UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
One Blackburn Drive
Gloucester, MA 01930

APR 17 2008

MEMORANDUM FOR: Joel La Bissonniere
NOAA Assistant General Counsel
For Ocean Services

FROM: Louis Chiarella
New England Field Office Supervisor
NMFS Habitat Conservation Division

Christopher Boelke
Marine Habitat Resource Specialist
NMFS Habitat Conservation Division

SUBJECT: Response to request for comments – Consistency Appeal of Weaver's Cove Energy, LLC and Mill River Pipeline, LLC

The purpose of this memorandum is to respond to your request for comments regarding adverse coastal effects associated with the Weavers Cove LNG project in Fall River, MA. Below is a summary of correspondence between NOAA Fisheries and the US Army Corps of Engineers, the Federal Energy Regulatory Commission, and Weavers Cove, LLC. In addition, please find copies of this correspondence attached. As noted in the correspondence, adverse coastal effects associated with this project include impacts on winter flounder and anadromous fish, and temporary and permanent impacts on essential fish habitat (EFH). To date, Weavers Cove, LLC has not agreed to our EFH conservation recommendations to: 1) avoid dredging during portions of the year in order to minimize adverse effects to anadromous fishery resource, and 2) develop a compensatory mitigation plan to offset temporary and permanent losses to EFH. Should you require additional information or clarification of issues, please contact Christopher Boelke at 978-281-9131 or Lou Chiarella at 978-281-9277.

September 17, 2004 – Letter to the Corps of Engineers responding to Public Notice and Letter to the Federal Energy Regulatory Commission responding to the DEIS. This letter describes permanent and temporary impacts relative to winter flounder, issues relative to the SSFATE modeling program, impacts on shellfish resources, and impacts on anadromous fish resources. NOAA Fisheries issued EFH conservation recommendations including time of year restrictions on dredging and compensatory mitigation requirements.

June 27, 2005 – Letter to the Federal Energy Regulatory Commission responding to the FEIS. This letter maintains that impacts on fishery resources have been underestimated through the application of the SSFATE modeling program. NOAA Fisheries also states in this letter that an adequate compensatory mitigation plan has not been developed. Finally, NOAA Fisheries maintains that a time of year restriction in order to protect anadromous fishery resources is necessary.

December 27, 2005 – Letter to the Corps of Engineers responding to the revised Public Notice. While the reason for the revised notice was related to offshore disposal of material, NOAA Fisheries reiterated our concerns regarding the SSFATE modeling program, time of year restrictions for winter flounder and anadromous fish, and compensatory mitigation.

February 24, 2006 – Letter to Weavers Cove Legal representative regarding Weavers Cove request to enter settlement agreement with NOAA Fisheries. NOAA Fisheries Administrator maintains that NOAA Fisheries is unable to enter into agreement with Weavers Cove, and those issues relative to anadromous fish resources and compensatory mitigation remains outstanding. NOAA Fisheries recommends that an interagency meeting be convened by the Corps of Engineers in order to resolve outstanding issues.

January 23, 2007 - Letter to Weavers Cove legal representative regarding Weavers Cove request for concurrence on their proposed balanced dredging mitigation plan. NOAA Fisheries Administrator did not agree to the proposed balanced dredging mitigation plan. However, NOAA Fisheries reiterated a recommendation for an interagency meeting convened by the Corps of Engineers in order to resolve outstanding issues.

March, 2007 - Federal and state agencies agreed to meet with Weavers Cove to discuss issues, as directed by NOAA Fisheries Administrator in letters dated February 24, 2007 and January 23, 2007. However, on March 6, 2007, this meeting is cancelled at the request of Weavers Cove. To date, a meeting has not been rescheduled.

Attachments

cc: Peter Colosi, HCD

UNITED STATES DEPARTMENT OF COMMERCE
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One Blackburn Drive
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SEP 17 2004

Ms. Christine Godfrey
Chief, Regulatory Branch
U.S. Army Corps of Engineers
696 Virginia Road
Concord, Massachusetts 01742-2751

Re: Weavers Cove Energy L.L.C. and Mill River Pipeline L.L.C. (NAE-2004-2355), Fall River, Massachusetts

Dear Ms. Godfrey:

The National Marine Fisheries Service (NOAA Fisheries) has reviewed the Public Notice (#2004-2355) by Weavers Cove Energy L.L.C. and Mill River Pipeline L.L.C. (applicants) for the construction of a Liquefied Natural Gas (LNG) import facility along the Taunton River in Fall River, Massachusetts. The Federal Energy Regulatory Commission (FERC) has issued a Draft Environmental Impact Statement (DEIS) for this project and is currently under review. NOAA Fisheries has served as a cooperating federal agency in the development of the DEIS.

According to the Army Corps of Engineers' (ACOE) Public Notice, the proposed project will conduct dredging within an existing federal navigation channel, install structures, and discharge fill material in wetlands and waterways for the construction of the LNG import terminal and natural gas pipeline facilities. Specifically, the applicant has proposed to dredge approximately 2.5 million cubic yards of material from within a footprint of approximately 200 acres; replace a pier with jetty structure; install sheet pilings to stabilize and straighten approximately 2,650 ft of shoreline; and permanently fill approximately .04 acres of salt marsh habitat, .94 acres of intertidal habitat, and .17 acres of subtidal habitat.

A primary concern to NOAA Fisheries is the proposed dredging. This activity will remove a minimum of approximately 2.5 million cubic yards of material from the channel and turning basin with upland, on-site placement of material. The applicant has proposed the dredging of the Taunton River to occur continuously for a period of 36 months. At this time, NOAA Fisheries believes that the proposed project will result in substantial and unacceptable impacts on aquatic resources of national importance (ARNI).

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act 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 the relevant consultation procedure. We also note your permitting obligations at 33 CFR Parts 320 through 330, and particularly at 40 CFR Part 230, as well as the process mutually agreed upon in our

Memorandum of Agreement (MOA) concerning Section 404(q) of the Clean Water Act. We offer the following comments and recommendations on this project pursuant to the above referenced regulatory construct and to invoke the elevation process outlined in Part IV, Paragraph 3(b) of our interagency MOA.

General Comments

The Taunton River/Mount Hope Bay Complex has been designated as EFH for 14 federally managed species, including the commercially and recreationally important winter flounder (*Pseudopleuronectes americanus*). The New England Fishery Management Council currently manages winter flounder under the Northeast Multispecies (Groundfish) Fishery Management Plan. As noted within the DEIS, Marine Research, Inc. (MRI) has been conducting annual surveys in Mount Hope Bay and the lower Taunton River in order to determine finfish species and lifestage occurrence associated with the Brayton Point Power Station permit stipulations. These surveys, which include both trawls and seine stations, show that winter flounder have been present within the project footprint during previous surveys in Mount Hope Bay (NEPCo and MRI, 1994, NEPCo and MRI, 1999). MRI's 1992 icthyoplankton sampling in upper Mount Hope Bay found that winter flounder larvae accounted for 94% of the larvae collected between January and April (NEPCo and MRI, 1994). Furthermore, MRI's 1998 sampling indicated that winter flounder represented 67% of the larvae collected from February through mid-May (NEPCo and MRI ,1999). The EFH assessment within the ACOE Joint Section 10/404 Individual Permit Application (permit application) and the DEIS notes that there is presence of winter flounder within the project area, and the species has been identified specifically within the Taunton River (Chris Powell, personal communication, 9/2/04).

The proposed project area serves as an important winter flounder spawning and juvenile development habitat. According to the NOAA Technical Memorandum NMFS-NE-138 (EFH Source Document), winter flounder spawning has been known to occur on substrates of sand, silt, and mud at varying depths of less than 5 meters to depths of 45 meters on Georges Bank (Pereira et al. 1999). Furthermore, winter flounder spawning is temperature dependent and eggs have been collected in water temperatures of 10 degrees Celsius or less (Pereira et al. 1999). According to measurements associated with the Brayton Point Power Station NPDES permit renewal application, intake water temperatures in the Taunton River from 1981–2001 have been variable and the minimum monthly averages range from 0.7 to 1.3 degrees C (US Gen, 2001). As indicated within the EFH assessment within the DEIS, egg and juvenile life stages are expected to be present within the project footprint at these temperatures throughout the winter and spring.

Throughout our involvement as a cooperating federal agency, NOAA Fisheries has expressed concerns that suspended sediments resulting from the construction of the proposed project will have substantial and unacceptable impacts on winter flounder spawning habitat. We have maintained that time of year work restrictions should be implemented and utilized as a method to avoid adverse impacts on winter flounder eggs. The applicant has utilized the SSFATE modeling program to predict approximately 12 acres of adverse impact on winter flounder EFH resulting from dredging-induced suspended sediment. Moreover, inputs to the SSFATE model have underestimated the habitat parameters of winter flounder spawning conditions and dredge operational requirements, and, therefore, the impacts on EFH are substantially underestimated.

Without an adequate characterization of potential adverse effects, we feel the DEIS does not meet the goals and objectives under the National Environmental Policy Act (NEPA).

