

Attachment C
Essential Fish Habitat (EFH) Consultation and
NMFS' EFH Conservation Recommendations



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Habitat Conservation Division
James J. Howard Marine
Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732

July 21, 2009

TO: Thomas Shinskey
The Louis Berger Group, Inc.
P.O. Box 1946
Mount Kemble Avenue
Morristown, NJ 07962-1946

SUBJECT: Gosthals Bridge Replacement Project


Karen Greene
(Reviewing Biologist)

We have reviewed the information provided to us regarding the above subject project. We offer the following preliminary comments pursuant to the Endangered Species Act, the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act:

Endangered Species Act

With the exception of occasional transients, no threatened or endangered species under the jurisdiction of the NMFS are known to occur in the project area. As a result, further consultation by the federal action agency is not required. However should project plans change that would change the basis for determination, or if new species or critical habitat is designated, consultation should be reinitiated.

Fish and Wildlife Coordination Act

The Arthur Kill is a migratory pathway, nursery and forage area for anadromous fish including striped bass, alewife, blueback herring and American shad. Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in alewife and blueback herring populations throughout much of their range since the mid-1960's, they have been designated as species of concern by NMFS in a Federal Register Notice dated October 17, 2006 (71 FRN 61022). The project area also provides habitat for a variety of aquatic resources of concern to NMFS including winter flounder, windowpane, bluefish, summer flounder, Atlantic tomcod, bay anchovy, weakfish and spot. In general, in-water work should not occur between January 1 and June 30 of any year to protect winter flounder early life stages and anadromous fish. These recommendations may change depending upon the exact location and nature of the work proposed.

Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat

The Arthur Kill has been designated as Essential Fish Habitat (EFH) for one or more species. Further EFH consultation by the federal action agency will be required. For a listing of EFH and further information, please go to our website at: <http://www.nero.noaa.gov/hcd>. If you wish to discuss this further, please call 732-872-3023.



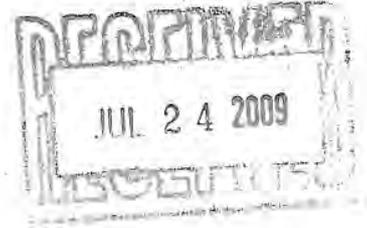
**State of New Jersey**

JON S. CORZINE
Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Environmental Regulation
Office of Permit Coordination and Environmental Review
401 East State Street
P.O. Box 423
Trenton, New Jersey 08625-0423
Phone: (609) 292-3600 Fax: (609) 777-1330

MARK N. MAURIELLO
Acting Commissioner

July 24, 2009



Mr. Gary Kassof
Bridge Program Manager
First Coast Guard District
One South Street
Battery Building
New York, NY 10004

**RE: Goethals Bridge Modernization Program
Draft Environmental Impact Statement (DEIS)**

Dear Mr. Kassof:

The Office of Permit Coordination and Environmental Review of the New Jersey Department of Environmental Protection (NJDEP) has completed its review of the Draft Environmental Impact Statement (DEIS) for the Goethals Bridge Modernization Program. We offer the following comments for your consideration.

REGULATORY REQUIREMENTS

Division of Land Use Regulation

The NJDEP's Division of Land Use Regulation (DLUR) has received the Goethals Bridge Replacement DEIS and has determined that the project will require a Waterfront Development Permit.

In addition, through a Letter of Interpretation (file no 2004-06-0007.1), the Division has determined that freshwater wetlands are present within the project limits. Any activities regulated under the Freshwater Wetlands Protection Act proposed within the wetlands or transition areas will require a permit from this office.

Division of Fish and Wildlife

The NJDEP's Division of Fish and Wildlife (DFW) feels that the provisions found within section 5.13.4.1 Aquatic Communities under "Construction Phase" on page 5-97 for dredging, demolition of existing bridge, land clearing and noise and vibration should minimize impacts to the fish and wildlife resources during demolition and construction. Only minimal impacts are

expected due to the containment of in-water dredging, construction, and demolition within cofferdams and the implementation of the Soil Erosion and Sediment Control Plan.

“Any dredging or explosions required for in-water construction of the replacement bridge or demolition of the Goethals Bridge would be performed within cofferdams in dry conditions.”

*Goethals Bridge Replacement EIS Section 5—Environmental Consequences
DEIS – May 2009, 5-100*

Cofferdam installation and removal will be limited to work windows in order to protect winter flounder spawning habitat and migrating Alewife, Blueback herring, and American shad. In New Jersey waters the timing restriction to protect Winter flounder runs from January 1 to May 31 and the anadromous timing restriction to protect migrating Alewife, Blueback herring, and American shad runs from March 1 through June 30.

The New Jersey Artificial Reef Program has used bridge demolition material in the past to build up existing reef sites. The location of the Goethals Bridge makes an ideal situation to load barges with material and deliver it to reef sites along the coast. Although the bridge replacement alternative is apparently yet to be determined, a statement that consideration would be given to the use of bridge demolition material for artificial reef construction could be included in the final EIS.

The NJDEP's Endangered and Non-game Species Program (ENSP) recommends that the project consultant remain in close contact with Chris Nadesky, the Section Chief with the New York Department of Environmental Protection (NYDEP). The NYDEP closely monitors the peregrines on the Goethals Bridge and will advise on timing restrictions (and/or erection of alternate nesting structures). In New Jersey, our timing restriction for breeding peregrines is March 1 to July 15.

In order to reduce mortality to the Diamondback Terrapin from construction vehicles in the Primary Study Area during the nesting period (June-July), the contractor should instruct all employees and sub contractors to avoid any animals and, if possible, move any turtles to the closest suitable habitat and release unharmed.

Site Remediation Program

The NJDEP's Bureau of Case Management (BCM) has reviewed pertinent sections (4.4.3, 4.18.4, 4.18.8, 5.18.5) of the Goethals Bridge Replacement Project DEIS dated May 2009 prepared for the United States Coast Guard.

The BCM can only comment on the document generally, as an EIS pursuant to the National Environmental Policy Act (NEPA) is not a document regulated pursuant to the NJDEP Technical Requirements for Site Remediation (TRSR N.J.A.C. 7:26E).

The DEIS identified several known and potential sites that contain contaminated soils, groundwater or both within the Primary Study Area (PSA). The known sites are in various stages of remediation with oversight by different Bureaus within the Site Remediation Program (SRP).

Further investigations should be conducted in accordance with the NJDEP's Technical Requirements for Site Remediation to confirm the presence of contaminants once an alternative is selected and project design has progressed to the point where areas to be disturbed are more specifically defined. If these investigations reveal the presence of contaminated materials,

delineation of the nature and extent of contamination and remediation would be required within the project area.

A Remedial Action Work plan approved by the NJDEP should be developed to safely remove contaminated soils generally during, but potentially prior to, construction. This plan must be submitted in accordance with the (TRSR, N.J.A.C. 7:26E).

Historic Preservation Office

The NJDEP's Historic Preservation Office (HPO) is in the Section 106 consultation process with the United States Coast Guard (USCG) on this project pursuant to the National Historic Preservation Act. A copy of the most recent correspondence is attached for your use and information.

The Section 106 process will be complete when the USCG, HPO, New York State Historic Preservation Office, and the Port Authority sign a Memorandum of Agreement for this project. At this time the HPO and the USCG are in the earliest stages of discussing possible mitigation measures for adverse impacts to historic resources. The schedule for the completion of this process is not currently known.

