DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3391

REPLY TO ATTENTION OF

ATTN: Barbara Conlin
06-1107-2 DF
HPO-D2007-120

Environmental Resources Branch

MAR 3 0 2007

Ms. Dorothy Guzzo
Administrator
New Jersey Historic Preservation Office
New Jersey Department of Environmental Protection
CN 404
Trenton, New Jersey 08625

RECEIVED
APR 10 2007
HISTORIC PRESERVATION OFFICE

Dear Ms. Guzzo:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, we are requesting your review comments on the proposed "*Delaware Bay Oyster Restoration Project, Delaware and New Jersey – draft Environmental Assessment*", dated April 2007. This Environmental Assessment evaluates the potential environmental impacts of a proposal to continue a multi-year effort to provide habitat restoration to existing oyster beds within Delaware Bay in both the states of New Jersey and Delaware.

The Delaware Estuary is an ecologically valuable area. The Philadelphia District U.S. Army Corps of Engineers seeks to address the habitat degradation and the ensuing significant losses to an indigenous natural resource – the Eastern oyster. The condition of the oyster resource has deteriorated despite careful management and a limited controlled fishery, increasing the urgency for establishing a recruitment and enhancement program based on shell planting. This work is supported by the goals of the Oyster Industry Revitalization Task Force, established by a joint resolution (SJR-19, 1996) by the New Jersey Legislature to develop recommendations to revitalize the oyster industry. The planting of clean shell and transplant of oyster seed will increase oyster habitat, expand oyster abundance, and revitalize the natural resource with concomitant improvements in bay habitat quality.

As in the 2005 and 2006 shell-planting and oyster transplanting programs, the 2007 program will take place in portions of the natural oyster beds of Delaware Bay. These areas will be selected by the New Jersey Department of Environmental Protection (NJDEP) and Delaware's Department of Natural Resources and Environmental Control (DNREC) based on bottom surveys to be carried out at the inception of the project. The 2007 project proposes to plant approximately 700,000 bushels of ocean quahog and surf clam shell in plots approximately 25 acres in size on existing oyster beds in both states (approximately 50,000 bushels of shell per plot) and transplant a small portion similar to the 2006 plan.

No response required.

The clam shell is being obtained from local clam shucking companies. Hence the project will recycle a waste product into a useful commodity, thereby alleviating storage and disposal issues.

In 2003, as part of a pilot shell planting program, the NJDEP planted shell in the Bay and transplanted just 16,000 bushels one month later. These 16,000 bushels increased bed abundance of market-sized oysters in 2005 by more than half. In monitoring studies of the 2005 shell plant (288,000 bushels of shell) bay-wide recruitment was increased by 54% with just 150 acres planted. In 2006, 478,000 bushels of shell were planted and a fraction transplanted. In New Jersey, the 2006 shell plant enhanced recruitment by a factor of 1.34 bay-wide, providing 26% of total recruitment on New Jersey beds. In one planted area (Shell Rock), shell plants accounted for 50% of total recruitment and spawning stock biomass rose in 2006. Although recruitment remains low bay-wide, shell planting is reducing the net shell loss due to disease and thus, demonstrates the importance of shell planting to maintain the integrity of the beds during times of disease when low abundance of oysters limits the amount of shell added to the beds through natural mortality. Shell plants provide the substrate necessary to enhance recruitment of succeeding generations of oysters.

The report is available to download from the Philadelphia District's webpage at: http://www.nap.usace.army.mil/cenap-pa/news.htm. There are no known shipwrecks or deeply buried prehistoric or historic archaeological deposits in the project area. Shallow archaeological deposits, if they ever existed, would likely have been removed by past oyster harvesting. Pursuant to 36 CFR 800.4 (d)(1) we request your concurrence by 30 April 2007 that there will be no adverse effects to significant cultural resources. If you have any questions regarding the Environmental Assessment, please contact Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557.

Sincerely,

for C. MacIntosh
Minas M. Arabatzis
Chief, Planning Division

I concur with your finding that there are no historic properties affected within the project's area of potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13. (NP)

Dorothy P. Guzzo — 4/20/07
Dorothy P. Guzzo — Date
Deputy State Historic Preservation Officer

No response required.

State of Delaware
Historical and Cultural Affairs

21 The Green
Dover, DE 19901-3611

Phone: (302) 736.7400 Fax: (302) 739.5660

April 16, 2007

Minas M. Arabatzis
Chief, Planning Division
Philadelphia District
U.S. Army Corps of Engineers
ATTN: Regulatory Branch
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

RE: Delaware Bay Oyster Restoration Project

Dear Mr. Arabatzis,

The staff of this Office has reviewed the draft Environmental Assessment titled: *Delaware Bay Oyster Restoration Project, Delaware and New Jersey.* It is understood that the project area in the bottom of the Bay has long been disturbed by previous oyster dredging activities. Based on this understanding there cannot be any intact historical properties remaining within the project area.