Anticipated impacts on winter flounder

Weaver's Cove, LLC has proposed dredging within the Taunton River and Mount Hope Bay continuously for approximately 36 months. While the applicant contends impacts will be temporary, elevated suspended sediment conditions within the area will preclude the use of the area for successful winter flounder spawning through potentially four spawning seasons. Due to the importance of this area as a winter flounder spawning area, NOAA Fisheries views these impacts, while "temporary," to be substantial and unacceptable. At this time, we maintain that adverse impacts on winter flounder spawning habitat have not been fully accounted for due to insufficient inputs into the SSFATE model. Based on comments provided by NOAA Fisheries, the applicant appears to have utilized sufficient inputs to the SSFATE model for winter flounder spawning depth and winter flounder egg burial depth. However, NOAA Fisheries maintains that rate of winter flounder embryo development as well as assumed sediment loss from dredging operations (bucket loss) have not yet been accounted for adequately within the model.

Winter flounder spawning depth

In earlier versions of the dredging modeling report, NOAA Fisheries noted that the depth of winter flounder spawning areas had been underestimated. We had previously recommended that the applicant utilize a depth of eight meters for inputs into the SSFATE model in order to account for variability in depth of winter flounder spawning areas. While spawning occurs within deeper waters, winter flounder spawning is most common in waters of eight meters or less. The EFH Source Document indicates variability in the depth of winter flounder spawning habitats, and that winter flounder "spawning can occur at depths of less than five meters to more than 45 meters on Georges Bank" (Pereira et al. 1999). While winter flounder spawning occurs at these shallower depths, a review of the EFH Source Document describes evidence of spawning activity in deeper environments. Due to the wide variability of this spawning activity, NOAA Fisheries maintains that utilizing a <5 meter depth for winter flounder spawning as an input to the SSFATE modeling program does not adequately assess the potential impacts on the resource. By utilizing greater depths that account for this variability of winter flounder spawning depths, the aerial extent of EFH impacts will increase and thus indicate greater impacts on EFH. While the ACOE permit application identifies a number of model runs with a variety of depths, it currently appears that the applicant has utilized the 8-meter depth as recommended. Should additional SSFATE model runs be generated for this project, the applicant should continue to assume an 8-meter depth rather than areas less than 5 meters to account for variability in winter flounder spawning.

Winter flounder egg burial depth

Within the ACOE permit application, the applicant discusses the use of a 0.5-mm threshold depth of sediment deposition for impacts on winter flounder eggs in the SSFATE model, per earlier recommendations by NOAA Fisheries. Throughout the ACOE permit application, however, there are a number of references indicating the use of a 1.0-mm burial threshold. As stated within the EFH Source Document, winter flounder eggs range in size from 0.74-0.85 mm in diameter (Pereira

et al. 1999). At sediment deposition depths greater than 0.5-mm, winter flounder eggs can be adversely affected due to suffocation. Based on our review of the anticipated effects, it appears that the applicant has assumed the 0.5-mm threshold depth for the model as recommended. Should additional SSFATE model runs be generated for this project, the applicant should continue to utilize the 0.5-mm threshold rather than the 1.0-mm threshold.

Winter flounder egg incubation period

The SSFATE modeling program describes the maximum duration of exposure of winter flounder eggs to suspended sediment that would have adverse effects. This maximum duration of exposure is related to impacts on embryonic development in winter flounder. The SSFATE modeling program employed a maximum duration of exposure of winter flounder eggs to suspended sediment as being 21 days. This 21-day rate of embryo development for winter flounder eggs presented within the SSFATE model assumes normal winter conditions. The EFH Source Document describes protracted embryo developments taking upwards of 31 days (Pereira et al. 1999). NOAA Fisheries provided earlier comments that the rate of embryo development for winter flounder eggs is temperature dependent, and embryo hatching can be protracted for up to 40 days in a laboratory setting (Nelson, Personal communication, 2003). NOAA Fisheries maintains that the 21-day development period value does not allow for temperature variability and delayed incubation periods and, therefore, underestimates the potential dredging impacts on winter flounder embryos. Based on our review of the SSFATE modeling results, the applicant continues to optimize the embryo incubation period through the use of the 21-day input. FERC concludes on page 4-77 of the DEIS that, had the applicant changed the model to include 40 days as requested by NOAA Fisheries, impacts on winter flounder spawning habitat would have been greater.

Percent loss of material from dredging operations

NOAA Fisheries has previously recommended that the applicant utilize an estimate of 2 percent bucket loss for inputs into the SSFATE model. As presented within the ACOE permit application, Weaver's Cove has used a .66 percent input for modeling purposes. The applicant contends that a .66 percent bucket loss rate can be assumed for the proposed project based on studies performed for a recent Boston Harbor dredging project that included a significant portion of "improvement" dredging. NOAA fisheries maintains that a .66 percent bucket loss rate is not appropriate for the proposed dredging project. As a considerable portion of the proposed dredging is "maintenance," it is anticipated that material will be silty and have higher water content than firm, consolidated "improvement" materials. As indicated in the ACOE permit application, 85 percent of materials are expected to be silty. Consolidated materials are expected to contain less water, and, therefore, contribute less to suspended sediment loading of the waterway. In our opinion, the use of a .66 percent value for bucket loss underestimates the amount of suspended sediment that will result from this dredging project.

Scow/barge overflow

Scow/barge overflow has been utilized primarily in cases where suspended sediments are a concern during transit to, and at, the proposed dredged material disposal site. As the barge is filled beyond capacity, existing water displaced by the dredged material is expelled into the waterway. In the

case of Weaver's Cove, the use of barge/scow overflow will require less dewatering of material and more efficient handling of material when placed on site. While this technique may be acceptable in certain situations, it represents an introduction and elevation of suspended sediment at the dredge site. To date, this additional source of suspended sediment has not been included within the SSFATE modeling calculations. While the applicant is not proposing barge/scow overflow for dredging within the turning basin during the winter flounder spawning season, the applicant does propose the use of this technique within the remainder of the Taunton River during the winter flounder spawning season. While this additional source of suspended sediment has not been addressed in the SSFATE modeling calculations, NOAA Fisheries assumes that potential impacts on winter flounder spawning habitat would be increased.

Results of the SSFATE modeling program

According to the ACOE Public Notice and the DEIS, the applicant has attempted to utilize a dredging methodology to minimize adverse impacts on winter flounder. This dredging methodology is used in conjunction with the SSFATE modeling program to identify and characterize approximately 12 acres of impacts on winter flounder habitat. As stated above, NOAA Fisheries believes that the anticipated impacts from this dredging methodology is based on insufficient inputs into the SSFATE model. Upon review of the SSFATE modeling results within the ACOE permit application, NOAA Fisheries has determined the following:

- According to the DEIS, the dredging of native sediments within the turning basin will impact 6.18 acres of winter flounder spawning habitat. Dredging techniques include the use of a maximum 26-yard open bucket with barge overflow allowed from May through December, and a maximum 15-yard open bucket with no barge overflow allowed from January through April. However, inputs to the SSFATE model include a low estimate of .66% dredged material loss rate and assume 21 days incubation for winter flounder eggs. NOAA Fisheries believes that impacts on EFH have been underestimated.

- According to the DEIS, the dredging of surficial sediments within the turning basin will impact 5.87 acres of winter flounder spawning habitat. Dredging techniques include the use of a maximum 26-yard open bucket with barge overflow allowed from May through December, and no barge overflow allowed from January through April. However, inputs to the SSFATE model include a low estimate of .66% dredged material loss rate and assume 21 days incubation for winter flounder eggs. NOAA Fisheries believes that impacts on EFH have been underestimated.

- According to the DEIS, the dredging upstream of the Braga Bridge will impact .002 acres of winter flounder spawning habitat. Dredging techniques include the use of a maximum 26-yard open bucket year round with barge overflow allowed year round. However, inputs to the SSFATE model assume a 21-day incubation period for winter flounder eggs. Furthermore, the applicant is proposing barge/scow overflow to occur during the winter flounder spawning season, yet has failed to account for this additional source of sediment in the model. NOAA Fisheries believes that impacts on EFH have been underestimated.

- According to the DEIS, the dredging of the Taunton River within Rhode Island waters includes the use of a maximum 15-cubic yard open bucket year round with barge overflow allowed year round. However, this combination of dredging techniques has not been analyzed for impacts within the ACOE permit application. NOAA Fisheries believes that impacts on EFH have been underestimated.

At this time, NOAA Fisheries has concluded that insufficient inputs have been used in the SSFATE model, and that the use of barge/scow overflow as a dredging technique has not been included in the calculations. We feel that the 12 acres of anticipated impact on winter flounder spawning habitat is not an accurate depiction of foreseeable impacts and that the applicant has not yet analyzed the full impact on winter flounder. Therefore, there will be greater than 12 acres of impact to EFH.

Juvenile development of winter flounder

Upon hatching, winter flounder larvae are expected to remain in close proximity to hatching site, and young-of-year flounder are expected to remain in shallow inshore waters (Pereira et al., 1999). As indicated within the EFH assessment, winter flounder larvae are expected to be present within the project area from February-May, and young-of-year, juveniles, and adults are expected to be present throughout the year. The EFH assessment notes that larval stages of winter flounder may be adversely affected by sediment deposition resulting from dredging operations, yet concluded that the minimum effects threshold has not been exceeded for this life stage. NOAA Fisheries does not agree with this determination. Moreover, based on insufficient inputs to the SSFATE model as stated above, NOAA Fisheries maintains that adverse impacts on juvenile life stages of winter flounder have not been adequately characterized. Activities that have an impact that are more than minimal should be avoided.