Office of Local Environmental Management - Noise

The NJDEP's Office of Local Environmental Management (OLEM) has reviewed the noise section of the Goethals Bridge Replacement DEIS. The following comments highlight our concerns regarding the potential noise impacts:

- Excessive noise, such as pile driving, should be conducted during normal working hours, when local nearby residents may not be home.
- Please be aware that noise on public roadways is exempt under the New Jersey State Noise Control Regulations N.J.A.C. 7:29-1.5(9). Jurisdiction for noise on the New York side of the construction project should comply with New York State noise control regulations.
- Temporary sound barriers should be installed along the active construction corridors that may impact nearby residents.
- Sensitive receptors such as the P.S. 22, William F. Halloran Elementary School should be offered soundproofing insulation.
- Residents within two hundred feet of the proposed construction sites should be notified in advance of the start and finish times and the potential for excessive noise when applicable. Construction hours should have curfews during the evening and early morning hours when near existing residential developments.
- All motorized equipment used during construction should be equipped with factory-installed mufflers.
- A soundproofing jacket for jackhammers exists and should be used during construction.
- Truck routes used during construction should not traverse through residential neighborhoods whenever possible.

- The noise study mentions an effort to comply with the local noise ordinance for the City of Elizabeth. Please be aware that the Department disapproved the city's noise ordinance.
- Some of the noise studies were conducted using an averaging of sound (Leq). Please be aware that State noise investigations are conducted by taking real-time measurements from at or within a complainant's property line.

Bureau of Air Quality Planning

The NJDEP's Bureau of Air Quality Planning (BAQP) has reviewed the DEIS for the Goethals Bridge Replacement project and has the following comments:

Section 4.20.1.4 - Regulatory Setting and Compliance with Standards (New Jersey)

The DEIS states that, "the Goethals Bridge Replacement project is a regionally significant project, which requires project-level compliance with the United States Environmental Protection Agency's (USEPA) Conformity rule. If the proposed project is either funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA), then Transportation Conformity would apply. If the proposed project requires funding or approvals from any other Federal agency, such as the USCG, then General Conformity applies to the project."

Comment

A "regionally significant" project as defined in the General Conformity regulation (93.152 Definitions) means "a Federal action for which the direct and indirect emissions of any pollutant represent 10 percent or more of a nonattainment or maintenance area's emission inventory for that pollutant." The definition for "regionally significant" should be clarified in the DEIS. The pollutant emissions associated with this project are not likely to represent 10 percent or more of the nonattainment area's emission inventory. This differs from the definition of regionally significant as it pertains to Transportation Conformity.

The BAQP concurs with the USCG's conclusion that this project requires a Federal General Conformity review. Section 7.1 (Federal Permits and Approvals) in the DEIS indicates that three Federal permits are required for this project. (Section 9 Bridge Permit from the USCG and a Section 44 Dredge and Fill Permit and Section 10 Rivers and Harbors Act Permit from the United States Army Corp of Engineers). As indicated in the Federal General Conformity regulation (40 CFR 93.150)(a), "No department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit or approve any activity which does not conform to an applicable implementation plan." Since two Federal agencies will be issuing permits for this project, the General Conformity regulation would apply to this project. Also, this project should be included in the North Jersey Transportation Planning Authority's Transportation Improvement Program which is subject to Transportation Conformity.

Section 5.21.7 - Conformity Analysis

The DEIS states that, "Determination of full Conformity compliance will be made following the detailed construction phase air quality analysis, which will be conducted for the

Port Authority's preferred alternative and documented in the Final Environmental Impact Statement (FEIS) (see Section 5.21.8)"

Comment

Section 93.153(b) and (1) (Applicability) in the Federal General Conformity regulation states, "...a conformity determination is required for each criteria pollutant or precursor where the total direct or indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs (b)(1) of this section." Under the 1-hour Ozone National Ambient Air Quality Standards (NAAQS), the New York-Northern New Jersey-Long Island NY (NY-NY-CT) nonattainment area was classified as a "severe" nonattainment area. Under this classification, the de minimis level for Oxides of Nitrogen (NOx) is 25 tons per year (tpy) and the de minimis level for Volatile Organic Compounds (VOCs) is 25 tpy. The State of New Jersey continues to be in nonattainment for the 8-hour ozone NAAQS. In order to prevent backsliding and to meet the goal of the Clean Air Act (42 U.S.C. 7502(c)) to achieve attainment of the NAAQS, it is necessary to use the de minimis emissions levels established for General Conformity projects under the 1-hour Ozone NAAQS at (40 CFR 93.153(b)(1). When preparing the Applicability Analysis, please use the de minimis levels for the 1-hour Ozone NAAQS.

In addition, Section 93.158(a)(2) indicates that for ozone and nitrogen dioxide, "the total of direct and indirect emissions from the action are fully offset within the same nonattainment or maintenance area... so that there is no net increase in emissions of that pollutant." Section 93.158(d) states that, "any analyses required under this section must be completed, and any mitigation requirement necessary for a finding of conformity must be identified before the determination of conformity is made." In light of the above, a mitigation plan will be required for criteria pollutant emissions and precursors above the 1-hour de minimis levels.

Section 5.21.8 - Construction Impacts

The DEIS states, "Since it is not anticipated that there will be any construction-related detours or diversions during any of the construction phases, no CO analysis of these detours or diversions is needed. The construction phase analysis, therefore, will focus on the potential particulate matter impacts."

Comment

Section 93.153 (b) (Applicability) in the Federal General Conformity regulation states, "...a conformity determination is required for each criteria pollutant or precursor where the total direct or indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs (b)(1) of this section." When preparing the Applicability Analysis for this project, the analysis should not be limited to direct PM, but must include the emissions of Volatile Organic Compounds (VOCs), oxides of nitrogen (NOx), fine particulate matter (PM2.5) and its precursors.

This section of the DEIS includes measures to control airborne particulate matter during construction. These include the use of ultra low sulfur diesel fuel and a 3-minute limit on idling. Due to the health risks associated with diesel exhaust, any project that involves concentrated sources of diesel exhaust such as heavy use of construction vehicles, the BAQP recommends that all construction equipment above 75 horsepower should meet Tier 4 non-road emissions

standards. If Tier 4 standards cannot be met, construction equipment should have control technology verified by the USEPA or the California Air Resources Board (CARB) to reduce particulate matter emissions by a minimum of 85%.

Thank you for giving the NJDEP the opportunity to comment on the Goethals Bridge Modernization Program DEIS.

Sincerely,



Joseph Corleto
Principal Environmental Specialist
Office of Permit Coordination
and Environmental Review

C: Chris Jones, NJDEP
Dan Saunders, NJDEP
Kelly Davis, NJDEP
Steve Maybury, NJDEP
Dave Triggs, NJDEP
Danny Wong, NJDEP



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
James J. Howard Marine
Sciences Laboratory
74 Magruder Road
Highlands, NJ 07732

August 5, 2009

Commander (dpb)
United States Coast Guard
First Coast Guard District
1 South Street
Battery Park building
New York, New York 10004-1466

ATTN: Mr. Gary Kassof
Bridge Program Manager

Dear Mr. Kassof:

NOAA's National Marine Fisheries Service (NMFS), Northeast Region's Habitat Conservation Division has reviewed the *Draft Environmental Impact Statement (DEIS) for the Goethals Bridge Replacement*. The Port Authority of New York and New Jersey (PA) proposes to construct a new cable-stayed bridge to replace the existing Goethals Bridge connecting the Borough of Staten Island, New York and the City of Elizabeth, New Jersey. According to the DEIS, the existing bridge is both functionally and physically obsolete. The DEIS describes the project purpose and need and outlines several alternatives proposed by the PA to meet the project's goals which include addressing design deficiencies; enhancing structural integrity and reducing life-cycle costs; providing transportation system redundancy; improving traffic service; providing safer operating conditions and reducing accidents; providing safe and reliable truck access for regional goods movement and providing for the potential future transit in the corridor.

