



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

March 30, 2011

Colonel Philip T. Feir
District Engineer
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Re: Kennebec River Federal Navigation Dredging Project

Dear Colonel Feir:

The NOAA's National Marine Fisheries Service (NMFS) has reviewed the Public Notice dated March 1, 2011, for the Maintenance and Advanced Maintenance Dredging of the Federal Navigation Project (FNP) in the Kennebec River, Maine. In addition, NMFS has received the Essential Fish Habitat (EFH) Assessment prepared by the US Army Corps of Engineers (USACE) for the proposed project, dated February 2011. According to the Public Notice, dredging is needed within two portions of the Kennebec River in order to provide safe passage of the US Navy Destroyer SPRUANCE, scheduled to transit the channel around September 1, 2011. The SPRUANCE has been deemed critical to national defense and its transit from the Bath Iron Works (BIW) cannot be delayed. The proposed project involves dredging for three to five weeks beginning around August 1, 2011, in two portions of the 27-foot deep by 500-foot wide federal navigation channel on the Kennebec River. According to the Public Notice, in order to provide safe passage for the vessel, approximately 50,000 cubic yards and 20,000 cubic yards of material is expected to be dredged from the Doubling Point area and Popham Beach area, respectively. Two feet of allowable overdepth dredging is proposed for both areas of the channel, and an additional 3 feet of dredging is proposed for advanced maintenance at the Doubling Point area. The disposal of material dredged from Doubling Point is proposed at an in-river site near Bluff Head in about 100 feet of water and the disposal for the Popham Beach material is proposed at a nearshore disposal site south of Jackknife Ledge in about 50 feet of water.

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 essential fish habitat (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. We offer the following comments and recommendations on this project pursuant to the above referenced regulatory processes.

General Comments

The Kennebec River is a productive freshwater and estuarine system, and habitats within this area support numerous important living marine resources. The shoreline of the Kennebec River contains salt marsh communities and rocky, intertidal habitat dominated by rockweed and other



macroalgal species that are forage habitat for finfish and invertebrates. The intertidal zone also contains mudflat communities supporting numerous bivalve species, including soft-shell clams and blue mussels. In addition, the Kennebec River supports a variety of anadromous species, such as alewife, Atlantic salmon, Atlantic and shortnose sturgeon, blueback herring, American shad, rainbow smelt, and striped bass, and one catadromous species, American eel. American lobster is also reported to move into the lower Kennebec River estuary during the spring and summer months. Other NOAA trust resources known to occur in this area include Atlantic silverside, cunner, tautog, banded killifish, Atlantic silverside, mummichog, and green sea urchin. Many of these species have been identified as forage species for some of the federally managed species listed below (Collette and Klein-MacPhee 2002). According to the Maine Department of Marine Resources (ME DMR), three seine stations located in the vicinity of Doubling Point have been sampled during the summer months since 1994 (G. Wippelhauser, personal communication). Data from these sampling stations indicate 38 species of fish have been collected. After small forage species (i.e., mummichog, silverside, and killifish), the most abundant species collected at Doubling Point are alewife, rainbow smelt, Atlantic menhaden, white perch, striped bass, and blueback herring. Because these species are present within the Kennebec River in the spring, summer and fall months for foraging and juvenile and adult migrations, adherence to the recommended time-of-year dredging window is critical in minimizing impacts to these species. Furthermore, because water temperatures are highest during summer months, the biological productivity of the Kennebec River and coastal waters of the Gulf of Maine are also highest at this time. In addition, shellfish such as soft-shell clams are known to spawn in the lower Kennebec River and adjacent waters of the Gulf of Maine during summer months. Several soft-shell clam beds have been surveyed in the Kennebec River near Popham Beach and below Doubling Point on flats near the Town of Phippsburg (R. Aho, ME DMR, personal communication). These surveys indicate that productive clam beds exist in the intertidal flats between Doubling Point and Popham Beach. Direct and indirect impacts to aquatic organisms during dredging, including turbidity and sedimentation, should be avoided during the highest biologically-productive time of year.