Permanent loss of winter flounder habitat resulting from dredging

According to the DEIS, there will be approximately 11 acres of permanent loss of winter flounder spawning and juvenile development habitat resulting from the deepening and widening of the turning basin. While the expansion of this area may be necessary to fulfill the project purpose, there will be substantial impacts on winter flounder EFH within the Taunton River. Loss of this habitat will contribute to the cumulative adverse impact on winter flounder habitat within the Mount Hope Bay/Taunton River complex. It is important to note that winter flounder EFH in this area is currently affected by a number of anthropogenic impacts, most notably the Brayton Point Power Station in Somerset, Massachusetts.

Site Development

According to the ACOE Public Notice, there will be a permanent loss of approximately 1.15 acres of aquatic habitat, including approximately .04 acres of salt marsh habitat, .94 acres of intertidal habitat, and .17 acres of subtidal habitat. Salt marsh and intertidal mudflats have been designated by the US Environmental Protection Agency as "Special Aquatic Sites" pursuant to Section 404 (b)(1) of the Federal Clean Water Act (40 CFR section 230.41; 40 CFR section 230.42), due to their importance to aquatic ecosystem. Shallow subtidal areas serve as feeding habitat and shelter

for a number of juvenile fish species. Permanent loss of these habitats will contribute to the overall degradation of habitat within the Mount Hope Bay/Taunton River complex.

Cumulative Impacts

Section 4.13 of the DEIS provides a description of past, present, and future actions within the Taunton River and Mount Hope Bay that could cumulatively impact aquatic resources and habitats. FERC concludes that while the construction and operation of the Weaver's Cove LNG Project could contribute cumulatively to impacts on aquatic resources, the impacts will be relatively short-term and/or minor in comparison to those from non-point sources of pollution or from operation of facilities such as the Brayton Point Power Plant. Based on our comments above, NOAA Fisheries maintains that this conclusion is based on a level of impact that has not yet been adequately characterized. Furthermore, the fact that there are greater impacts within the area does not negate the fact that the proposed project will have a substantial impact on aquatic resources. NOAA Fisheries has determined that the proposed project will contribute to the cumulative impact on aquatic resources within the Taunton River and Mount Hope Bay, and adverse effects should be avoided.

In summary, NOAA Fisheries believes that adverse impacts on the federally managed winter flounder have not been adequately characterized due to insufficient inputs into the SSFATE modeling program. The applicant has utilized this model to determine that there will be a minimum of 12 acres of temporary impact on EFH. We believe that these impacts on winter flounder spawning and juvenile development habitat will be significantly greater. Furthermore, the DEIS states that there will be a permanent loss of 11 acres of winter flounder spawning habitat resulting from dredging, and 1.15 acres of salt marsh, intertidal, and subtidal habitat resulting from site development. We believe that the proposed project will contribute to the cumulative impact on the aquatic ecosystem of the Taunton River and Mount Hope Bay. Therefore, based on the above rationale, we conclude that this project will have a substantial and unacceptable impact on aquatic resources of national importance pursuant to Part IV, Paragraph 3(b) of the MOA.

Essential Fish Habitat Conservation Recommendations

As noted in the ACOE Public Notice, the proposed project will potentially impact approximately 200 acres of EFH designated under the MSA for the following species: haddock (larvae), red hake (larvae, juveniles, and adults), winter flounder (all life stages), windowpane flounder (all life stages), American plaice (larvae, juveniles, and adults), Atlantic sea herring (larvae, juveniles, and adults), bluefish (juveniles and adults), Atlantic mackerel (all life stages), summer flounder (larvae, juveniles, and adults), scup (all life stages), black sea bass (juveniles and adults), King mackerel (all life stages), Spanish mackerel (all life stages), and cobia (all life stages).

The applicant has based its analysis of impacts on EFH on the SSFATE model and determined that adverse effects on EFH are minimal. As substantiated above, the adverse impacts on EFH are present and have been underestimated. NOAA Fisheries believes that the SSFATE model, and, therefore, the EFH assessment, underestimates the impacts on winter flounder spawning and juvenile development habitat. In order to avoid, minimize, and mitigate adverse effects on EFH,

NOAA Fisheries recommends pursuant to Section 305(b)(4)(A) of the MSA and Part IV, Paragraph 3(b) of the MOA that the ACOE adopt the following EFH conservation recommendations:

1) No in-water silt-producing activity should occur between January 15-May 31 of any year to protect winter flounder spawning and juvenile development from increased sedimentation due to dredging. Impacts on winter flounder eggs and juvenile life stages may be avoided through the implementation of this work restriction.

2) Mitigation should be required to offset the permanent loss of 11 acres of winter flounder spawning and juvenile development habitat resulting from the expansion of the turning basin. The applicant should develop a mitigation plan that replaces the lost functional value of winter flounder EFH. Mitigation ratios should be specific to the specific type of work proposed.

3) Mitigation should be required to offset the 1.15 acres of permanent fill within intertidal, salt marsh, and subtidal areas resulting from site development. At this time, a draft salt marsh mitigation plan has been developed for this project. NOAA Fisheries recommends that mitigation include intertidal and subtidal areas, in addition to salt marsh. Mitigation ratios should be specific to the specific type of work proposed.

Please note that Section 305(b)(4)(B) of the MSA requires the ACOE to provide NOAA Fisheries with a detailed written response to these EFH conservation recommendations, including a description of measures adopted by the ACOE for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with NOAA Fisheries' recommendations, Section 305(b)(4)(B) of the MSA also indicates that the ACOE must explain its reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with NOAA Fisheries 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 Recommendations

The Taunton River serves as an important migratory pathway for a number of anadromous fishery resources such as Alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), rainbow smelt (*Osmerus mordax*), and American shad (*Alosa sapidissima*). These resources serve as prey for a number of federally managed fishery resources, and direct or indirect impacts on them should be considered adverse effects on EFH. Furthermore, Mount Hope Bay and the Taunton River serve as habitat for the commercially and recreationally important Northern quahog (*Mercenaria mercenaria*), American (eastern) oyster (*Crassostrea virginica*), and soft-shelled clam (*Mya arenaria*). These and other shellfish species serve as forage for fishery resources in the area and serve as important linkages within the marine ecosystem.

Anadromous fishery resources

As stated above, the Taunton River serves as habitat for a number of anadromous fishery resources. These anadromous fishery resources serve as prey for a number of federally managed species and are considered a component of an EFH assessment pursuant to the MSA, as well as a concern as non-EFH trust resources that are covered under the Fish and Wildlife Coordination Act. American shad, blueback herring, alewife, and rainbow smelt have been designated as aquatic resources of national importance pursuant to section 906(e)(1) of the Water Resources Development Act of 1986. While the DEIS states that anadromous fishery resources migrating through the area will not be adversely affected by dredging operations, NOAA Fisheries remains concerned that construction activities and associated sediment plumes have the potential to impair migration of anadromous species. Chiasson (1993) found an increase in swimming activity of rainbow smelt when suspended sediments were present. In a laboratory study, Wildish and Power (1985) found that rainbow smelt avoided suspended sediment when concentrations were in excess of 20 Mg/L. The ACOE permit application does not analyze rainbow smelt for adverse impacts, however, it anticipates that peak concentrations within the Taunton River will exceed this threshold during dredging operations. Furthermore, sublethal effects to estuarine fishes can include decreased feeding, impacts from lowered oxygen levels, as well as impacts on gills and associated respiratory impacts (Wilber and Clarke, 2001).

The dredge-modeling program assumes a suspended sediment minimum effects threshold of 600ml/L for juvenile and adult blueback herring, alewife, and American shad. While the applicant maintains that suspended sediment in the river will be below this minimum effects threshold, NOAA Fisheries maintains that the assumed suspended sediment in the water column has been underestimated within the project footprint. Therefore, potential impacts on anadromous fishery resources within the Taunton River have not been fully accounted for. In order to take a risk averse approach for the conservation of anadromous fishery resources within the Taunton River, NOAA Fisheries recommends that no work should be conducted between March 1-July 31 of any year to avoid adverse impacts on upstream spawning migrations of Alewife, Blueback herring, rainbow smelt, and American shad. Downstream migrations of anadromous fishery resources in the Taunton River generally occur and need protection between June 15 and October 31 of any year. Alternatives should be developed and analyzed that avoid adverse impacts on downstream migrations of these aquatic resources of national importance.

Shellfish resources

The Weaver's Cove permit application notes that the project area serves as habitat for shellfish species including the Northern quahog (*Mercenaria mercenaria*), American (eastern) oyster (*Crassostrea virginica*), and soft-shelled clams (*Mya arenaria*). Shellfish from portions of this area, once depurated, are a viable food source and are suitable for human consumption. Furthermore, shellfish resources serve as prey for a number of federally managed fish species and adverse impacts are considered indirect adverse effects on EFH. The proposed dredging project has potential impacts on shellfish resources through both direct losses from dredging operations as well as sediment-related impacts prior to and during spawning periods. The DEIS states that the proposed project will permanently affect 84 acres of quahog habitat due to dredging of the federal navigation channel and turning basin. Once removed, reestablishment of shellfish within the

project area would be problematic due to consistent turbidity resulting from increased vessel traffic. The DEIS describes a mitigation plan for shellfish resources within the project site, including a shellfish harvesting program and a shellfish seeding program. While this may serve to offset permanent loss of shellfish habitat, NOAA Fisheries recommends that this mitigation proposal be developed, reviewed, and approved by federal and state resource agencies prior to the issuance of license or permit.

