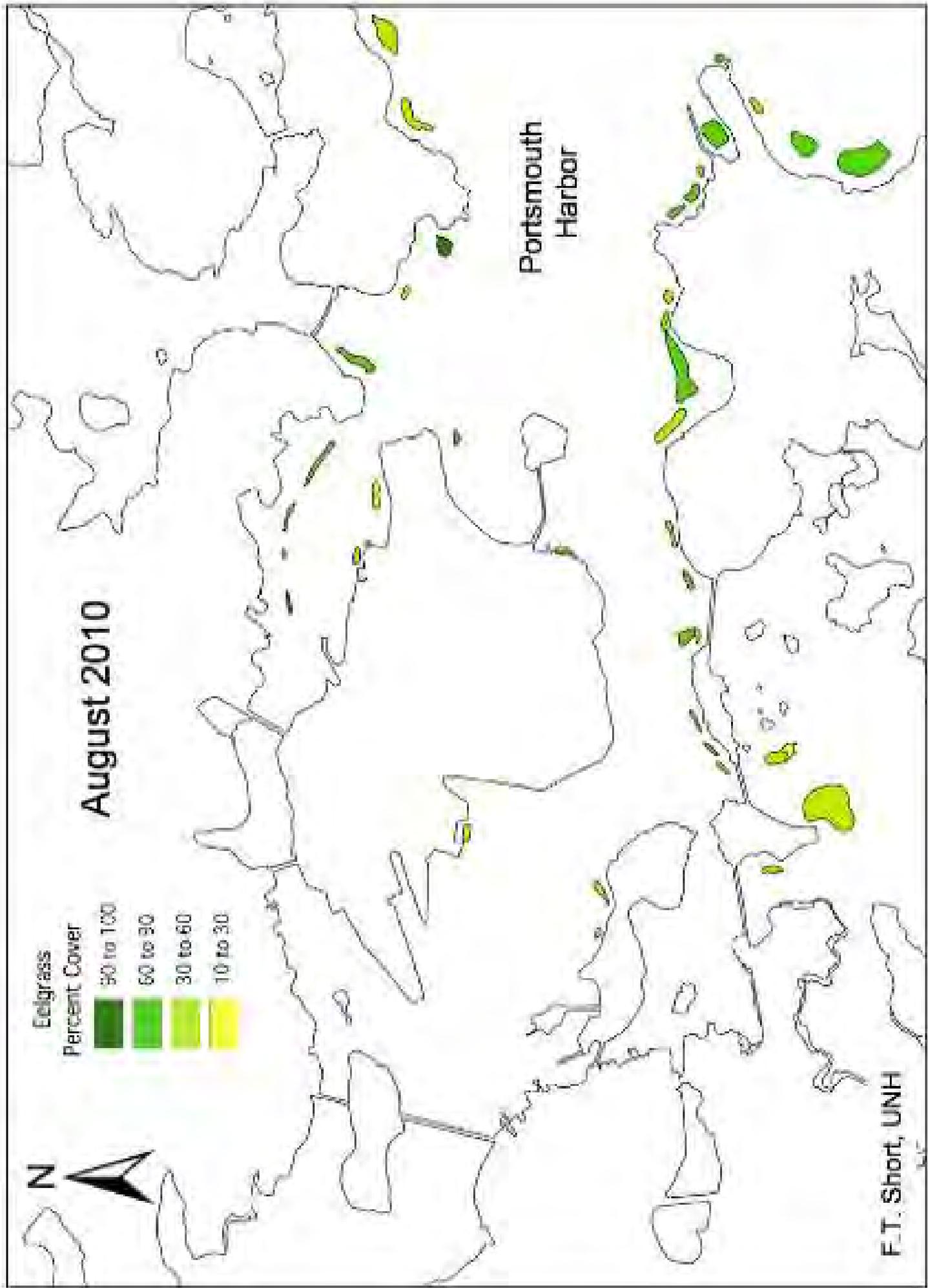
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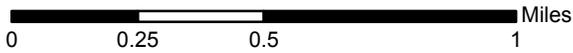
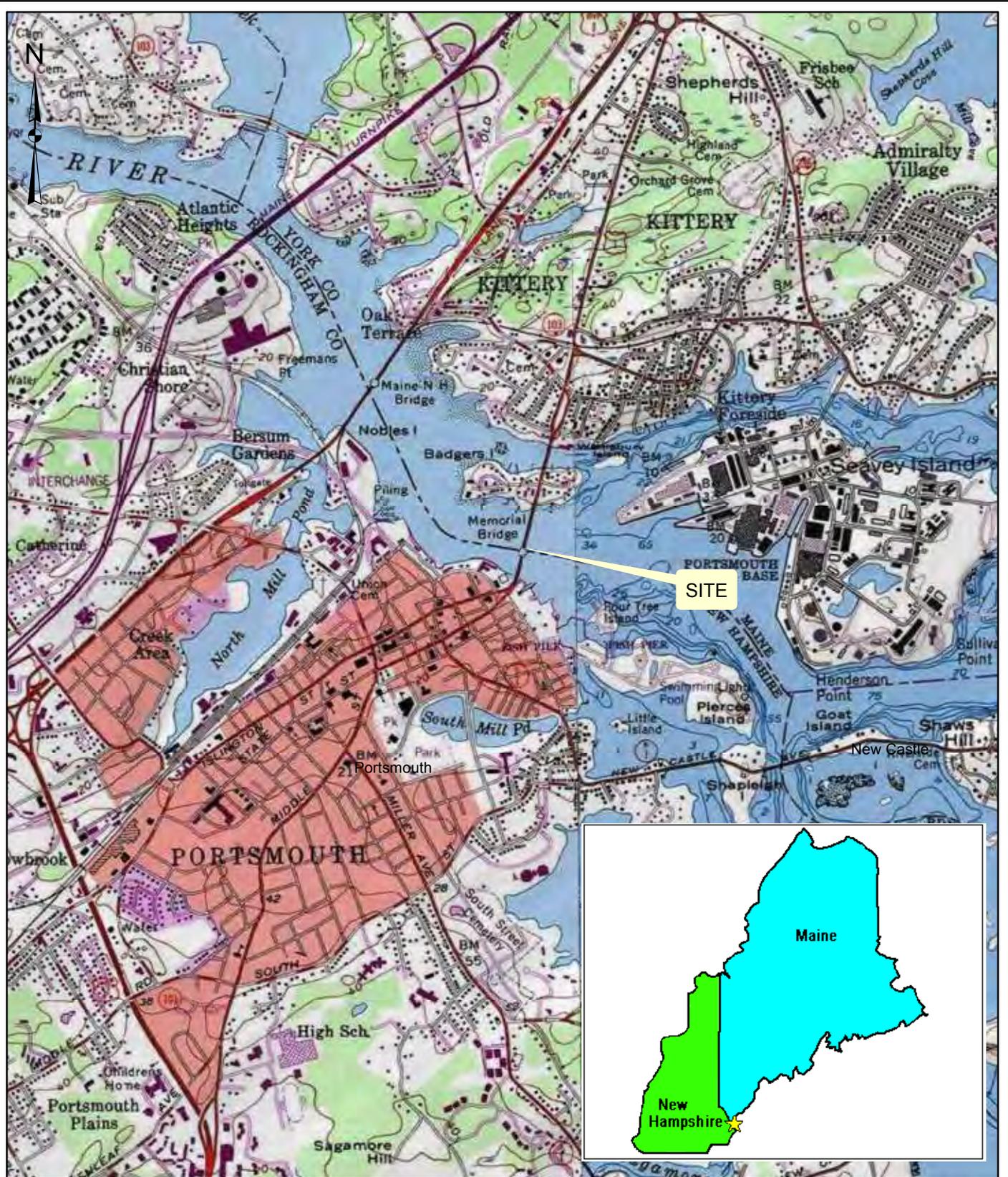
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NEW HAMPSHIRE DOT
 PORTSMOUTH, NH
**MEMORIAL BRIDGE (U.S. ROUTE 1) REPLACEMENT
 LOCUS**