The DEIS evaluates the no build alternative as well as four alignments for a new, six lane bridge. All of the new bridge alternatives would consist of six 12-foot-wide travel lanes, three on each roadway deck (i.e., one roadway for eastbound traffic and one roadway for westbound traffic); a 12-foot wide outer shoulder on each roadway; a five foot wide inner shoulder on each roadway; a minimum ten foot wide sidewalk/bikeway along the northern edge of the westbound roadway and a central area between the two roadways to be maintained for future transit service. Other components proposed as part of the build alternatives include new approach spans in both NY and NJ; a 50-foot wide buffer on both sides of the replacement bridge and its approach spans; a permanent access road below the replacement bridge for construction, maintenance and security; replacement of the Travis Branch railroad bridge in Staten Island; relocation and or realignment of either or both Goethals Road North and Gulf Avenue in Staten Island; and five acre construction staging areas on each side of the Arthur Kill.

The four alignments evaluated for the build alternatives include new bridges either to the north or south of the existing bridge or a bridge built partially to the north or south of the existing bridge. If a bridge is constructed partially to the north or south, only one-half of the new bridge would be constructed initially. The traffic would be transferred to the new bridge section. The old bridge



would be demolished and then the remaining portion of the new bridge would be constructed within the alignment of the old bridge. The DEIS does not identify a preferred alternative.

Our comments on the DEIS are as follows:

General Comments:

The lack of an identified preferred alternative prevents the full evaluation of the proposed project impacts on NOAA Trust resources. While the impacts of the various alternatives are similar, the location, the nature of the habitat impacts and the extent of the impacts vary. For example, the total impacts to wetlands and water of the U.S. for the four build alternatives range from 5.19 to 5.51 acres. The two northern alignment alternatives will impact more acres of low marsh and mudflat than the two southern alternatives. The southern alternatives will impact more acres of high marsh. Low marsh and mudflats are more likely to support resources of concern to us than high marsh. However, the southern alignments both involve the construction of a bridge pier at the entrance to an interpier basin in Elizabeth, NJ. The placement of this pier would restrict substantially the tidal flushing of this shallow 3-acre area, permanently altering water quality and sedimentation patterns. This could result in the degradation of the area as habitat for fish.

The northern alternatives will also impact the Old Place Creek Marsh, eight acres of salt marsh that were injured by the 1990 Exxon Bayway oil spill and were subsequently restored using more than one million dollars of settlement funds. As stated in our 1995 correspondence on the Goethals Bridge modernization project, the Old Place Creek Marsh has a high ecological value and has served as award winning model for restoration after oils spills. The DEIS does not appear to discuss fully the implications of impacting this area. Should one of the northern alignments be selected as the preferred alternative, the final EIS should more carefully consider ecological consequences of the filling of this marsh. Further, any mitigation plan developed should include the unique value of this site as part of the plan selection and design process.

However, without a designated preferred alternative, it is not possible to develop a mitigation plan that compensates for the project derived losses to ecological functions and values because these losses cannot be quantified completely without identifying the impacts.

Magnuson Stevens Fishery Management and Conservation Act (MSA)

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires Federal agencies including the US Coast Guard (USCG) to consult with NMFS regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect EFH identified under the MSA. The EFH regulations, 50 CFR Section 600.920, outline that consultation procedure and, further, enable federal agencies to use existing consultation/environmental review procedures to satisfy the MSA consultation requirements when appropriate. Included in this consultation process is the preparation of a complete and appropriate EFH assessment to provide necessary information on which to consult.

The draft EFH assessment included in the DEIS is incomplete. While the assessment includes information on impacts to forage species and indirect impacts, there are several deficiencies that should be addressed in the final document. The species for which EFH has been designated is incomplete. The list appears to have been obtained from the 10 minute square data from our website (www.nero.noaa.gov/hcd/STATE4/new_jersey/40307410.html), and this data is only partially complete. Additional designations for the Hudson-Raritan Estuary including the Arthur Kill can be found on our website as well (www.nero.noaa.gov/hcd/nj4.html). The use of both data sets is required to develop a complete list of EFH for the project site. Species and life stages missing from the draft EFH assessment include juvenile and adult black sea bass (*Centropomus*

striata), adult red hake (*Urophycis chuss*), windowpane (*Scophthalmus aquosus*) and winter flounder (*Pseudopleuronectes americanus*) spawning adults.

In addition, the assessment only appears to consider the permanent loss of 0.2 to 0.3 acres of shallow water as impacts to EFH. The EFH final rule published in the Federal Register on January 17, 2002 defines an adverse effect as: "Any impact which reduces the quality and/or quantity of EFH." The rule further states that:

An adverse effect may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat and other ecosystems components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from action occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

As a result, the assessment should address impacts to wetlands, tidal creeks as well as the Arthur Kill. Temporary impacts should also be considered. A more detailed discussion of measures to compensate for the impacts should be provided.

As mentioned above, the lack of an identified preferred alternative precludes a complete analysis of project impacts and the development of detailed mitigation plans to offset the impacts. With the information in the DEIS on the four potential alternatives and the draft EFH assessment, we can offer some preliminary recommendations for inclusion in the FEIS and the mitigation plans and for project planning and scheduling purposes.

As a result, the EFH consultation between NMFS and the USCG for this project should not be considered complete until a final, revised EFH assessment is provided that incorporates the missing information and includes a discussion of the impacts of the alternative selected and more details on the specific construction methods to be used. At that time, we will be able to provide more site specific conservation recommendations pursuant to Section 305(b) (4) (A) of the MSA..

Until a preferred alternative is selected and a final EFH assessment is provided to us for review, our preliminary recommendations are as follows:

1. EFH for all life stages of winter flounder has been designated in the project area. Winter flounder spawn beginning in early January through April, depending on water temperatures. Their demersal eggs sink, remaining on the bottom until they hatch. After hatching, flounder larvae are initially planktonic, but following metamorphosis they assume an epibenthic existence. Increased turbidity and the subsequent deposition of the suspended sediments can smother the winter flounder eggs and newly-metamorphosed larvae and would adversely affect their EFH. To minimize impacts to early life stages of winter flounder that may be in the area, in-water work on the bridge should be timed to avoid the time when eggs and larvae may be present - January 1 to May 31.
2. Anadromous fish such as alewife and blueback herring use the Arthur Kill as migratory pathway and as nursery and forage habitat. Buckel and Conover (1997) in Fahey et al. (1999) reports that diet items of juvenile bluefish include *Alosa* species such as these. As a result, activities that adversely affect the spawning success and the quality for the nursery habitat of these anadromous fish can adversely affect the EFH for juvenile bluefish by reducing the availability of prey items. Bridge construction and demolition activities can increase turbidity and degrade water quality. This water quality degradation and the noise and vibrations caused by

the construction activities can impede the migration of anadromous fish to their upstream spawning grounds. Avoiding in water work from January 1 to May 31 will also minimize impacts to these species.

