



**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

February 23, 2010

Bo Pham, Chief  
Project Branch 1, division of License Renewal  
Office of Nuclear Reactor Regulation  
US Nuclear Regulatory Commission  
Washington, DC 20555-0001

RE: Salem and Hope Creek Nuclear Generating Station License Renewal Review  
Salem County, New Jersey

Dear Mr. Pham:

The National Marine Fisheries Service (NMFS) Northeast Region Habitat Conservation Division is in receipt of your letter dated December 23, 2009 regarding the Nuclear Regulatory Commission's (NRC) ongoing review of an application submitted by PSE&G Nuclear, LLC for the renewal of the operating licenses for Salem Nuclear Generating Station, Units 1 and 2 (Salem) and Hope Creek Nuclear Generating Station, Unit 1 (HCNGS). Salem and HCNGS are both located along the Delaware River in an area of Salem County, New Jersey known as Artificial Island. According to your letter, the NRC is currently preparing a supplemental environmental impact statement (SEIS) under the provisions of the National Environmental Policy Act of 1969, as amended. In your letter, you have requested a list of essential fish habitat designated in accordance with Section 305 of the Magnuson Stevens Act (MSA) in the vicinity of the Salem and HCNGS sites as well as any appropriate information under the provisions of the Fish and Wildlife Coordination Act of 1934, as amended.

**Magnuson Stevens Fishery Conservation and Management Act (MSA)**

Section 305 (b)(2) of the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires all federal agencies to consult with NOAA Fisheries on any action authorized, funded, or undertaken by that agency that may adversely affect EFH. Included in this consultation process is the preparation of a complete and appropriate EFH assessment to provide necessary information on which to consult. Our EFH regulation at 50 CFR 600.905 mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure.

The estuarine portions of the Delaware River and its tributaries including the estuarine areas crossed by the transmission lines have been designated as essential fish habitat (EFH) for a wide variety of species including red hake (*Urophycis chuss*), winter flounder (*Pseudopleuronectes americanus*), windowpane flounder (*Scophthalmus aquosus*), bluefish (*Pomatomus saltatrix*), Atlantic butterfish (*Peprilus triacanthus*), scup (*Stenotomus chrysops*), summer flounder (*Paralichthys dentatus*), scup (*Stenotomus chrysops*), black sea bass (*Centropristis striata*), king mackerel (*Scomberomorus cavalla*), Spanish mackerel (*Scomberomorus maculatus*), cobia



(*Rachycentron canadum*), little skate (*Leucoraja erinacea*), winter skate (*Leucoraja ocellata*) and clearnose skate (*Raja eglanteria*). A more detailed listing of EFH and federally managed species and EFH consultation requirements can be found on our website at: [www.nero.nmfs.gov/hcd](http://www.nero.nmfs.gov/hcd).

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.

In order to complete the required EFH consultation, NRC must submit a full and complete EFH assessment that considers the individual and cumulative and the direct and indirect impacts of the proposed relicensing on EFH, federal managed species and their prey recognizing the definition of adverse impact discussed above. The required contents of an EFH assessment includes: 1) a description of the action; 2) an analysis of the potential adverse effects of the action on EFH and the managed species; 3) the ACOE's conclusions regarding the effects of the action on EFH; 4) proposed mitigation, if applicable. Other information that should be contained in the EFH assessment includes: 1) the results of on-site inspections to evaluate the habitat and site-specific effects; 2) the views of recognized experts on the habitat or the species that may be affected; 3) a review of pertinent literature and related information; and 5) an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH. Please note that any impacts to prey species of federally managed fish species such as juvenile *Alosids*, bay anchovy (*Anchoa mitchilli*), Atlantic silverside (*Menidia menidia*), striped killifish (*Fundulus majalis*), mummichog (*Fundulus heteroclitus*) and weakfish (*Cynoscion regalis*) would be considered an impact to EFH.