According to our files for this project, recent dredging activities for these portions of the Kennebec River were conducted in 1997, 2000, 2002, and 2003. Due to shoal conditions in the Popham Beach and Doubling Point reaches, the dredging conducted in December 2000, April 2002, and October 2003 were reviewed by NMFS under emergency dredging requests. These emergency dredging events were precipitated by a need to deploy US Navy ships from BIW. The most recent dredging event in October 2003 resulted in five shortnose sturgeon being entrained into the hopper dredge, with three of these being lethal. In both 2002 and 2003, NMFS' Habitat Conservation Division recommended, prior to any subsequent dredging needs in the Kennebec FNP, the USACE conduct a comprehensive study of its programmatic dredging activities in the Kennebec River. The intent of this recommendation was to develop an understanding of the sediment dynamics of these areas of the Kennebec River and the dredging needs of the US Navy, and to investigate opportunities for collaboration between the USACE, the US Navy, and the NMFS to avoid or minimize the need for emergency dredging outside the normal dredging time-of-year window. In addition, NMFS also recommended the USACE develop a programmatic EFH consultation for this project, which would provide the USACE long-term consultation agreements under MSA with NMFS. Unfortunately, it does not appear that either a programmatic assessment of the Kennebec River sediment dynamics, development

of programmatic agreements between the USACE, the US Navy, and NMFS, or a request for a programmatic EFH consultation has been conducted for this project. We continue to believe that developing a more comprehensive and long-term approach to the dredging needs in the Kennebec River are necessary to avoid dredging during the biologically-productive time of the year.

Essential Fish Habitat

As noted in previous consultation letters, the Kennebec River and adjacent areas in the Gulf of Maine have been designated as EFH under the MSA for a number of federally-managed species. These include juvenile and adult Atlantic cod, whiting, red hake, white hake, bluefish, and Atlantic mackerel; larvae, juvenile and adult Atlantic herring; juvenile pollock; the eggs of yellowtail flounder; and all life stages of American plaice, Atlantic halibut, Atlantic salmon, ocean pout, windowpane flounder, and winter flounder. In addition, the Kennebec River is one of eleven Maine rivers that has been designated as Habitat of Particular Concern (HAPC) for Atlantic salmon. These rivers provide an important ecological function by supporting the only remaining U.S. populations of naturally spawning Atlantic salmon that have historic river-specific characteristics. In addition, because these rivers are susceptible to a variety of human-induced threats, they serve two very important purposes in terms of being HAPCs: they provide a unique and important ecological function; and they are sensitive to human-induced environmental degradation.

In the NMFS' 2003 letter, we provided comments regarding the disposal option for the dredged material from Popham Beach, which is a nearshore site south of Jackknife Ledge. According to the 2003 draft EA and the USACE's letter, dated January 15, 2004, this site was chosen by the Maine Department of Environmental Protection because of its close proximity to the Popham Beach dredging site and because they believe the disposal at this location would allow the sand to remain in the littoral system and potentially indirectly renourish nearby beaches. Although the nearby beaches may receive sand nourishment from a gyre in this area, we continue to have concerns that due to the presence of gravel/rubble sediment and ledge outcropping in this area (see Appendix 4, Summary of Side-scan sonar survey of the Jackknife Ledge Area for the nearshore disposal site), this disposal site may not represent the least-damaging alternative for disposal of dredge material. Specifically, the dredged material from Popham Beach area of the river may not be compatible with the gravel/rubble sediment and ledge found at Jackknife Ledge. The New England Fishery Management Council has designated similar gravel/cobble habitat on Georges Bank as a HAPC for juvenile cod. As such, NMFS considers gravel and cobble habitat to be an aquatic resource of national importance. In addition, larval and juvenile sea scallops prefer bottom habitat composed of gravelly sand (Packer et al. 1999); the highest survival rates of American shad eggs reportedly occur over gravel and rubble substrates (Collette and Klein-MacPhee 2002); and ocean pout deposit eggs in sheltered nests and are associated with rocky substrates (Steimle et al. 1999). In addition, American lobster use cobble substrate (ASMFC 1997) and macroalgal covered bedrock for shelter from predation and for feeding during early benthic phase (Barshaw and Bryant-Rich 1988; Wahle and Steneck 1991).

Based upon the information available, we have concluded that the proposed project may have adverse effects on EFH used for spawning, forage, and shelter for several of the species listed above. In addition, the proposed project may have potential adverse impacts on a number of

diadromous fish and shellfish that are NMFS trust resources, including the federally listed endangered shortnose sturgeon and Atlantic sturgeon, which have been proposed for listing.