3. A compensatory mitigation plan to offset all of the project impacts to aquatic resources including EFH should be developed in accordance with the federal standards and criteria for compensatory mitigation for losses of aquatic resources published in the Federal Register on April 10, 2008 (vol. 73 No. 70). If either of the northern alignments is selected, any mitigation plan should include consideration of the unique values of the Old Place Creek Marsh. Should either of the southern alignments be chosen, the mitigation plan should compensate for any habitat degradation of the interpier area in Elizabeth, NJ. The use of a mitigation bank may be an acceptable form of compensatory mitigation if there is an approved bank with sufficient credits available to sell exists and whose service area includes the impact site. In-lieu fee mitigation may also be acceptable provided it complies with the current Federal regulations. These regulations require the development of an in-lieu fee program and an in-lieu fee instrument similar to a mitigation banking instrument and the establishment of an Interagency Review Team.

Conclusion

Thank you for the opportunity to comment on the EA. We will gladly continue to coordination on a formal and informal basis as the selection of the preferred alternative is made, mitigation plans are developed and the final EFH assessment is prepared. If you would like to discuss this matter further, please contact Karen Greene at 732 872-3023 or Diane Rusanowsky at 203 882 6504.

Sincerely,



Stanly W. Gorski
Field Offices Supervisor
Habitat Conservation Division

cc: ACOE NYD R. Tomer
EPA Region II Environmental Review Section- L. Knudson
Wetlands Section - D. Montella
FWS Pleasantville- S. Mars
PRD - J. Crocker

LITERATURE CITED

Buckel, J.A. and D.O. Conover. 1997. Movements, feeding periods, and daily ration of piscivorous young-of-the-year bluefish, *Pomatomus saltatrix*, in the Hudson River estuary. Fish. Bull. (U.S.) 95(4):665-679.

Fahey, M.P., P.L. Berrien, D.L. Johnson and W.W. Morse. 1999. Essential Fish Habitat Source Document: Bluefish, *Pomatomus saltatrix* life history and habitat characteristics. U.S. Dep. Commer., NOAA Technical Memorandum NMFS-NE-144.

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
First Coast Guard District

One South Street
Battery Building
New York, NY 10004

Staff Symbol: dpb
Phone: 212 668-7165
Fax: 212 668-7967

May 28, 2010

Ms. Karen Greene
NOAA Fisheries Habitat Conservation Division
National Marine Fisheries Service
James J. Harvard Marine Sciences Laboratory
74 Magruder Rd.
Highlands 07732

**Re: Goethals Bridge Replacement (GBR) Project
Revised Essential Fish Habitat (EFH) Assessment for the Preferred Alternative**

Dear Ms. Greene:

The Port Authority of New York and New Jersey (Port Authority) proposes to replace the existing Goethals Bridge (a steel cantilevered truss structure) with a cable-stayed bridge to be constructed on new alignment immediately south of the existing structure across the Arthur Kill (Channel MP 23.35) between the City of Elizabeth, Union County, New Jersey and the Borough of Staten Island, Richmond County, New York. Once the shift of traffic to the replacement bridge and the demolition of the existing Goethals Bridge are completed, the proposed cable-stayed bridge will continue to connect I-278 (the Staten Island Expressway) on Staten Island's north shore to I-95 (the New Jersey Turnpike) and US Route 1&9 in New Jersey.

A letter of intent to file a Bridge Permit Application for the Goethals Bridge Replacement (GBR) Project was originally submitted by the Port Authority to the U.S. Coast Guard (USCG) on June 3, 2004; which then triggered the need for the preparation of an Environmental Impact Statement (EIS) by the USCG as the lead Federal agency, in accordance with Section 102(2)(C) of the National Environmental Policy Act (NEPA) of 1969, as amended. The GBR DEIS was released for public review on May 29th, 2009, followed by Public Meetings held on July 8th and 9th, 2009; the Public Comment Period was officially closed on July 28th, 2009. During that time, a Draft EFH Assessment had also been appended to the GBR DEIS and then reviewed by NMFS (comment letter of August 5, 2009 is attached to the EFH Assessment as Appendix B). NMFS commented that the EFH consultation for the GBR Project should not be considered complete until a final, revised EFH Assessment is provided to address all of NMFS concerns and, most importantly, to identify the Preferred Alternative.

After evaluation of the several alternatives and their impacts, as well as consideration of comments received during the project's continuous public participation program, the New Alignment South has been selected as the Preferred Alternative. The GBR FEIS is expected to be released during the summer 2010. Formal bridge permit application has been submitted by the Port Authority to the USCG on May 26, 2010.

Enclosed is the revised EFH Assessment for the GBR Project for your review and development of NMFS' EFH Conservation Recommendations, pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1855 as amended) and to the EFH regulations (50 CFR Section 600.920) for consultation with the with the National Marine Fisheries Service (NMFS). The

Arthur Kill is designated by NMFS as an Essential Fish Habitat (EFH) for 17 EFH-managed fish species and several EFH-related forage species. While addressing all prior comments from NMFS, this revised EFH Assessment also includes a detailed analysis of the direct, indirect and cumulative effects of the GBR Project on those species and life stages for which EFH has been designated, as well as forage species.

In addition to the USCG Bridge Permit, the GBR Project will also require a Section 404 Permit pursuant to the Clean Water Act, as amended, and a Section 10 Permit pursuant to the Rivers and Harbors Act of 1899, both from the U.S. Army Corps of Engineers. The laws of the States of New Jersey and New York do require that state permits be obtained for this work, including: Section 401 water quality certifications; coastal zone consistency determinations; multiple permits and approvals related to affected waters and wetlands; land conveyances for tidelands (New Jersey) or underwater lands (New York); and approvals related to contamination investigations and remediation design; among others. At a local level, the primary approval required is related to New York City's Uniform Land Use Review Procedure (ULURP), due to proposed changes to the City Map and disposition of City-owned property attributed to the project. It should also be noted that other permits, approvals and/or consultations will be needed from federal/state/local agencies, including most notably, but not limited to: Section 106 Consultation with State Historic Preservation Offices of NJ and NY, the Federal Aviation Administration (FAA), and the US Fish and Wildlife Service (USFWS).

Thank you for your assistance in this undertaking. The U.S. Coast Guard looks forward to your continued involvement in the GBR Project and would appreciate your development of EFH Conservation Recommendations within 30 days of receipt of this letter.

Sincerely,



Gary Kassof
Bridge Program Manager
First Coast Guard District
By Direction of the District Commander

Enclosures:

- *Essential Fish Habitat (EFH) Assessment for the GBR Project*

Copy:

- Allen Garneau, Chris Bisignano (USCG)
- Coleen Hopson, Stefan Armington (PANYNJ)
- Ken Hess, Judith Versenyi, JP Magron (Berger/PB)



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

Commander (dpb)
First Coast Guard District
Battery Park building
One South Street
New York, NY 10004-1466

JUL 1 2010

ATTN: Gary Kassof, Bridge Program Manager
RE: Goethals Bridge Replacement Project
Revised essential fish habitat (EFH) assessment for the preferred alternative

Dear Mr. Kassof:

The National Marine Fisheries Service (NMFS), Northeast Region, Habitat Conservation Division has reviewed the revised EFH assessment for the Port Authority of New York and New Jersey's (PA) proposal to construct a new cable-stayed bridge to replace the existing Goethals Bridge connecting the Borough of Staten Island, New York and the City of Elizabeth, New Jersey. We commented previously on a draft EFH assessment that was included in the *Draft Environmental Impact Statement (DEIS) for the Goethals Bridge Replacement* in our letter dated August 5, 2009.