Dredge material volumes

The ACOE Public Notice and the DEIS describe the assumption of a one-foot overdredge allowance for the dredging portion of this project. In our opinion, the allowance of a one-foot overdredge underestimates the amount of material to be removed from the project footprint. In other projects with similar depths within federal navigation channels, the ACOE has argued for industry standards that utilize allowances of a two-foot overdredge to account for the imprecise nature of dredging operations. In order for a presentation of a more realistic picture of dredge volumes that will need disposal, we have recommended that a two-foot overdredge be anticipated in the calculation of dredging volumes. In this case, the overdredge volume should be estimated at approximately 922,000 cubic yards and a total volume of dredged material in excess of 3 million cubic yards. This additional volume of material should be accounted for in the overall volume of material that needs to be disposed. Accurate volumes of dredged material need to be accounted for in order to identify reasonable disposal options.

Offshore disposal of material

Based on recommendations by NOAA Fisheries and other resource agencies, a dredging plan should be developed which adequately protects aquatic resources of national importance as identified above. This plan should include time of year work restrictions for winter flounder, as well as for anadromous fishery resources, as referenced in above comments and recommendations. In order to utilize recommendations for the protection of living marine resources, it is foreseeable that offshore disposal of dredged material may be proposed for this project. NOAA Fisheries supports the Tier III analysis currently being pursued by the ACOE. Based on the results of this analysis, the use of an offshore disposal area should be evaluated for this project. This evaluation should include foreseeable impacts on living marine resources at the dredge site, as well as at the offshore disposal area. NOAA Fisheries recommends that this alternative be analyzed within the Final Environmental Impact Statement and prior to the issuance of an ACOE authorization.

Conclusions

Based upon the above rationale, we conclude that this project will have substantial and unacceptable direct, indirect, and cumulative impacts on aquatic resources of national importance. While the SSFATE model has determined that there will be approximately 12 acres of temporary impact on winter flounder EFH, NOAA Fisheries believes that this level of impact has been underestimated and may be significantly greater. At this time, we believe that these adverse impacts on EFH may be avoided through the use of appropriate time of year work restrictions. Furthermore, this project will result in approximately 12.15 acres of permanent alteration of habitats. In order to avoid substantial and unacceptable impacts on winter flounder EFH, NOAA Fisheries recommends that no work occur between January 15–May 31 of any year. In order to

provide protection for upstream spawning migrations of anadromous fishery resources within the Taunton River, we recommend that in-water silt producing activity be avoided between March 1–July 31 of any year. In order to protect downstream migrations of anadromous fishery resources, which need protection between June 15-October 31, we recommend that alternatives be proposed that avoid and minimize impacts. In order to offset the permanent loss of 11 acres of winter flounder spawning habitat and the permanent loss of intertidal, subtidal, and salt marsh habitats, we recommend that mitigation be required. In order to offset the permanent loss of 84 acres of shellfish habitat, a mitigation plan should be developed and presented to state and federal agencies for approval. We look forward to your response to our EFH conservation recommendations as well as all other recommendations pursuant to both Section 305(b)(4)(B) of the MSA and 50 CFR 600.920(k), Part IV, Paragraph 3(c) of the MOA. Should you have any questions about this matter, please contact Christopher Boelke at 978-281-9131.

Sincerely,

for Patricia A. Kurkul
Regional Administrator

CC: FERC – Magalie Salas
USEPA – Robert Varney
USFWS- Michael Bartlett
MAEOEA – Ellen Roy Herzfelder
MADMF- Paul Diodati
MACZM – Susan Snow-Cotter
MADEP- John Felix
RI CRMC- Grover Fugate
RI DFW – Michael Lapinsky

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
One Blackburn Drive
Gloucester, MA 01930-2298

SEP 17 2004

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE, Room 1A
Washington, DC 20426

Re: Weavers Cove Energy L.L.C. and Mill River Pipeline L.L.C., Fall River, Massachusetts - Docket No. CP04-36-000 and CP04-41-000

Dear Secretary Salas:

The National Marine Fisheries Service (NOAA Fisheries) has reviewed the Draft Environmental Impact Statement (DEIS) for Weavers Cove Energy L.L.C. and Mill River Pipeline L.L.C. (Docket Nos. CP04-36-000 and CP04-41-000) for the construction of a Liquefied Natural Gas (LNG) import facility along the Taunton River in Fall River, Massachusetts. This DEIS also serves as the Draft Environmental Impact Report (DEIR) required pursuant to the Massachusetts Environmental Policy Act. The US Army Corps of Engineers (ACOE) has issued a Public Notice (NAE-2004-2355) for this project and is currently under review. NOAA Fisheries has served as a cooperating federal agency in the development of the DEIS.

According to the DEIS and the ACOE Public Notice, the proposed project will conduct dredging within an existing federal navigation channel, install structures, and discharge fill material in wetlands and waterways for the construction of the LNG import terminal and natural gas pipeline facilities. Specifically, the applicant has proposed to dredge approximately 2.5 million cubic yards of material from within a footprint of approximately 200 acres; replace a pier with jetty structure; install sheet pilings to stabilize and straighten approximately 2,650 ft of shoreline; and permanently fill approximately .04 acres of salt marsh habitat, .94 acres of intertidal habitat, and .17 acres of subtidal habitat.

A primary concern to NOAA Fisheries is the proposed dredging. This activity will remove a minimum of approximately 2.5 million cubic yards of material from the channel and turning basin with upland, on-site placement of material. The applicant has proposed the dredging of the Taunton River to occur continuously for a period of 36 months. At this time, NOAA Fisheries believes that the proposed project will result in substantial and unacceptable impacts on aquatic resources of national importance (ARNI). Within the ACOE review process, NOAA Fisheries is invoking the 404(q) elevation process pursuant to the Clean Water Act and our mutually agreed upon Memorandum of Agreement (MOA).

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act require federal agencies to consult with one another on projects such

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 the relevant consultation procedure. We offer the following comments and recommendations on this DEIS pursuant to the National Environmental Policy Act (NEPA).

General Comments

The Taunton River/Mount Hope Bay Complex has been designated as EFH for 14 federally managed species, including the commercially and recreationally important winter flounder (*Pseudopleuronectes americanus*). The New England Fishery Management Council currently manages winter flounder under the Northeast Multispecies (Groundfish) Fishery Management Plan. As noted within the DEIS, Marine Research, Inc. (MRI) has been conducting annual surveys in Mount Hope Bay and the lower Taunton River in order to determine finfish species and lifestage occurrence associated with the Brayton Point Power Station permit stipulations. These surveys, which include both trawls and seine stations, show that winter flounder have been present within the project footprint during previous surveys in Mount Hope Bay (NEPCo and MRI, 1994, NEPCo and MRI, 1999). MRI's 1992 icthyoplankton sampling in upper Mount Hope Bay found that winter flounder larvae accounted for 94% of the larvae collected between January and April (NEPCo and MRI, 1994). MRI's 1998 sampling indicated that winter flounder represented 67% of the larvae collected from February through mid-may (NEPCo and MRI, 1999). Furthermore, the EFH assessment within the DEIS and the ACOE Joint Section 10/404 Individual Permit Application (permit application) notes that there is presence of winter flounder within the project area, and the species has been identified specifically within the Taunton River (Chris Powell, personal communication, 9/2/04).

The proposed project area serves as an important winter flounder spawning and juvenile development habitat. According to the NOAA Technical Memorandum NMFS-NE-138 (EFH Source Document), winter flounder spawning has been known to occur on substrates of sand, silt, and mud at varying depths of less than 5 meters to depths of 45 meters on Georges Bank (Pereira et al. 1999). Furthermore, winter flounder spawning is temperature dependent and eggs have been collected in water temperatures of 10 degrees Celsius or less (Pereira et al. 1999). According to measurements associated with the Brayton Point Power Station NPDES permit renewal application, intake water temperatures in the Taunton River from 1981–2001 have been variable and the minimum monthly averages range from 0.7 to 1.3 degrees C (US Gen, 2001). As indicated within the EFH assessment within the DEIS, egg and juvenile life stages are expected to be present within the project footprint at these temperatures throughout the winter and spring.

Throughout our involvement as a cooperating federal agency, NOAA Fisheries has expressed concerns that suspended sediments resulting from the construction of the proposed project will have substantial and unacceptable impacts on winter flounder spawning habitat. We have maintained that time of year work restrictions should be implemented and utilized as a method to avoid adverse impacts on winter flounder eggs. The applicant has utilized the SSFATE modeling program to predict approximately 12 acres of adverse impact on winter flounder EFH resulting from dredging-induced suspended sediment. Moreover, inputs to the SSFATE model have

underestimated the habitat parameters of winter flounder spawning conditions and dredge operational requirements, and, therefore, the impacts on EFH are substantially underestimated. Without an adequate characterization of potential adverse effects, we feel the DEIS does not meet the goals and objectives under NEPA.

Anticipated impacts on winter flounder

Weaver's Cove, LLC has proposed dredging within the Taunton River and Mount Hope Bay continuously for approximately 36 months. While the applicant contends impacts will be temporary, elevated suspended sediment conditions within the area will preclude the use of the area for successful winter flounder spawning through potentially four spawning seasons. Due to the importance of this area as a winter flounder spawning area, NOAA Fisheries views these impacts, while "temporary," to be substantial and unacceptable. At this time, we maintain that adverse impacts on winter flounder spawning habitat have not been fully accounted for due to insufficient inputs into the SSFATE model. Based on comments provided by NOAA Fisheries, the applicant appears to have utilized sufficient inputs to the SSFATE model for winter flounder spawning depth and winter flounder egg burial depth. However, NOAA Fisheries maintains that the rate of winter flounder embryo development as well as assumed sediment loss from dredging operations (bucket loss) have not yet been accounted for adequately within the model.