Conservation Recommendations

Based on the above, NMFS recommends pursuant to Section 305(b)(4)(A) of the MSA that the USACE adopt the following EFH Conservation Recommendations:

1. In order to avoid future dredging during highly productive times within the river, a comprehensive programmatic review of the Kennebec River FNP should be completed prior to the next dredging event (post emergency dredging). This review should include an investigation of the following:
 - a. Sand budget modeling based on shoaling rates in the Kennebec River, with predictions of dredging cycles needed to maintain safe navigation in the river and for the BIW facilities.
 - b. To avoid emergency dredging events outside of the time-of-year dredging window, a tentative schedule should be developed through coordination with BIW and the US Navy to anticipate large vessel transits within the river. This tentative schedule should be used to develop a short and long-term dredging plan for the Kennebec River, as necessary.
 - c. In order to avoid emergency dredging events and dredging outside of the recommended time-of-year dredging window, a feasibility study should be included in the programmatic review to assess the benefits and costs of winter dredging conducted on a regular schedule.
 - d. Alternative dredge material disposal locations should be identified and analyzed to reduce potential impacts related to the use of nearshore disposal sites. Beneficial uses of dredged material, such as direct placement onto nearby beaches Popham Beach or Hunnewell Beach, located only a few hundred meters from the shoal, should be evaluated.
2. In conjunction with the above comprehensive review, a programmatic EFH assessment should be developed for the Kennebec River FNP. A programmatic EFH assessment should include a description of the proposed action(s), an analysis of the effects of the proposed action(s) on EFH, the federal agency's views on those effects, and proposed mitigation, if applicable. In addition, the analyses discussed above should be included in the assessment.

Please note that Section 305(b)(4)(B) of the MSA requires the USACE to provide NMFS with a detailed written response to these EFH conservation recommendations, including a description of measures adopted by the USACE 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 USACE 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.

Fish and Wildlife Coordination Act

As discussed above, the Kennebec River supports a number of NOAA trust resources covered under the FWCA, including shellfish, American lobster, and diadromous fish species. As such, NMFS' FWCA recommends for this project include those provided above as EFH conservation recommendations.

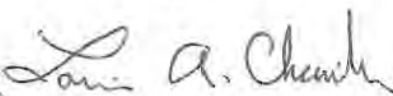
Endangered Species Act

Two species of endangered fish (shortnose sturgeon and the Gulf of Maine Distinct Population Segment [DPS] of Atlantic salmon) are known to occur in the Kennebec River. Formal consultation pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended was initiated between the USACE and NMFS on March 2, 2011, and is currently ongoing. It is anticipated that this consultation will be completed prior to the final agency action taken by the USACE. Question concerning species listed under the ESA and Section 7 consultations can be directed to Julie Crocker at the letterhead address above, or by phone at (978) 282-8480.

Conclusions

In summary, NOAA Fisheries recommends that the USACE develop a comprehensive programmatic review of the Kennebec FNP. The review should investigate and recommend measures that can be incorporated into the federal navigation project which avoid dredging outside the recommended time-of-year dredging window, and avoid and minimize adverse impacts on EFH, and other NOAA trust resources. In addition, a programmatic EFH assessment should be developed concurrently with this comprehensive review. We look forward to your response to our EFH conservation recommendations. Should you have any questions about this matter, please contact Michael Johnson at the letterhead address above, or by phone at (978) 281-9130.

Sincerely,


for

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

cc: Matt Schweisberg, EPA – Boston, MA
Wende Mahaney, USFWS – Old Town, ME
Tom Chapman, USFWS – Concord, NH
Mary Colligan, NMFS, PRD
Julie Crocker, NMFS, PRD
Bill Kavanaugh, USACE
Captain Dean M. Krestos, Department of the Navy

References

- Atlantic States Marine Fisheries Commission. 1997. Amendment 3 to the Interstate Fishery Management Plan for American Lobster. Washington, DC.
- Barshaw, D.E. and D.R. Bryant-Rich. 1988. A long-term study on the behavior and survival of early juvenile American lobster, *Homarus americanus*, in three naturalistic substrates: eelgrass, mud, and rocks. Fish. Bull. 86(4): 789-796.
- Collette BB, Klein-MacPhee G, editors. 2002. Bigelow and Schroeder's fishes of the Gulf of Maine. 3rd ed. Washington (DC): Smithsonian Institution Press. 748 p.
- Packer, D.B., L.M. Cargnelli, S.J. Griesbach, and S.E. Shumway. 1999. NOAA Technical Memorandum NMFS-NE-134. Essential Fish Habitat Source Document: Sea Scallop, *Placopecten magellanicus*, Life History and Habitat Characteristics. National Marine Fisheries Service, Woods Hole, MA.
- Steimle, F.W., W.W. Morse, P.L. Berrien, D. L. Johnson, and C.A. Zetlin. 1999. NOAA Technical Memorandum NMFS-NE-129. Essential Fish Habitat Source Document: Ocean Pout, *Macrozoarces americanus*, Life History and Habitat Characteristics. National Marine Fisheries Service, Highlands, NJ.
- Wahle, R.A., and R.S. Steneck. 1991. Recruitment habitats and nursery grounds of the American lobster: a demographic bottleneck? Mar. Ecol. Prog. Ser. 69:231-243.