In our previous letter, we concluded that the EFH assessment in the DEIS did not have sufficient information to allow us to provide the Coast Guard with final EFH conservation recommendations. We noted that several federally managed species were not addressed in the assessment, and in addition, it considered only the permanent loss of 0.2 to 0.3 acres of shallow water as impacts to EFH. The entire range of direct, indirect, individual and cumulative effects of the proposed bridge replacement was not evaluated. The evaluation of impacts was further complicated by the lack of a selected preferred alternative.

We were able to provide several preliminary recommendations in our August 5, 2009 letter including seasonal work windows to minimize impacts to winter flounder and anadromous fish. We also expressed the need for the development of a mitigation plan to offset any unavoidable impacts to aquatic habitat and to EFH associated with the project.

A preferred alternative has now been selected; and a revised EFH assessment has been provided for our review. Overall, the assessment does a fine job of identifying and evaluating the short-term and long-term effects of the project on EFH and federally managed species. Indirect and cumulative impacts are also discussed in the assessment.



The Port Authority of New York and New Jersey (PA) is proposing to construct a new six-lane, cable-stayed bridge south of the existing Goethals Bridge. The new bridge will require the construction of access roads through wetlands, as well as barge and equipment staging areas. A temporary access road would also be built on a trestle over an interpier basin on the New Jersey side. The New Jersey main pier bridge support would also be constructed in this interpier basin. A fendering system would be installed at the opening of the basin to protect the main bridge pier support. On the New York side, the construction of the new bridge and access and security roads will result in the permanent loss of tidal marsh and open waters associated with Old Place Creek, as well as the permanent shading of a portion of these habitats.

Approximately 6.11 acres of wetlands and open waters would be affected by the project including 4.66 acres of tidal wetland fill, 0.59 acres of open water fill, 0.16 acres of freshwater wetland fill and 0.70 acres of open water shading by the trestle. This figure includes both temporary and permanent impacts. The assessment discusses several options for providing compensatory mitigation for these impacts, but it does not appear that a mitigation plan has been selected yet.

As stated in our previous letter, a compensatory mitigation plan to offset all of the project impacts to aquatic resources, including EFH, should be developed in accordance with the federal standards and criteria for compensatory mitigation for losses of aquatic resources as published in the Federal Register on April 10, 2008 (vol. 73 No. 70). The mitigation plan should also compensate for any habitat degradation of the interpier area in Elizabeth, NJ. In-lieu fee mitigation may be acceptable provided it complies with the current federal regulations. These regulations require the development of an in-lieu fee program and an in-lieu fee instrument similar to a mitigation banking instrument as well as the establishment of an Interagency Review Team. Currently, no approved in-lieu fee program exists in the project area. The development of such a program may not be feasible within the schedule desired by the PA.

Because the revised EFH assessment does not include a mitigation plan, we cannot determine if the unavoidable adverse effects of the project on EFH, federally managed species, their prey species or other NOAA trust resources are adequately compensated. As a result, we respectfully recommend that the Coast Guard withhold issuing any permits until a conceptual mitigation plan for a specific site is provided for us to review.

EFH for all life stages of winter flounder has been designated in the project area. Winter flounder spawn beginning in early January through April, depending on water temperatures. Their demersal eggs sink, remaining on the bottom until they hatch. After hatching, flounder larvae are initially planktonic, but following metamorphosis they assume an epibenthic existence. Increased turbidity and the subsequent deposition of the suspended sediments can smother the winter flounder eggs and would adversely affect their EFH. To minimize impacts to early life stages of winter flounder that may be in the area, in-water work on the bridge should be planned to avoid the time when eggs and larvae may be present - January 1 to May 31.

Anadromous fish such as alewife and blueback herring use the Arthur Kill as migratory pathway and as nursery and forage habitat. Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in alewife and blueback herring populations

throughout much of their range since the mid-1960's, they have been designated as species of concern by NMFS in a Federal Register Notice dated October 17, 2006 (71 FRN 61022). "Species of concern" are those species about which NMFS has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act.

Buckel and Conover (1997) in Fahey et al. (1999) reports that diet items of juvenile bluefish include *Alosa* species such as these. Consequently, activities that adversely affect the spawning success and the quality for the nursery habitat of these anadromous fish can adversely affect the EFH for juvenile bluefish by reducing the availability of prey items. Bridge construction and demolition activities can increase turbidity and degrade water quality. Along with the noise and vibrations caused by the construction, these activities can impede the migration of anadromous fish to their upstream spawning grounds. Avoiding in water work from March 1 to June 30 will minimize impacts to these species.

In our correspondence on this project (July 21, 2009 and August 5, 2009) we recommended seasonal in-water work restrictions to minimize the effects of the project on winter flounder early life stage EFH and anadromous fish. According to the EFH assessment, all in-water dredging, construction and demolition would take place within cofferdams in order to create dry work conditions for pouring concrete and using diamond saws, hydraulic splitting or expandable grout for the demolition of the existing Goethals Bridge. We do not object to work within the cofferdams taking place during the recommended seasonal restrictions provided the cofferdams are in place prior to January 1 or after June 30 and they are not removed between those dates.

We remain concerned about the potential effects of noise on migrating anadromous fish as some sound may be transmitted through the cofferdams. The migration of anadromous fish may be affected by certain frequencies and decibel of sound, but few studies exist that address sound transmission through cofferdams. So that we may gain a better understanding of the potential sound levels transmitted outside the cofferdam, we recommend that a monitoring program be implemented to measure the ambient sound decibel levels in the river during construction. We do not intend for this to be a long-term monitoring program, or for the data collected to be used as a trigger to stop construction. The information will assist us in evaluating future projects in the waterway and potentially recommend more focused, site specific recommendations regarding seasonal work windows and best management practices. We request that the PA develop a plan for us to review, and that the development and implementation of this plan be included as a condition of the permit.

EFH Conservation Recommendations

We have reviewed the revised EFH assessment. As discussed above, we have several outstanding concerns regarding the project's impacts to EFH and federally managed species and their prey. To minimize the impacts, NMFS recommends the following EFH conservation recommendations pursuant to Section 305(b) (4) (A) of the Magnuson Stevens Fishery Conservation and Management Act (MSA):

1. The development, review and approval of a compensatory mitigation plan for all unavoidable impacts to aquatic habitats prior to the issuance of a Coast Guard Bridge Permit.

The following EFH conservation recommendations should be included as special conditions of the Coast Guard Bridge Permit, should one be issued.

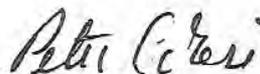
1. No in-water work within the Arthur Kill from January 1 to May 31 to minimize impacts to winter flounder early life stages and EFH. Work within the cofferdams may occur during this time frame provided the cofferdams are installed and removed outside of this time.
2. No-in-water work within the Arthur Kill from March 1 to June 30 to minimize impacts to anadromous fish such as alewife and blueback herring, prey species for federally managed bluefish. Work within the cofferdams may occur during this time frame provided the cofferdams are installed and removed outside of this time.
3. The development and implementation of a sound monitoring program to measure the ambient sound levels in the Arthur Kill as compared to the sound levels generated during construction.