Winter flounder spawning depth

In earlier versions of the dredging modeling report, NOAA Fisheries noted that the depth of winter flounder spawning areas had been underestimated. We had previously recommended that the applicant utilize a depth of eight meters for inputs into the SSFATE model in order to account for variability in depth of winter flounder spawning areas. While spawning occurs within deeper waters, winter flounder spawning is most common in waters of eight meters or less. The EFH Source document indicates variability in the depth of winter flounder spawning habitats, and that winter flounder "spawning can occur at depths of less than five meters to more than 45 meters on Georges Bank" (Pereira et al. 1999). While winter flounder spawning occurs at these shallower depths, a review of the EFH Source Document describes evidence of spawning activity in deeper environments. Due to the wide variability of this spawning activity, NOAA Fisheries maintains that utilizing a <5 meter depth for winter flounder spawning as an input to the SSFATE modeling program does not adequately assess the potential impacts on the resource. By utilizing greater depths that account for this variability of winter flounder spawning depths, the aerial extent of EFH impacts will increase and thus indicate greater impacts on EFH. While the ACOE permit application identifies a number of model runs with a variety of depths, it currently appears that the applicant has utilized the 8-meter depth as recommended. Should additional SSFATE model runs be generated for this project, the applicant should continue to assume an 8-meter depth rather than areas less than 5 meters to account for variability in winter flounder spawning.

Winter flounder egg burial depth

Within the ACOE permit application, the applicant discusses the use of a 0.5-mm threshold depth of sediment deposition for impacts on winter flounder eggs in the SSFATE model, per earlier

recommendations by NOAA Fisheries. Throughout the ACOE permit application, however, there are a number of references indicating the use of a 1.0-mm burial threshold. As stated within the EFH Source Document, winter flounder eggs range in size from 0.74-0.85 mm in diameter (Pereira et al. 1999). At sediment deposition depths greater than 0.5-mm, winter flounder eggs can be adversely affected due to suffocation. Based on our review of the anticipated effects, it appears that the applicant has assumed the 0.5-mm threshold depth for the model as recommended. Should additional SSFATE model runs be generated for this project, the applicant should continue to utilize the 0.5-mm threshold rather than the 1.0-mm threshold.

Winter flounder egg incubation period

The SSFATE modeling program describes the maximum duration of exposure of winter flounder eggs to suspended sediment that would have adverse effects. This maximum duration of exposure is related to impacts on embryonic development in winter flounder. The SSFATE modeling program employed a maximum duration of exposure of winter flounder eggs to suspended sediment as being 21 days. This 21-day rate of embryo development for winter flounder eggs presented within the SSFATE model assumes normal winter conditions. The EFH Source document describes protracted embryo developments taking upwards of 31 days (Pereira et al. 1999). NOAA Fisheries provided earlier comments that the rate of embryo development for winter flounder eggs is temperature dependent and embryo hatching can be protracted for up to 40 days in a laboratory setting (Nelson, Personal communication, 2003). NOAA Fisheries maintains that the 21 day development period value does not allow for temperature variability and delayed incubation periods and, therefore, underestimates the potential dredging impacts on winter flounder embryos. Based on our review of the SSFATE modeling results, the applicant continues to optimize the embryo incubation period through the use of the 21-day input. FERC concludes on page 4-77 of the DEIS that, had the applicant changed the model to include 40 days as requested by NOAA Fisheries, impacts on winter flounder spawning habitat would have been greater.

Percent loss of material from dredging operations

NOAA Fisheries has previously recommended that the applicant utilize an estimate of 2 percent bucket loss for inputs into the SSFATE model. As presented within the ACOE permit application, Weaver's Cove has used a .66 percent input for modeling purposes. The applicant contends that a .66 percent bucket loss rate can be assumed for the proposed project based on studies performed for a recent Boston Harbor dredging project that included a significant portion of "improvement" dredging. NOAA Fisheries maintains that a .66 percent bucket loss rate is not appropriate for the proposed dredging project. As a considerable portion of the proposed dredging is "maintenance," it is anticipated that material will be silty and have higher water content than firm, consolidated "improvement" materials. As indicated in the ACOE permit application, 85 percent of materials are expected to be silty. Consolidated materials are expected to contain less water and, therefore, contribute less to suspended sediment loading of the waterway. In our opinion, the use of a .66 percent value for bucket loss underestimates the amount of suspended sediment that will result from this dredging project.

Scow/barge overflow

Scow/barge overflow has been utilized primarily in cases where suspended sediments are a concern during transit to, and at, the proposed dredged material disposal site. As the barge is filled beyond capacity, existing water displaced by the dredged material is expelled into the waterway. In the case of Weaver's Cove, the use of barge/scow overflow will require less dewatering of material and more efficient handling of material when placed on site. While this technique may be acceptable in certain situations, it represents an introduction and elevation of suspended sediment at the dredge site. To date, this additional source of suspended sediment has not been included within the SSFATE modeling calculations. While the applicant is not proposing barge/scow overflow for dredging within the turning basin during the winter flounder spawning season, the applicant does propose the use of this technique within the remainder of the Taunton River during the winter flounder spawning season. While this additional source of suspended sediment has not been addressed in the SSFATE modeling calculations, NOAA Fisheries assumes that potential impacts on winter flounder spawning habitat would be increased.

Results of the SSFATE modeling program

According to the DEIS, the applicant has attempted to utilize a dredging methodology to minimize adverse impacts on winter flounder. This dredging methodology is used in conjunction with the SSFATE modeling program to identify and characterize approximately 12 acres of impacts on winter flounder habitat. As stated above, NOAA Fisheries believes that the anticipated impacts from this dredging methodology is based on insufficient inputs into the SSFATE model. Upon review of the SSFATE modeling results within the ACOE permit application, NOAA Fisheries has determined the following:

- According to the DEIS, the dredging of native sediments within the turning basin will impact 6.18 acres of winter flounder spawning habitat. Dredging techniques include the use of a maximum 26-yard open bucket with barge overflow allowed from May through December, and a maximum 15-yard open bucket with no barge overflow allowed from January through April. However, inputs to the SSFATE model include a low estimate of .66% dredged material loss rate and assume 21 days incubation for winter flounder eggs. NOAA Fisheries believes that impacts on EFH have been underestimated.

- According to the DEIS, the dredging of surficial sediments within the turning basin will impact 5.87 acres of winter flounder spawning habitat. Dredging techniques include the use of a maximum 26-yard open bucket with barge overflow allowed from May through December, and no barge overflow allowed from January through April. However, inputs to the SSFATE model include a low estimate of .66% dredged material loss rate and assume 21 days incubation for winter flounder eggs. NOAA Fisheries believes that impacts on EFH have been underestimated.

- According to the DEIS, the dredging upstream of the Braga Bridge will impact .002 acres of winter flounder spawning habitat. Dredging techniques include the use of a maximum 26-yard open bucket year round with barge overflow allowed year round. However, inputs to the

- SSFATE model assume a 21-day incubation period for winter flounder eggs. Furthermore, the applicant is proposing barge/scow overflow to occur during the winter flounder spawning season, yet has failed to account for this additional source of sediment in the model. NOAA Fisheries believes that impacts on EFH have been underestimated.

- According to the DEIS, the dredging of the Taunton River within Rhode Island waters includes the use of a maximum 15 cubic yard open bucket year round with barge overflow allowed year round. However, this combination of dredging techniques has not been analyzed for impacts within the ACOE permit application. NOAA Fisheries believes that impacts on EFH have been underestimated.

At this time, NOAA Fisheries has concluded that insufficient inputs have been used in the SSFATE model and that the use of barge/scow overflow as a dredging technique has not been included in the calculations. We feel that the 12 acres of anticipated impact on winter flounder spawning habitat is not an accurate depiction of foreseeable impacts and that the applicant has not yet analyzed the full impact on winter flounder. Therefore, we believe that there will be greater than 12 acres of impact on EFH.

Juvenile development of winter flounder

Upon hatching, winter flounder larvae are expected to remain in close proximity to hatching site, and young-of-year flounder are expected to remain in shallow inshore waters (Pereira et al., 1999). As indicated within the EFH assessment, winter flounder larvae are expected to be present within the project area from February-May, and young-of-year, juveniles, and adults are expected to be present throughout the year. The EFH assessment notes that larval stages of winter flounder may be adversely affected by sediment deposition resulting from dredging operations, yet concluded that the minimum effects threshold has not been exceeded for this life stage. NOAA Fisheries does not agree with this determination. Moreover, based on insufficient inputs to the SSFATE model as stated above, NOAA Fisheries maintains that adverse impacts on juvenile life stages of winter flounder have not been adequately characterized. Activities that have an impact on EFH that are more than minimal should be avoided.