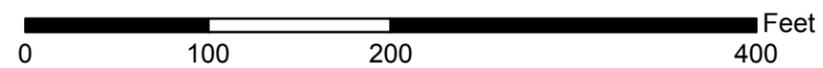
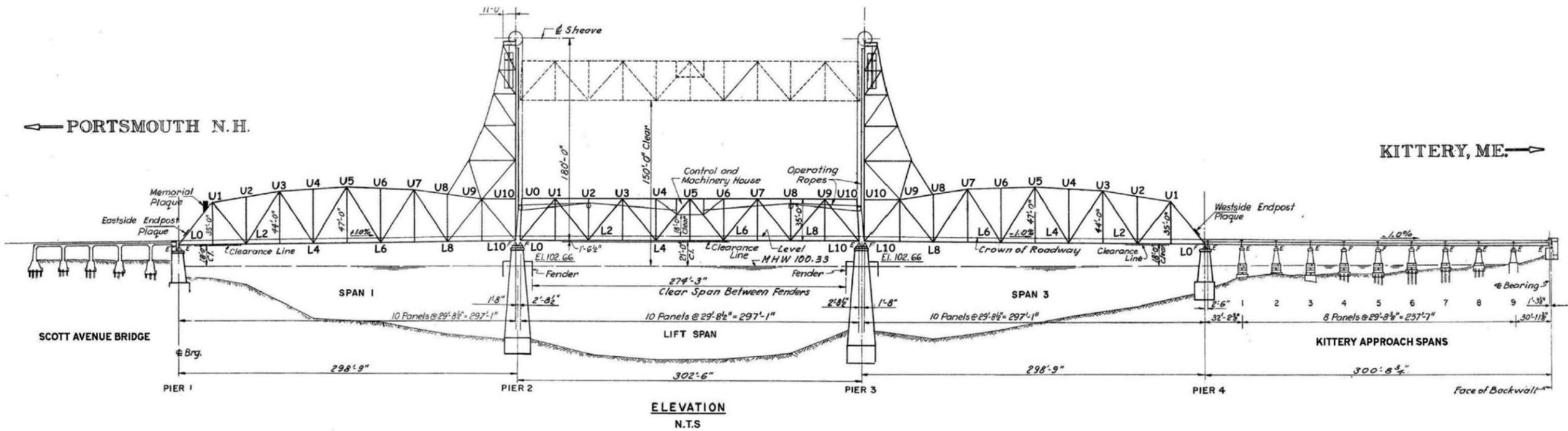
SCALE: 1:24,000	DATE: JUNE 2011	FIGURE: 1
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NEW HAMPSHIRE DOT PORTSMOUTH, NH		
MEMORIAL BRIDGE (U.S. ROUTE 1) REPLACEMENT PROJECT AREA		
SCALE: 1:3,600	DATE: JUNE 2011	FIGURE: 2
		