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

Please also note that a district and further EFH consultation must be reinitiated pursuant to 50 CRF 600.920 (j) if new information becomes available, or if the project is revised in such a manner that affects the basis for the above EFH conservation recommendations.

If you have any questions regarding our comments or need additional information, please contact Karen Greene (karen.greene@noaa.gov) at 732 872-3023 or Diane Rusanowsky (diane.rusanowsky@noaa.gov) at 203 882 6504.

Sincerely,



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

cc: EPA Region II - L. Knudson, D. Montella
FWS Pleasantville - S. Mars
HCD - D. Rusanowsky, K. Greene
ACOE NYD
NYDEC
NYDOS

LITERATURE CITED

Buckel, J.A. and D.O. Conover. 1997. Movements, feeding periods, and daily ration of piscivorous young-of-the-year bluefish, *Pomatomus saltatrix*, in the Hudson River estuary. Fish. Bull. (U.S.) 95(4):665-679.

Fahey, M.P., P.L. Berrien, D.L. Johnson and W.W. Morse. 1999. Essential Fish Habitat Source Document: Bluefish, *Pomatomus saltatrix* life history and habitat characteristics. U.S. Dep. Commer., NOAA Technical Memorandum NMFS-NE-144.

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
First Coast Guard District

One South Street
Battery Building
New York, NY 10004

Staff Symbol: dpb
Phone: 212 668-7165
Fax: 212 668-7967

Goethals Bridge
August 27, 2010

Mr. Peter D. Colosi, Jr., Assistant Regional Administrator

U.S. National Marine Fisheries Service
Habitat Conservation Division
Northeast Region
55 Great Republic Drive
Gloucester, MA 01930-2276

**Re: Revised EFH Assessment/ Goethals Bridge Project.
Response to NMFS Comment Letter for July 1, 2010.**

Dear Mr. Colosi:

This letter responds to comments on the referenced document pursuant to Section 305(b)(4)(B) of the Magnuson Stevens Fishery Conservation and Management Act (MSA). It addresses EFH conservation recommendations provided in your recent letter, specifically: 1) development, review and approval of a compensatory mitigation plan; 2) in-water work moratorium within the Arthur Kill from January 1 to May 31 to minimize impacts to winter flounder; 3) in-water work moratorium within the Arthur Kill from March 1 to June 30 to minimize impacts to migratory anadromous fish; and 4) development and implementation of a sound monitoring program during construction in the Arthur Kill. Each of these items is addressed below, including how the U.S. Coast Guard (USCG) proposes to address them in the bridge permit for the project.

Development, review and approval of a compensatory mitigation plan

NMFS has requested in its letter that a compensatory mitigation plan be developed to offset all of the project impacts to aquatic resources, including EFH, in accordance with the federal standards and criteria for compensatory mitigation for losses of aquatic resources as published in the *Federal Register* on April 10, 2008 (Vol. 73, No. 70). NMFS also indicated that the mitigation plan should compensate for any habitat degradation of the interpier area in Elizabeth, NJ. NMFS also indicated that in-lieu fee mitigation may be acceptable, provided that it complies with the current federal regulations.

At this time, the proposed mitigation plan to compensate for losses of aquatic habitats (the filling of wetlands and open waters) in New York is a permittee-responsible mitigation by the Port Authority at the New York State Department of Environmental Conservation (NYSDEC) Old Place Creek Salt Marsh Restoration Site. Much of the site, which is owned by NYSDEC, is currently tidally restricted and dominated by invasive *Phragmites australis*. NYSDEC agreed that previously developed preliminary restoration plans for the site could be used, pending potential design updates as necessary. The plan for the Old Place Creek Site involves creation of 15.39 acres of mudflat, high/low marsh and scrub-shrub habitats and the preservation of 3.91 acres of existing high/low marsh and open water habitats. At a 3:1 wetland mitigation ratio for

creation, approximately 5.13 mitigation credits would be generated, which would be sufficient to compensate for the unavoidable impacts in New York from the proposed project.

On the New Jersey side of the project area, mitigation proposed to offset wetlands/open water impacts is to purchase credits at the ProLogis Port Reading Wetland Mitigation Bank in Woodbridge, New Jersey. Under current federal regulations (i.e., joint USACE/USEPA compensatory mitigation regulations published in the *Federal Register* on April 10, 2008), the use of mitigation bank credits is the preferred mitigation alternative. The only wetland mitigation bank in the project service area is the Port Reading Wetland Mitigation Bank. Based on conversations with the New Jersey Department of Environmental Protection (NJDEP) and ProLogis, both tidal and freshwater wetland impacts would be adequately covered by the bank, as only a small area of freshwater wetlands would be impacted in New Jersey. This mitigation bank, once fully approved, would sell mitigation credits that translate into 1 credit for 1 acre impacted. Pursuant to its project authorization, the Port Authority would purchase credits from the Port Reading Wetland Bank. At this point in time, and pursuant to its release of credits, the Port Reading Wetland Bank is expected to have about 7 credits available over the next 3 years.

It should be noted that the information presented above regarding the mitigation for filling of wetlands and open waters in both New York and New Jersey is generally consistent with information being presented in the Final Environmental Impact Statement (FEIS) for the project, although at the time of FEIS document preparation an in-lieu fee mechanism for the recommended site in New York was being considered rather than the [permittee-responsible](#) mitigation that is now proposed for the same site.

The restoration/enhancement of intertidal and shallow subtidal habitat would compensate for direct impacts to EFH resulting from the proposed project. There are several opportunities to mitigate for habitat degradation in the interpier basin on the New Jersey side of the Arthur Kill that would result from the proposed bridge and fender system structures. One opportunity is the removal of existing pile-supported decking at the Corey Warehouse along the south side of the interpier basin, thereby enhancing an aquatic habitat that has been completely shaded for decades. Another opportunity is to restore the northern edge of the interpier basin where the Goethals Bridge piers are currently located to a natural condition following bridge demolition and completion of construction. Another possibility is the installation of fish attraction structures, such as reef balls or small pile arrays, in the interpier basin.

A requirement for further details of these and other proposed compensatory measures in the form of a compensatory mitigation plan from the Port Authority will be included as a condition of the USCG's Bridge Permit for this project. This condition will also require that NMFS have an opportunity to review and comment on the plan.

In-water work moratorium within the Arthur Kill from January 1 to May 31 to minimize impacts to winter flounder

All winter flounder life stages are expected to be found in and utilize the Arthur Kill project area. As a consequence, NMFS recommends that in-water work not be conducted between January 1 and May 31 in order to protect winter flounder early life stages. Any work undertaken within

tidal areas would be performed within cofferdams constructed prior to the start of this in-water work restriction period.

The USCG proposes to include a requirement for avoiding in-water work related to new bridge construction or existing bridge demolition from January 1 to May 31, except for work within cofferdams that are to be installed prior to any proposed seasonal no-work windows, as a condition of the bridge permit for this project.

In-water work moratorium within the Arthur Kill from March 1 to June 30 to minimize impacts to anadromous fish

Anadromous fish such as alewife and blueback herring use the Arthur Kill as a migratory pathway and as nursery and forage habitat. Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in these populations since the mid-1960s, they have been designated as “species of concern”. “Species of concern” are species about which NMFS has concerns regarding status and threats but insufficient information to indicate a need to list them under the Endangered Species Act.