#### **Fish and Wildlife Coordination Act**

The Delaware Estuary including its tributaries provides habitat for a wide variety of NOAA trust resources including alewife (*Alosa pseudoharengus*), American eel (*Anguilla rostrata*) American shad (*Alosa sapidissima*), Atlantic croaker (*Micropogonias undulatus*), Atlantic menhaden (*Brevoortia tyrannus*), Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), blueback herring (*Alosa aestivalis*), bluefish, hickory shad (*Alosa mediocris*), spot (*Leiostomus xanthurus*) tautog (*Tautoga onitis*), weakfish, white perch (*Morone americana*), yellow perch (*Perca flavescens*), striped bass (*Morone saxatilis*), hogchoker (*Trinectes maculatus*), killifish, bay anchovy, silversides, mummichog and many others.

The Delaware River and its tributaries including some of those crossed by the transmission lines, are migratory pathways as well as spawning, nursery and forage habitats for anadromous fishes such as American shad, alewife, blueback herring, white perch and striped bass. 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. NMFS would not support any actions that would disrupt or prevent the upstream migration of anadromous fish, or would reduce or degrade their spawning, nursery or forage habitat.

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) are also present in the Delaware River. Atlantic sturgeon were listed as a candidate species for listing under the Endangered Species Act (ESA) by NMFS in the Federal Register on published on October 16, 2006 (71 FRN 61002). The term "candidate species" refers to species that are the subject of a petition to list as threatened or endangered and for which NMFS has determined that listing pursuant to section 4 (b) (3) (A) of the ESA may be warranted, and those species are not the subject of a petition but for which NMFS has announced the initiation of a status review in the Federal Register.

The Atlantic Sturgeon Status Review Team (ASSRT) has determined that the Hudson River and Delaware River Atlantic sturgeon stock constitute a distinct population segment (DPS) called the New York Bight DPS. The ASSRT has also concluded that the New York Bight DPS was likely (>50 % chance) to become endangered within the next twenty years. NMFS is currently considering the information in the status report to determine if action under the ESA is warranted. As stated in the February 11, 2010 letter from our Protected Resources Division in Gloucester, MA, Atlantic sturgeon receive no substantive or procedural protection under the Endangered Species Act. However, until a listing decision is made, they remain a NOAA Trust resource under our Fish and Wildlife Coordination Act authorities.

Submerged aquatic vegetation (SAV) including wild celery (*Vallisneria americana*) can be found in some areas of the Delaware River and its tributaries. SAV provides valuable nursery, forage and refuge habitat for a variety of fish including striped bass, American shad, alewife, and blueback herring. It is also an important food source for waterfowl. As water quality in the Delaware River continues to improve, more areas of SAV may be found within the River. To date, there has been no comprehensive mapping of SAV in the Delaware Estuary.


In recent years, efforts have been made to restore oyster beds in Delaware Bay. Since 2004, the Army Corps of Engineers has worked with the States of New Jersey and Delaware to plant shell in portions of natural oyster beds in Delaware Bay. Native oysters are ecologically important species. According to the New Jersey Department of Environmental Protection, an expansive area of habitat has been identified near the Salem and HCNGS.

Blue crab (*Callinectes sapidus*) can also be found in the vicinity of the Salem and HCNGS. The crabs can generally be found in the lower salinity areas of the estuary in the summer and higher salinities in the winter. Following mating in the summer, which typically occurs in lower salinity waters, the females move to high salinity waters to spawn. After spawning, the larvae move toward the lower salinity areas to mature.

Lastly, horseshoe crabs remain a species of concern in the Delaware Estuary. In recent years NMFS has banned fishing for horseshoe crabs in federal waters off the mouth of Delaware Bay. The States of New Jersey and Delaware have also taken steps to restrict the harvest of horseshoe crabs in State waters. The ban provides additional protection for local horseshoe crab stocks and ensures that declining populations of migratory shorebirds have an abundant source of horseshoe crab eggs to feed upon when they stop to rest in Delaware Bay before moving north to their Canadian nesting areas. The shores of the Delaware Bay are an important spawning area for this species.

We look forward to continued coordination with the NRC as it moves forward with the development of the SEIS and the relicensing process. Should you have any questions, need additional information or would like to arrange a meeting to discuss the EFH consultation process or impacts to resources of concern to NMFS, please contact Karen Greene at 732 872-3023.

Sincerely,



Stanley W. Gorski  
Field Offices Supervisor

cf: J. Crocker