If you have any questions, please contact Craig Lukezic at 302-736-7400.

Sincerely,

Joan Larrivee
Deputy State Historic Preservation Officer,
Delaware Division of Historic and Cultural Affairs

Cc Stephen Marz, Deputy Director, DHCA
Craig Lukezic, DHCA

No response required.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Jersey Field Office
Ecological Services
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Tel: 609/646 9310
Fax: 609/646 0352
http://www.fws.gov/northeast/njfieldoffice

In Reply Refer To:
07-FA0165

MAY 0 3 2007

Mr. Minas M. Arabatzis
Chief, Planning Division
U.S. Army Corps of Engineers, Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

Subject: Review of Draft Environmental Assessment, Delaware Bay Oyster Restoration Project, Delaware and New Jersey

Dear Mr. Arabatzis:

The U.S. Fish and Wildlife Service, (Service) New Jersey Field Office (NJFO), has reviewed the U.S. Army Corps of Engineers, Philadelphia District (Corps), *Draft Environmental Assessment, Delaware Bay Oyster Restoration Project, Delaware and New Jersey* (Draft EA) to: (1) determine if a federally listed endangered and threatened species would be adversely affected by the proposed action; and (2) provide comments on the proposed action as requested in your March 30, 2007, letter. The Service provided comments dated June 22, 2005 for the Corps' bed shell planting (our control number FP-05/15) and appreciates the opportunity to provide further comments on this worthwhile project.

AUTHORITY

The following comments on the proposed activity have been prepared under the authority of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401; 16 U.S.C. 661 *et seq.*) the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA), the Migratory Bird Treaty Act (MBTA) (40 Stat. 755 as amended; 16 U.S.C. 703-712), the National Environmental Policy Act (83 Stat. 852; 42 U.S.C. 4321 *et seq.*) (NEPA), and are consistent with the intent of the Service's Mitigation Policy (Federal Register, Vol. 46, No. 15, Jan. 23, 1981). These comments do not preclude further comment pursuant to NEPA on any future documents.

No response required.

FEDERALLY LISTED SPECIES

The Service concurs with the Corps' determination that the proposed project is not likely to adversely affect federally listed threatened or endangered species under Service jurisdiction.

Except for an occasional transient bald eagle (*Haliaeetus leucocephalus*), no other federally listed or proposed threatened or endangered species under Service jurisdiction are known to occur within the project area. The Service requires no further consultation pursuant to Section 7 (a)(2) of the ESA. If project plans change or new information on federally listed threatened or endangered species becomes available, this determination may be reconsidered.

This determination relates to federally listed or proposed threatened or endangered flora and fauna under Service jurisdiction only. The proposed project is located in the Delaware Bay/River and may affect the federally listed (endangered) shortnose sturgeon (*Acipensor brevirostrum*), Atlantic Ridley turtle (*Lepidochelys kempii*), and leatherback turtle (*Dermochelys coriacea*), and the federally listed (threatened) loggerhead turtle (*Caretta caretta*) and green turtle (*Chelonia mydas*) within the project area. Principal responsibility for threatened and endangered marine species is vested with the National Marine Fisheries Service (NMFS). We recommend that the Corps initiate Section 7 consultation with the NMFS to ensure that this project does not affect a listed species under the purview of the NMFS.

SERVICE COMMENTS

Horseshoe Crabs

The Delaware Bay sustains the largest concentration of horseshoe crabs (*Limulus polyphemus*) in the world. The Delaware Bay horseshoe crab (*Limulus polyphemus*) population is in decline, due in part to habitat loss. Horseshoe crabs spawn from April to July within the intertidal zone of sandy beaches. Horseshoe crab eggs are a favorite food for many migratory birds, including the red knot (*Calidris canutus rufa*), which the Service has designated as a candidate species for listing pursuant to the ESA. The declining population of the horseshoe crab in the Delaware Bay may be contributing to the declining population of the red knot. Therefore, the Service recommends collecting baseline data prior to and after any shell placement to determine the effect, if any, on horseshoe crabs that may utilize the project area to avoid any additional cumulative impacts on the aforementioned species. The Final EA section on cumulative effects should include a discussion on potential adverse impacts to the horseshoe crab and the red knot.

Project Purpose and Need

In accordance with 40 CFR Part 1502.13, we recommend that the Corps clearly specify in the Final EA the stated purpose and need of the proposed project.

Horseshoe crab habitat consists of sandy or muddy substrate and horseshoe crabs are infrequently caught on oyster reefs. Adding shell to pre-existing natural oyster beds will not impact horseshoe crab habitat. Additionally, shell planting does not occur during the horseshoe crab spawning season (nor the migratory season of the red knots) or the horseshoe crab offshore overwintering season.