Permanent loss of winter flounder habitat

According to the DEIS, there will be approximately 11 acres of permanent loss of winter flounder spawning and juvenile development habitat resulting from the deepening and widening of the turning basin. While the expansion of this area may be necessary to fulfill the project purpose, there will be substantial impacts on winter flounder EFH within the Taunton River. Loss of this habitat will contribute to the cumulative adverse impact on winter flounder habitat within the Mount Hope Bay/Taunton River complex. It is important to note that winter flounder EFH in this area is currently affected by a number of anthropogenic impacts, most notably the Brayton Point Power Station in Somerset, Massachusetts.

Site Development

According to the DEIS and the ACOE Public Notice, there will be a permanent loss of approximately 1.15 acres of aquatic habitat, including approximately .04 acres of salt marsh habitat, .94 acres of intertidal habitat, and .17 acres of subtidal habitat. Salt marsh and intertidal mudflats have been designated by the US Environmental Protection Agency as "Special Aquatic Sites" pursuant to Section 404 (b)(1) of the Federal Clean Water Act (40 CFR section 230.41; 40 CFR section 230.42), due to their importance to the aquatic ecosystem. Shallow subtidal areas serve as feeding habitat and shelter for a number of juvenile fish species. Permanent loss of these habitats will contribute to the overall degradation of habitat within the Mount Hope Bay/Taunton River complex.

Cumulative Impacts

Section 4.13 of the DEIS provides a description of past, present, and future actions within the Taunton River and Mount Hope Bay that could cumulatively impact aquatic resources and habitats. FERC concludes that while the construction and operation of the Weaver's Cove LNG Project could contribute cumulatively to impacts on aquatic resources, the impacts will be relatively short-term and/or minor in comparison to those from non-point sources of pollution or from operation of facilities such as the Brayton Point Power Plant. Based on our comments above, NOAA Fisheries maintains that this conclusion is based on a level of impact that has not yet been adequately characterized. Furthermore, the fact that there are greater impacts within the area does not negate the fact that the proposed project will have a substantial impact on aquatic resources. NOAA Fisheries has determined that the proposed project will contribute to the cumulative impact on aquatic resources within the Taunton River and Mount Hope Bay, and adverse effects should be avoided.

Essential Fish Habitat Conservation Recommendations

As noted within the DEIS, the proposed project will potentially impact EFH designated under the MSA for the following species: haddock (larvae), red hake (larvae, juveniles, and adults), winter flounder (all life stages), windowpane flounder (all life stages), Atlantic sea herring (larvae, juveniles, and adults), bluefish (juveniles and adults), summer flounder (larvae, juveniles, and adults), scup (all life stages), black sea bass (juveniles and adults), King mackerel (all life stages), Spanish mackerel (all life stages), Little skate (eggs, juveniles, and adults), and Winter skate (eggs, juveniles, and adults).

The applicant has based its analysis of impacts on EFH on the SSFATE model and determined that adverse effects on EFH are minimal. As substantiated above, the adverse impacts on EFH have been underestimated. NOAA Fisheries believes that the SSFATE model, and, therefore, the EFH assessment, underestimates the impacts on winter flounder spawning and juvenile development

habitat. In order to avoid, minimize, and mitigate adverse effects on EFH, NOAA Fisheries recommends pursuant to Section 305(b)(4)(A) of the MSA that FERC adopt the following EFH conservation recommendations:

1) No in water silt-producing activity should occur between January 15-May 31 of any year to protect winter flounder spawning and juvenile development from increased sedimentation due to dredging. Impacts on winter flounder egg and juvenile life stages may be avoided through the implementation of this work restriction.

2) Mitigation should be required to offset the permanent loss of 11 acres of winter flounder spawning and juvenile development habitat resulting from the expansion of the turning basin. The applicant should develop a mitigation plan that replaces lost functional values of winter flounder EFH. Mitigation ratios should be specific to the specific type of work proposed.

3) Mitigation should be required to offset the 1.15 acres of permanent fill within intertidal, salt marsh, and subtidal areas resulting from site development. At this time, a draft salt marsh mitigation plan has been developed for this project. NOAA Fisheries recommends that mitigation include intertidal and subtidal areas, in addition to salt marsh. Mitigation ratios should be specific to the specific type of work proposed.

Please note that Section 305(b)(4)(B) of the MSA requires FERC to provide NOAA Fisheries with a detailed written response to these EFH conservation recommendations, including a description of measures adopted by FERC for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with NOAA Fisheries' recommendations, Section 305(b)(4)(B) of the MSA also indicates that FERC must explain its reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with NOAA Fisheries 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 Recommendations

The Taunton River serves as an important migratory pathway for a number of anadromous fishery resources such as Alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), rainbow Smelt (*Osmerus mordax*), and American shad (*Alosa sapidissima*). These resources serve as prey for a number of federally managed fishery resources, and direct or indirect impacts on them should be considered adverse effects on EFH. Furthermore, Mount Hope Bay and the Taunton River serve as habitat for the commercially and recreationally important Northern quahog (*Mercenaria mercenaria*), American (eastern) oyster (*Crassostrea virginica*), and soft-shelled clam (*Mya arenaria*). These and other shellfish species serve as forage for fishery resources in the area and serve as important linkages within the marine ecosystem.

Anadromous fishery resources

As stated above, the Taunton River serves as habitat for a number of anadromous fishery resources. These anadromous fishery resources serve as prey for a number of federally managed species, and are considered a component of an EFH assessment pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, as well as a concern as non-EFH trust resources that are covered under the Fish and Wildlife Coordination Act. American Shad, blueback herring, alewife, and rainbow smelt have been designated as aquatic resources of national importance pursuant to section 906(e)(1) of the Water Resources Development Act of 1986. While the DEIS states that anadromous fishery resources migrating through the area will not be adversely affected by dredging operations, NOAA Fisheries remains concerned that construction activities and associated sediment plumes have the potential to impair migration of anadromous species. Chiasson (1993) found an increase in swimming activity of rainbow smelt when suspended sediments were present. In a laboratory study, Wildish and Power (1985) found that rainbow smelt avoided suspended sediment when concentrations were in excess of 20 Mg/L. The ACOE permit application does not analyze rainbow smelt for adverse impacts, however, anticipates that peak concentrations within the Taunton River will exceed this threshold during dredging operations. Furthermore, sublethal effects to estuarine fishes can include decreased feeding, impacts from lowered oxygen levels, as well as impacts on gills and associated respiratory impacts (Wilber and Clarke, 2001).

The dredge-modeling program assumes a suspended sediment minimum effect threshold of 600ml/L for juvenile and adult blueback herring, alewife, and American shad. While the applicant maintains that suspended sediment in the river will be below this minimum effects threshold, NOAA Fisheries maintains that the assumed suspended sediment in the water column has been underestimated within the project footprint. Therefore, potential impacts on anadromous fishery resources within the Taunton River have not been fully accounted for. In order to take a risk averse approach for the conservation of anadromous fishery resources within the Taunton River, NOAA Fisheries recommends that no work should be conducted between March 1-July 31 of any year to avoid adverse impacts on upstream spawning migrations of Alewife, Blueback Herring, Rainbow Smelt, and American Shad. Downstream migrations of anadromous fishery resources in the Taunton River generally occur and need protection between June 15 and October 31 of any year. Alternatives should be developed and analyzed that avoid adverse impacts on downstream migrations of these aquatic resources of national importance.

Shellfish resources

The DEIS and ACOE permit application note that the project area serves as habitat for shellfish species including the Northern quahog (*Mercenaria mercenaria*), American (eastern) oyster (*Crassostrea virginica*), and soft-shelled clams (*Mya arenaria*). Shellfish from portions of this area, once depurated, are a viable food source and are suitable for human consumption. Furthermore, shellfish resources serve as prey for a number of federally managed fish species and adverse impacts are considered indirect adverse effects on EFH. The proposed dredging project has potential impacts on shellfish resources through both direct losses from dredging operations as well as sediment-related impacts prior to and during spawning periods. The DEIS states that the

proposed project will permanently affect 84 acres of quahog habitat due to dredging of the federal navigation channel and turning basin. Once removed, reestablishment of shellfish within the project area would be problematic due to consistent turbidity resulting from increased vessel traffic. The DEIS describes a mitigation plan for shellfish resources within the project site, including a shellfish harvesting program and a shellfish seeding program. While this may serve to offset permanent loss of shellfish habitat, NOAA Fisheries recommends that this mitigation proposal be developed, reviewed, and approved by federal and state resource agencies prior to the issuance of license or permit.

Dredge material volumes

The DEIS and the ACOE public notice describe the assumption of a one-foot overdredge allowance for the dredging portion of this project. In our opinion, the allowance of a one-foot overdredge underestimates the amount of material to be removed from the project footprint. In other projects with similar depths within federal navigation channels, the ACOE has argued for industry standards that utilize allowances of a two-foot overdredge to account for the imprecise nature of dredging operations. In order for a presentation of a more realistic picture of dredge volumes that will need disposal, we have recommended that a two-foot overdredge be anticipated in the calculation of dredging volumes. In this case, the overdredge volume should be estimated at approximately 922,000 cubic yards and a total volume of dredged material in excess of 3 million cubic yards. This additional volume of material should be accounted for in the overall volume of material that needs to be disposed. Accurate volumes of dredged material need to be accounted for in order to identify reasonable disposal options.