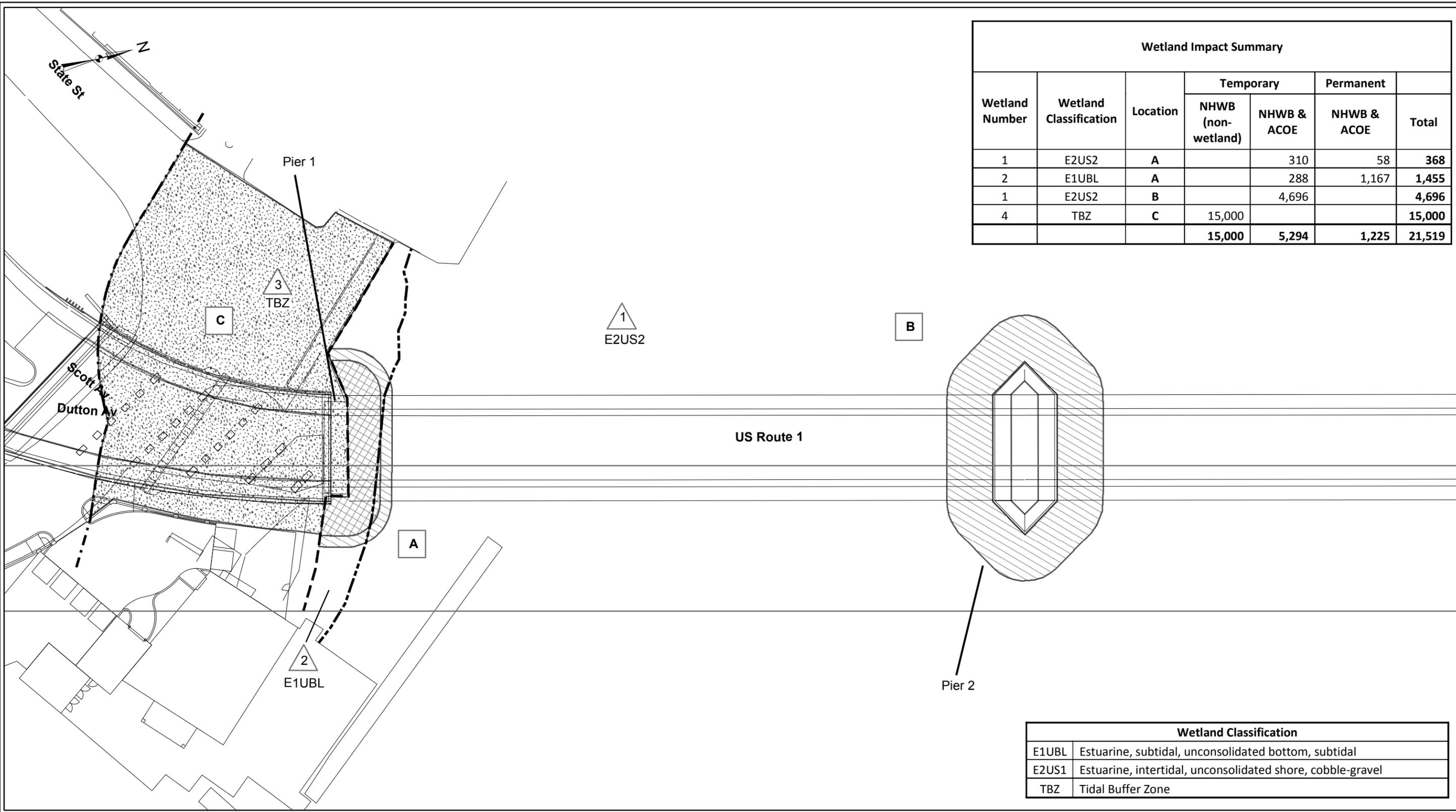


NEW HAMPSHIRE DOT PORTSMOUTH, NH		
MEMORIAL BRIDGE (U.S. ROUTE 1) REPLACEMENT EXISTING BRIDGE ELEVATION VIEW (VIEW LOOKING WEST)		
APPROXIMATE SCALE: 1:1,200	DATE: JUNE 2011	FIGURE: 3



Source: Memorial Bridge Rehabilitation Project Final Environmental Study, May, 2008 NHDOT



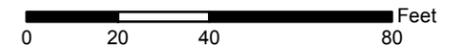


Wetland Impact Summary						
Wetland Number	Wetland Classification	Location	Temporary		Permanent	Total
			NHWB (non-wetland)	NHWB & ACOE	NHWB & ACOE	
1	E2US2	A		310	58	368
2	E1UBL	A		288	1,167	1,455
1	E2US2	B		4,696		4,696
4	TBZ	C	15,000			15,000
			15,000	5,294	1,225	21,519

Wetland Classification	
E1UBL	Estuarine, subtidal, unconsolidated bottom, subtidal
E2US1	Estuarine, intertidal, unconsolidated shore, cobble-gravel
TBZ	Tidal Buffer Zone

- Legend**
- - - 100' Tidal Buffer
 - - - Highest Observable Tide Line
 - - - Mean Ordinary Low Water
 - 100 Year Floodplain

- Wetland Impact**
- Permanent NHWB and ACOE
 - Temp NHWB and ACOE
 - NHWB (Tidal Buffer)



NEW HAMPSHIRE DOT
PORTSMOUTH, NH

**MEMORIAL BRIDGE (U.S. ROUTE 1) REPLACEMENT
WETLAND IMPACTS**

APPROXIMATE SCALE: 1:480	DATE: JUNE 2011	FIGURE: 4
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McFarland Johnson

Path