Alewife and blueback herring, have been reported in the literature as diet items of juvenile bluefish. Consequently, activities that adversely affect the spawning success and nursery habitat of these anadromous fish can adversely affect EFH for juvenile bluefish by reducing the availability of prey. Bridge construction and demolition activities can increase turbidity and degrade water quality and, along with noise and vibration due to construction, can impede the migration of anadromous fish to their upstream spawning grounds. NMFS has stated that avoiding in-water work from March 1 to June 30 will minimize impacts to these species.

According to the Goethals Bridge replacement project EFH assessment, all in-water dredging and construction directly related to the new bridge and demolition of the existing bridge would take place within cofferdams in order to create dry work conditions and minimize noise and vibration. NMFS does not object to work within the cofferdams taking place during the recommended seasonal restrictions, provided the cofferdams are constructed and removed outside of the seasonal restrictions.

The USCG proposes to include a requirement for avoiding in-water work related to new bridge construction or existing bridge demolition from March 1 to June 30, except for work within cofferdams that are to be installed prior to any proposed seasonal no-work windows, as a condition of the bridge permit for this project.

Development and implementation of a sound monitoring program in the Arthur Kill during construction

Based on its comment letter, NMFS remains concerned about the potential effects of noise on migrating anadromous fish, as some construction and demolition noise may be transmitted through the cofferdams. While some studies on underwater noise levels indicate that cofferdams may reduce noise levels by 30 decibels, there is little information regarding sound transmission through cofferdams as it relates to anadromous fish migration. As such, NMFS recommends

establishment of a noise monitoring program within the Arthur Kill to assist in the evaluation of future projects in terms of best management practices and seasonal work windows.

At this time, detailed plans for construction of the replacement bridge main piers and demolition of the Goethals Bridge piers have not yet been developed, and will not be developed until final design. As presented in the FEIS, the main pier footings of the replacement bridge will be supported either by driven piles or drilled shafts. Pile driving generates considerable underwater noise as compared to drilled shafts. If driven piles are to be used, an underwater noise monitoring plan is proposed to be developed for that portion of the construction phase for NMFS review and use in evaluating future projects in the waterway.

A combination of controlled explosives, diamond sawing, hydraulic splitting or expandable grout may be employed to demolish the existing Goethals Bridge piers. Controlled explosives generate considerable underwater noise as compared to the other three demolition methods. If controlled explosives are to be used, an underwater noise monitoring plan will be developed for that portion of the demolition phase for NMFS review and use in evaluating future projects in the waterway. Since these concerns specifically relate to anadromous fish migrations, the plan will focus on activities within cofferdams during anadromous fish migration periods (i.e., between March 1 and June 30).

The USCG proposes to include a requirement for further developing and implementing a sound monitoring plan for pile driving and explosive demolition activities within the Arthur Kill during anadromous fish migration periods as a condition of the bridge permit for this project. This condition will allow NMFS the opportunity to review and comment on the plan.

It is understood that should new information become available, or if the project is revised in such a manner that affects the basis for the above-stated EFH conservation recommendations, further EFH consultation must be reinitiated pursuant to 50 CFR 600.920(j). If you have any questions or require additional information, please contact me as soon as possible at 212-668-7021 or by email at Gary.Kassof@uscg.mil.

If I do not receive any further response from NMFS, your recommendations as described above will be addressed as part of the bridge permit conditions and also within the USCG's Record of Decision (ROD) at the completion of the National Environmental Policy Act EIS process.

Sincerely,



Gary Kassof
Bridge Program Manager
First Coast Guard District
By Direction of the District Commander

Copy (by email only):

- EPA Region II – L. Knudson, D. Montella
- FWS Pleasantville – S. Mars
- HCD – D. Rusanowsky, K. Greene
- ACOE NYD – R. Tomer, S. Jensen, M. Miller
- NYSDEC – J. Cryan, S. Zahn, S. Maresca
- NYSDOS – J. Zappieri
- NJDEP – C. Welch, P. DeMeo, D. Dow
- PANYNJ – C. Hopson, M. Helman, S. Armington
- Berger/PB – K. Hess, J. Versenyi, JP Magron

Enclosure:

- NMFS Response Letter of July 1, 2010.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division

James J. Howard Marine
Sciences Laboratory
74 Magruder Road
Highlands, NJ 07732



September 13, 2010

Commander (dpb)
United States Coast Guard
First Coast Guard District
1 South Street
Battery Park Building
New York, New York 10004-1466

ATTN: Mr. Gary Kassof
Bridge Program Manager

Dear Mr. Kassof:

NOAA's National Marine Fisheries Service (NMFS), Northeast Region's, Habitat Conservation Division has reviewed the *Final Environmental Impact Statement (FEIS) for the Goethals Bridge Replacement (GBR)*. To meet modern standards and to address deficiencies on the bridge, the Port Authority of New York and New Jersey (PA) intends to construct a new cable-stayed double-deck parallel span to replace the existing steel truss cantilever bridge connecting the Borough of Staten Island, New York and the City of Elizabeth, New Jersey.

The *New Alignment South* has been identified as the preferred alternative. This alternative involves the replacement of the Goethals Bridge with a new six-lane structure directly and entirely south of the existing structure's alignment. The new bridge would be constructed in its entirety, after which the existing bridge would be demolished.

The PA's proposal would consist of several components,

- six 12-foot-wide travel lanes, three on each roadway deck (i.e., one roadway for eastbound traffic and one roadway for westbound traffic);
- a 12-foot-wide outer shoulder on each roadway;
- a 5-foot-wide inner shoulder on each roadway;
- a minimum 10-foot-wide sidewalk/bikeway along the northern edge of the westbound roadway; and
- a 65-foot-wide central area to be maintained between the eastbound and westbound decks to accommodate the towers and support cables, as well as to allow for the provision of mass transit service, should future conditions warrant inclusion of such service during the service life of the bridge.



Other elements of the proposed project include:

- new approach spans at both the New Jersey and the New York ends of the new bridge with roadway dimensions similar to the bridge section;
- a 50-foot wide buffer on both sides of the replacement bridge and approach spans; permanent right-of-way fencing at ground level along both sides of the proposed replacement bridge approach spans, located 50 feet from the outside edge of the bridge structure;
- a permanent access road located generally below the proposed replacement bridge approach spans for purposes of construction, maintenance and security;
- replacement of the Travis Branch railroad bridge over I-278 in Staten Island in order to accommodate the proposed widening of the roadway;
- re-alignment of Gulf Avenue in Staten Island; and
- construction staging areas of approximately five acres on each side of the Arthur Kill, which are required for storage of the materials, pre-assembly activities and office space for the construction effort.

Approximately 6.11 acres of wetlands and open water would be affected by the project as proposed, including 4.66 acres of tidal wetland fill, 0.59 acres of open water fill, 0.16 acres of freshwater wetland fill, and 0.70 acres of open water shading. Furthermore, execution of the preferred alternative would involve the construction of a bridge pier at the entrance to an inter-pier basin in Elizabeth, NJ. The placement of this pier would substantially restrict the tidal flushing of this shallow 3-acre area, permanently altering water quality and sedimentation patterns which could in turn result in the degradation of the area as habitat for resident and migratory fish.

The PA anticipates that the construction period for the new bridge and demolition of the existing bridge would range between 52 and 60 months, depending on the type of superstructure selected for the main bridge span and its approaches. This FEIS assumes initiation of construction in 2011 and opening of the new bridge to traffic in late 2015.