Offshore disposal of material

Based on recommendations by NOAA Fisheries and other resource agencies, a dredging plan should be developed which adequately protects aquatic resources of national importance as identified above. This plan should include time of year work restrictions for winter flounder, as well as for anadromous fishery resources, as referenced in above comments and recommendations. In order to utilize recommendations for the protection of living marine resources, it is foreseeable that offshore disposal of dredged material may be proposed for this project. NOAA Fisheries supports the Tier III analysis currently being pursued by the ACOE. Based on the results of this analysis, the use of an offshore disposal area should be evaluated for this project. This evaluation should include foreseeable impacts on living marine resources at the dredge site, as well as at the offshore disposal area. NOAA Fisheries recommends that this alternative be analyzed within the Final Environmental Impact Statement and prior to the issuance of an ACOE authorization.

Conclusions

Based upon the above rationale, we conclude that this project will have substantial and unacceptable direct, indirect, and cumulative impacts on aquatic resources of national importance. While the SSFATE model has determined that there will be approximately 12 acres of temporary impact on winter flounder EFH, NOAA Fisheries believes that this level of impact has been underestimated and may be significantly greater. At this time, we believe that these adverse impacts on EFH may be avoided through the use of appropriate time of year work restrictions.

Furthermore, this project will result in approximately 12.15 acres of permanent alteration of habitats. In order to avoid substantial and unacceptable impacts on winter flounder EFH, NOAA Fisheries recommends that no work occur between January 15–May 31 of any year. In order to provide protection for upstream spawning migrations of anadromous fishery resources within the Taunton River, we recommend that in-water silt producing activity be avoided between March 1–July 31 of any year. In order to protect downstream migrations of anadromous fishery resources, which need protection between June 15-October 31, we recommend that alternatives be proposed and analyzed within the EIS. In order to offset the permanent loss of 11 acres of winter flounder spawning habitat and the permanent loss of intertidal, subtidal, and salt marsh habitats, we recommend that mitigation be required. In order to offset the permanent loss of 84 acres of shellfish habitat, a mitigation plan should be developed and presented to state and federal agencies for approval. We look forward to your response to our EFH conservation recommendations as well as all other recommendations pursuant to both Section 305(b)(4)(B) of the MSA and 50 CFR 600.920(k). Should you have any questions about this matter, please contact Christopher Boelke at 978-281-9131.

Sincerely,

for Patricia A. Kurkul
Regional Administrator

CC: USACE – Christine Godfrey
USEPA – Robert Varney
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MADMF- Paul Diodati
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Ui d States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
One Blackburn Drive
Gloucester, MA 01930-2298

JUN 27 2005

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE, Room 1A
Washington, DC 20426

Re: Final Environmental Impact Statement, Weavers Cove Energy L.L.C. and Mill River Pipeline L.L.C., Fall River, Massachusetts - Docket Nos. CP04-36-000 and CP04-41-000

Dear Secretary Salas:

The National Marine Fisheries Service (NMFS) has reviewed the Final Environmental Impact Statement (FEIS) for Weavers Cove Energy L.L.C. and Mill River Pipeline L.L.C. (Docket Nos. CP04-36-000 and CP04-41-000) for the construction of a Liquefied Natural Gas (LNG) import facility along the Taunton River in Fall River, Massachusetts.

The proposed project will conduct dredging within an existing federal navigation channel, install structures, and discharge fill material in wetlands and waterways for the construction of the LNG import terminal and natural gas pipeline facilities. Specifically, the applicant has proposed to dredge approximately 2.6 million cubic yards of material from within a footprint of approximately 200 acres; replace a pier with jetty structure; install sheet pilings to stabilize and straighten approximately 2,650 ft of shoreline; and permanently fill approximately .04 acres of salt marsh habitat, .94 acres of intertidal habitat, and .17 acres of subtidal habitat.

As a cooperating federal agency throughout this review process, NMFS provided comments to FERC on September 17, 2004 regarding the Draft Environmental Impact Statement (DEIS). Concurrent with the issuance of the DEIS, the US Army Corps of Engineers (ACOE) issued a Public Notice (NAE-2004-2355) for this project. As stated in prior comments to FERC and the ACOE, the primary concern to NMFS is the proposed dredging. This activity will remove a minimum of approximately 2.6 million cubic yards of material from the channel and turning basin with upland, on-site placement of material. NMFS believes that the proposed project will result in substantial and unacceptable impacts on aquatic resources of national importance (ARNI). Within the ACOE review process, NMFS has invoked the 404(q) elevation process pursuant to the Clean Water Act and our mutually agreed upon Memorandum of Agreement (MOA).

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act 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 the relevant consultation procedure. In

our letter dated September 17, 2004, NMFS provided FERC with EFH conservation recommendations to protect and conserve essential fish habitat. Within the FEIS, FERC appears to have adopted our EFH conservation recommendations for the proposed project. However, NMFS remains concerned with the FERC justification for adopting such recommendations. In addition, FERC has rejected NMFS' recommendations to protect anadromous fishery resources pursuant to the Fish and Wildlife Coordination Act.

Essential Fish Habitat

As stated within our earlier comments on the DEIS, the Taunton River/Mount Hope Bay Complex has been designated as EFH for 14 federally managed species, including the commercially and recreationally important winter flounder (*Pseudopleuronectes americanus*). The New England Fishery Management Council currently manages winter flounder under the Northeast Multispecies (Groundfish) Fishery Management Plan.

The proposed project area serves as an important winter flounder spawning and juvenile development habitat. Within the DEIS, NMFS described a series of habitat parameters which valued the proposed project site as EFH for winter flounder, including location in the estuary, water depth, and water temperature. Throughout our involvement as a cooperating federal agency, NMFS has expressed concern that suspended sediments resulting from the construction of the proposed project will have substantial and unacceptable impacts on winter flounder spawning habitat. We have provided FERC with an EFH Conservation recommendation to avoid all silt producing activity between January 15-May 31 of any year in order to project winter flounder spawning and juvenile development. Within the FEIS, FERC has recommended that this time of year restriction be adopted.

While FERC intends to adopt our EFH conservation recommendations to avoid and minimize adverse effects, we remain concerned with the assertion within the FEIS that NMFS is overly conservative and has overstated the magnitude of adverse effects to EFH. The applicant has utilized the SSFATE modeling program to predict approximately 6.2 acres of adverse impact on winter flounder EFH resulting from dredging-induced suspended sediment. As stated consistently throughout our DEIS comments, NMFS maintains that inputs to the SSFATE model have underestimated the habitat parameters of winter flounder spawning conditions and dredge operational requirements, and, therefore, the impacts on EFH are substantially underestimated. In particular, NMFS maintains that model inputs regarding spawning depth of winter flounder, egg incubation duration, and depth of sediment which will cause adverse impacts on winter flounder have all been underestimated. Furthermore, NMFS questioned operational inputs to the model including percentage of bucket loss during dredging and the inclusion of barge overflow in the model calculations. In our opinion, had our recommended parameters been utilized in the SSFATE model, NMFS maintains that adverse impacts on winter flounder EFH would be significantly greater than the anticipated 6.2 acres.

According to the FEIS, there will be approximately 11 acres of permanent loss of winter flounder spawning and juvenile development habitat resulting from the deepening and widening of the turning basin. In addition, there will be a permanent loss of approximately 1.15 acres of other aquatic habitat, including approximately .04 acres of salt marsh habitat, .94 acres of intertidal habitat, and .17 acres of subtidal habitat. As noted on page 4-121 of the FEIS, FERC has recommended that compensatory mitigation occur to offset the permanent loss of these public resources, yet minimal specific information

is provided. Mitigation for adverse impacts should focus on specific projects that compensate for lost functions and values of impacted resources.

Fish and Wildlife Coordination Act

As stated in our DEIS comments, the Taunton River serves as an important migratory pathway for a number of anadromous fishery resources such as Alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), rainbow Smelt (*Osmerus mordax*), and American shad (*Alosa sapidissima*). These anadromous fishery resources serve as prey for a number of federally managed species, and are considered a component of an EFH assessment pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, as well as a concern as non-EFH trust resources that are covered under the Fish and Wildlife Coordination Act. American Shad, blueback herring, alewife, and rainbow smelt have been designated as aquatic resources of national importance pursuant to section 906(e)(1) of the Water Resources Development Act of 1986.

Based in part on the SSFATE modeling results, the FEIS concludes that anadromous fishery resources migrating through the area will not be adversely affected by suspended sediments from dredging operations. NMFS remains concerned that construction activities and associated sediment plumes have the potential to impair migration of anadromous fishes. For example, Chiasson (1993) found an increase in swimming activity of rainbow smelt when suspended sediments were present. In a laboratory study, Wildish and Power (1985) found that rainbow smelt avoided suspended sediment when concentrations were in excess of 20 Mg/L. NMFS maintains that suspended sediment concentrations will temporarily exceed 20 Mg/L during dredging operations, and, therefore, will have adverse impacts on this species. Further, we maintain that adverse impacts on anadromous fish should not be dismissed, due to the fact that the modeling of suspended sediment levels does not represent actual suspended sediment conditions within the project area. Finally, sublethal effects to estuarine fishes can include decreased feeding, impacts from lowered oxygen levels, as well as impacts on gills and associated respiratory impacts (Wilber and Clarke, 2001).

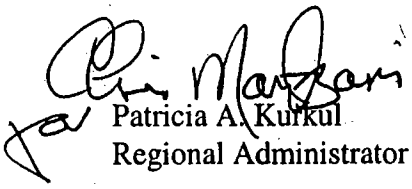
In order to take a risk averse approach for the conservation of anadromous fishery resources within the Taunton River, NMFS maintains that no work should be conducted between March 1-July 31 of any year to avoid adverse impacts on upstream spawning migrations of Alewife, Blueback Herring, Rainbow Smelt, and American Shad. Downstream migrations of anadromous fishery resources in the Taunton River generally occur and need protection between June 15 and October 31 of any year. Therefore, dredging locations should be sequenced to avoid or minimize impacts on downstream migrations of these aquatic resources of national importance from August 1 – October 31 of any year. In our view, FERC's assertion on page 4-102 of the FEIS that "requiring Weaver's Cove Energy to adhere to a timing restriction prohibiting instream work during fish migration periods would have considerable implications on the proposed dredging schedule" is not appropriate within the discussion of adverse impacts on these important resources.

Conclusions

NMFS acknowledges that the FEIS recommends that our EFH conservation recommendations be incorporated in the proposed project. However, we maintain that the FEIS continues to underestimate

the adverse effects to fishery resources and habitats. NMFS believes that compensatory mitigation for permanent impacts on fishery resources and habitats have not been adequately described within the FEIS. Finally, NMFS maintains that anadromous fishery resources will be adversely affected by the proposed project, and seasonal work restrictions are needed to protect these aquatic resources of national importance. Thank you for the opportunity to comment on this important project. Should you have questions regarding these comments, please contact Christopher Boelke at (978) 281-9131.

Sincerely,



Patricia A. Kurkul
Regional Administrator

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NPS - Jamie Fosburgh
NOAA/HQ/PPI office – Shelby Mendez
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
One Blackburn Drive
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DEC 27 2005

Christine Godfrey
Chief, Regulatory Division
US Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

RE: NAE-2004-2355, Weaver's Cove Energy LNG Project; Revised Public Notice

Dear Ms. Godfrey:

The National Marine Fisheries Service (NMFS) has reviewed the revised public notice (NAE-2004-2344) for the construction of a Liquefied Natural Gas (LNG) import facility along the Taunton River in Fall River, Massachusetts. NMFS provided earlier comments to the Army Corps of Engineers (ACOE) on September 17, 2004, and outlined foreseeable adverse effects to fishery resources and habitats resulting from construction and operation of the facility. Within our September 17, 2004 comments, NMFS provided conservation recommendations on this project and invoked the elevation process outlined in Part IV, Paragraph 3(b) of our interagency Memorandum of Agreement (MOA). Furthermore, NMFS has provided similar comments to the Federal Energy Regulatory Commission (FERC) and the Massachusetts Executive Office of Environmental Affairs (EOEA) regarding the Environmental Impact Statement (EIS) and the Environmental Impact Report (EIR) processes, respectively.

The current proposed project involves dredging within an existing federal navigation channel, installing structures, and discharging fill material in wetlands and waterways for the construction of the LNG import terminal and natural gas pipeline facilities. Specifically, the applicant has proposed to dredge approximately 2.5 million cubic yards of material from within a footprint of approximately 200 acres; replace a pier with jetty structure; install sheet pilings to stabilize and straighten approximately 2,650 feet of shoreline; and permanently fill approximately 0.94 acres of intertidal habitat, and 0.17 acres of subtidal habitat. Previously proposed salt marsh impacts have been removed from the project. Currently, the proposed project has revised the preferred alternative to include the offshore disposal of dredged material. As stated within the ACOE public notice for this project, the US Environmental Protection Agency and the ACOE have determined that material is suitable for open water disposal at the Rhode Island Sound Disposal Site and/or the Massachusetts Bay Disposal Site.

As indicated within earlier comments, the primary concern of NMFS is the proposed dredging. We have previously recommended that time of year dredging restrictions be included for the protection of winter flounder spawning and juvenile development and the upstream spawning migrations of anadromous fish. In addition, we have recommended that methods be utilized in order to minimize impacts on anadromous fish during the fall downstream migratory periods, and that compensa

mitigation be required to offset unavoidable impacts on fish habitat. At this time, NMFS maintains that these recommendations are necessary to sequentially avoid, minimize, and mitigate adverse effects to fishery resources and habitats.

Issues related to winter flounder

Within our previous comment letters, NMFS described a series of habitat parameters that indicated the proposed project site was utilized as EFH for winter flounder, including location in the estuary, water depth, and water temperature. Throughout our involvement in the federal and state review processes, NMFS has expressed concern that suspended sediments resulting from the construction of the proposed project will have substantial and unacceptable impacts on winter flounder spawning habitat. As such, NMFS has provided ACOE, FERC, and the EOEA with an EFH conservation recommendation to avoid all silt producing activity between January 15-May 31 of any year in order to project winter flounder spawning and juvenile development. Within the Final Environmental Impact Statement (FEIS), FERC has recommended that this time of year restriction be adopted. At this time, NMFS maintains that a January 15-May 31 time of year dredging restriction should be required in order to protect winter flounder spawning and juvenile development.

The applicant has utilized the SSFATE modeling program to predict approximately 6.2 acres of adverse impact on winter flounder EFH resulting from dredging-induced suspended sediment. As stated consistently throughout our comment letters, NMFS maintains that inputs to the SSFATE model have underestimated the habitat parameters of winter flounder spawning conditions and dredge operational requirements, and, therefore, the impacts on EFH have been substantially underestimated. In particular, NMFS maintains that model inputs regarding spawning depth of winter flounder, egg incubation duration, and depth of sediment which will cause adverse impacts on winter flounder have been underestimated. Furthermore, NMFS questioned operational inputs to the model including percentage of bucket loss during dredging and the inclusion of barge overflow in the model calculations. In our opinion, the adverse impacts on winter flounder EFH would be significantly greater than 6.2 acres, if our previously recommended parameters had been utilized in the SSFATE model.

As described previously within our comment letters, there will be approximately 11 acres of permanent loss of winter flounder spawning habitat resulting from depth changes associated with the expansion of the turning basin and portions of the channel. While the expansion of this area may be necessary to fulfill the project purpose, there will be substantial impacts on winter flounder EFH within the Taunton River. Loss of this habitat will contribute to the cumulative adverse impact on winter flounder habitat within the Mount Hope Bay/Taunton River complex. NMFS has previously recommended that permanent losses to winter flounder EFH should be mitigated. Mitigation projects should be project specific and adequately compensate for lost functions and values, and should be coordinated with federal and state resource agencies.

Issues related to anadromous fish

The Taunton River serves as an important migratory pathway for a number of anadromous fishery resources, including Alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), rainbow smelt (*Osmerus mordax*), and American shad (*Alosa sapidissima*). These anadromous fishery resources serve as prey for a number of federally managed species, and are considered a component

of EFH pursuant to the Magnuson-Stevens Fishery Conservation and Management Act. In addition, these resources are considered important NMFS trust resources, covered under the Fish and Wildlife Coordination Act review process.

In previous comment letters, NMFS raised concerns over dredging impacts on anadromous fishery resources and had recommended a time of year dredging restriction from March 1–July 31. The Second Supplemental Draft Environmental Impact Report (SSDEIR), required by the Massachusetts Secretary of Environmental Affairs, provides information regarding the timing of local fish runs in an attempt to demonstrate that upstream migrations are completed during the months of March-June. Notwithstanding the fact that site specific information on the occurrence of American shad in the Taunton River is not presented, the SSDEIR notes that this species has been found in the Connecticut River and Pawcatuck River into July, both of which are located south of the Taunton River. As water temperature determines the timing of migration into natal rivers, the spawning runs of American shad proceed generally from south to north. At a minimum, we anticipate that the timing to the American Shad upstream migration will occur during a similar time frame as the Connecticut and Pawcatuck rivers. Furthermore, colder water temperatures in a given year can delay upstream spawning migrations further. As such, NMFS maintains that anadromous fish may be present in the Taunton River until July 31.

Although the SSDEIR concludes that anadromous fishery resources migrating through the area will not be adversely affected by dredging operations, NMFS continues its position that construction activities and associated sediment plumes may impair migration of anadromous species in the Taunton River. As stated previously within our comment letters, NMFS maintains that suspended sediment concentrations during dredging have been underestimated, and that "minimum" effects thresholds utilized for anadromous fish focus on lethal and sublethal effects and do not consider the behavioral effects to migrating fish. Therefore, NMFS continues to maintain that adverse effects on anadromous fish have been underestimated. As such, NMFS maintains that a time of year dredging restriction between March 1 and July 31 should be required for anadromous fishery resources.

In addition to the time of year restriction for the protection of upstream migrating fish, NMFS has previously recommended that downstream migrations of anadromous fishery resources in the Taunton River need protection between June 15 and October 31. At this time, the proposed project has not identified methods to avoid and minimize adverse effects to downstream migrations of anadromous fish. While NMFS maintains that adverse impacts should be avoided during the downstream migration period, we remain concerned that the current proposal to utilize offshore disposal will result in additional work performed during the downstream migration. Under the previous scenario of placement of dredged material at the upland terminal site, the rate of dredging was limited by the rate of preparation and placement on the site (i.e., dewatering, addition of Portland cement, and landform construction). Under the current proposal for offshore disposal, the project will no longer be constrained by the production rate, and proposes to utilize multiple dredges in order to complete the project. In developing methods to avoid and minimize adverse effects to downstream fish migrations, the applicant should account for the interactive and additive impacts resulting from the use of multiple dredges and the anticipated levels and extent of suspended sediments. Alternatives that avoid and minimize adverse effects on downstream migrations of fish, including project sequencing and restrictions on the number of dredges