General Comments:

The implementation of the preferred alternative comprises a range of effects to aquatic and fish communities, EFH and wetland habitats in New York and New Jersey. The potential direct impacts to the aquatic and fish communities would be from the proposed fill and from underwater disturbances, such as dredging, pile driving, and blasting associated with both the construction and removal of the existing bridge. Short-term and minor changes in water turbidity during the construction phase will also affect some fish species (i.e., winter flounder, bluefish) that are sensitive to water quality fluctuations or rely on sight to forage. Indirect impacts to the fish community would for the most part be associated with the short-term effects to the benthic and epibenthic communities which are typically a primary source of forage for juvenile fish. These forage communities will also be impacted by disturbances within the aquatic habitat caused by the construction of new bridge footings and the demolition of old ones. Increases in turbidity through the resuspension of sediments into the water column will degrade water quality, lower dissolved oxygen levels, and consequently release chemical contaminants bound to the fine-grained estuarine/marine sediments which are common in that portion of the waterway.

All dredging that is proposed will take place within temporary cofferdams placed in the Arthur Kill and Old Place Creek, and tidal wetlands. In our letter dated July 1, 2010, we recommended a seasonal time of

year restriction from January 1 to June 30 on all in-water construction/demolition activities in any given year throughout the entire course of the project. In addition, we have further recommended that the installation of the cofferdams be accomplished prior to and after the seasonal time of year restrictions. In that case, the potential for adverse effects through silt plumes, re-suspension of contaminants, and localized reductions in dissolved oxygen would be minimized.

Underwater disturbances that create noise and vibration, such as pile driving during the installation of cofferdams for construction and removal of in-water structures, will prevent local fish species from using the immediate area of disturbance. These concerns arise from an increased awareness that high-intensity sounds have the potential to harm both terrestrial and aquatic vertebrates (Fletcher and Busnel 1978; Kryter 1984; Richardson et al. 1995; Popper 2003; Popper et al. 2004).

Allied impacts linked to noise and vibration during construction and demolition will have the potential to affect specific species of fish that will be lost as cofferdams are constructed and dewatered. Such effects may include (a) non-life threatening damage to body tissues, (b) physiological effects including changes in stress hormones or hearing capabilities, or (c) changes in behavior (Popper et al. 2004).

Attenuation of the noise and an amelioration of its effects should be accomplished by implementing standard noise reduction practices which would significantly lessen any potential noise impacts to aquatic biota especially anadromous fish species observed in the area, and which are known to possess varying degrees of hyper-sensitivity to sound/noise generated by anthropogenic sources (Popper, A. N. and M. C. Hastings 2009).

The potential to directly impact anadromous fish species would occur during their seasonal migration into the Harbor Estuary and their spawning periods. There is concern that sounds/noise associated with pile driving will, for example, disrupt the migration of sensitive anadromous fish species on their route into the rivers during this time. The significance of such changes and related impacts especially on migrating species are relatively unknown but potentially high. To that end, as we recommended in our July 1, 2010 letter, the PA should design an integrated underwater sound measurement program containing various elements addressing:

- sound pressure levels generated at known fixed point source locations during pile-driving activities,
- propagation at measurable distances in all directions up and downriver,
- sound waves through heterogeneous media (air, water, sediment) and,
- sound levels inside and outside of the cofferdam structures during each phase of the project with intensified focus on the construction and demolition stages.

The information obtained will provide us with contemporary universal technical guidance on potential sound/noise impacts of bridge replacement projects where in-water pile driving is an integral component. Furthermore, having such a dataset will also contribute to the limited base of knowledge on the subject allowing better informed decisions during the evaluation of future projects and in recommending seasonal time of year restrictions and best management practices. The information collected would not be used as a criterion to stop work on the project.

Magnuson Stevens Fishery Management and Conservation Act (MSA)

The Arthur Kill has been designated by the as essential fish habitat (EFH) for 17 fish species. Pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the USCG provided us with a complete EFH assessment on May, 28, 2010.

In our July 1, 2010 letter, we provided the following EFH conservation recommendations in response to the assessment in accordance with Section 305(b) (4) (A) of the MSA:

1. The development, review and approval of a compensatory mitigation plan for all unavoidable impacts to aquatic habitats prior to the issuance of a Coast Guard Bridge Permit.
2. No in-water work within the Arthur Kill from January 1 to May 31 to minimize impacts to winter flounder early life stages and EFH. Work within the cofferdams may occur during this time frame provided the cofferdams are installed and removed outside of this time.
3. No-in-water work within the Arthur Kill from March 1 to June 30 to minimize impacts to anadromous fish such as alewife and blueback herring, a prey species for federally managed bluefish. Work within the cofferdams may occur during this time frame provided the cofferdams are installed and removed outside of this time.
4. The development and implementation of a sound monitoring program to measure the ambient sound levels in the Arthur Kill as compared to the sound levels generated during construction.

In your August, 27, 2010 letter responding to our EFH conservation recommendations, the USCG outlined how it will address all of the above recommendations. Our recommendations concerning seasonal work windows and the installation of cofferdams will be included in the USCG Bridge permit. The USCG will also require the development and implementation of a sound monitoring plan for the pile driving and explosive demolition activities during the anadromous fish migration period. A mitigation proposal has been submitted by the PA to the USCG. The proposal includes the purchase of credits at the Prologis Port Reading Mitigation Bank for impacts on the New Jersey side of the Arthur Kill. For impacts on the New York side of the Arthur Kill, the PA proposes to restore, create and preserve wetlands at the Old Place Creek Salt Marsh Restoration Site owned by the New York State Department of Environmental Conservation (NYSDEC).

Mitigation Plan

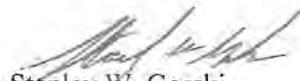
In order for us to assess the adequacy of the proposed mitigation, additional information on the proposed plan should be provided to us for review. We request a complete copy of the conceptual mitigation plan including the grading and planting plans. The document should also include the goals and objectives and success criteria as well as the monitoring and maintenance plan. In accordance with the federal standards and criteria for compensatory mitigation for losses of aquatic resources published in the Federal Register on April 10, 2008 (vol. 73 No. 70), the mitigation plan should also include a description of the mechanism and funding for the long-term maintenance and management of the site by the NYSDEC. We would expect this to be in the form of an endowment fund of some type to ensure that the NYSDEC has sufficient funds to maintain the mitigation site in a successful state as defined by the success criteria in the mitigation plan in perpetuity. The final plan and the details of the long-term management and maintenance of the site should be finalized before any fill commences.

Conclusion

Thank you for the opportunity to comment on the FEIS. Overall, the USCG's response to our EFH conservation recommendations addresses our concerns. We appreciate greatly the efforts of the USCG and the PA to incorporate our recommendations into the project plans and the Bridge Permit. We will

look forward to continued coordination as the course of the project proceeds and mitigation plans is finalized. If you would like to discuss this matter further, please contact Karen Greene at 732 872-3023, Diane Rusanowsky at 203 882-6504 or Brian May at 732 872-3116.

Sincerely,



Stanley W. Gorski
Field Offices Supervisor

cc: ACOE NYD - R. Tomer
EPA Region II: Environmental Review Section - L. Knudson
Wetlands Section - D. Montella
USFWS, Pleasantville - S. Mars
NOAA/NMFS/PRD - J. Crocker
HCD- D. Rusanowsky
NYSDEC - S. Zahn

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