The stated purpose and need of the protect is presented in the FONSI, Section 1.0 Introduction and Authority, Section 2.0 Needs and Objectives, and Section 5.0 Environmental Effects.

Parasitism and Health

The Draft EA does not include a discussion of the potential effects of contaminants and their relationship to oyster recruitment in the Delaware Bay area. Wintermyer and Cooper (2003) documented adverse effects from very low parts per trillion of dioxin and related compounds to gonadal and embryonic development and egg fertilization for the eastern oyster in Newark Bay and the Raritan Complex in New Jersey. The Service recommends expanding the Final EA to discuss any role contaminants may play on the recruitment of the eastern oyster in Delaware Bay. This discussion should include the increased susceptibility of the oyster to MSX/Dermo pathogens when exposed to low levels of dioxin and related compounds.

Alternatives

The Corps' proposed alternatives for the subject project are:

(a) No action;
(b) Hatchery Seed; and
(c) Selected Plan (preferred alternative).

The Service has reviewed the alternatives and provides the following comments:

Alternative a: The Service concurs that the No-Action alternative would fail to address the goals of the project.

Alternative b: The Service agrees that the use of hatchery seed is insufficient to meet the goals of the project. However, the use of available hatchery seed should still be encouraged to supplement existing natural sets that occur in the bay. We recommend a multifaceted approach in the recovery of the oyster rather than the pursuit of a single alternative. By implementing a combination of alternatives b and c, the Corps could increase the potential for improving oyster recruitment in the Delaware Bay and developing reliable amounts of local hatchery seed. We recommend that the Corps consider the combination of alternatives b and c as a fourth alternative to the project.

Alternative c: The Service recommends including additional project features in the preferred alternative.

First, we recommend that the Final EA include description of a proposed multi-faceted education and outreach program in conjunction with the proposed restoration project. The Final EA should include the use of milestones to ensure success of this important project feature.

Second, the Draft EA does not include a discussion regarding the use of the shell planting or recruitment areas by commercial fishing. Should commercial fishing be allowed in the project area, underwater disturbances by mechanical fishing gear

Numerous chemical contaminant analyses have been conducted in Delaware Bay. Contaminant levels are low in Delaware Bay (refer to NOAA Status and Trends database-Delaware Bay sites).

Oyster diseases are a function of temperature and salinity and not a function of contamination. Dermo disease has increased due to warming water temperatures. MSX no longer poses a significant influence on Delaware Bay oyster population dynamics (E. Powell, pers. comm. May 2007).

Use of hatchery seed as an alternative plan was considered and discussed in Section 3.0 Alternatives. Reasons for the elimination of this alternative are discussed in Section 3.2. Cost is prohibitive in comparison to consistency of spat capture on shell. Downbay planting and upbay transplanting places more seed into the bay than could be added by hatchery input. As mentioned in Section 3.2: present NJ and DE hatchery capacity is fully used.

The public outreach component of the project is described in Section 1.0. Introduction; subsection 1.1. An additional statement has been added to Section 3.3 (Selected Plan) to reiterate.

The milestones accomplished are fully presented in the annual monitoring program report (a separate document relased in March) .

will likely occur and possibly skew future post-monitoring efforts. We recommend that the Final EA include an evaluation of a short-term restriction on commercial fishing in the planting and recruitment areas until the results of the proposed project are known. Allowing the project area to be mechanically harvested would diminish the potential restoration values associated with this project.

Finally, we recommend that the Corps consider the risk of spreading diseases by transplanting seed from leased grounds and marginal areas into high-survival upbay natural oyster beds.

CONCLUSIONS AND SUMMARY OF SERVICE RECOMMENDATIONS

The Service appreciates the opportunity to comment on the Draft EA. The following recommendations are provided for incorporation into the Corps' administrative record and Final EA.

1. Initiate Section 7 consultation with the NMFS to ensure that this project does not affect a listed species under the NMFS purview.
2. Collect baseline data prior to and after any shell placement to determine the effect, if any, on horseshoe crabs.
3. Discuss potential adverse effects on horseshoe crabs and red knots in the cumulative effects section of the Final EA.
4. Confirm in the Final EA a stated project purpose and need in accordance with 40 CFR Part 1502.13.
5. Discuss the role contaminants, particularly dioxin and related compounds, play on the recruitment of the eastern oyster in Delaware Bay.
6. Consider developing a reliable amount of local oyster hatchery seed for improving oyster recruitment in Delaware Bay.
7. Consider the combination of alternatives b and c as a fourth alternative to the project.
8. Incorporate a multi-faceted education and outreach program in conjunction with the proposed restoration project.
9. Consider a short-term restriction on commercial fishing in the restoration areas until the results of the proposed project are known.
10. Consider the risk of spreading diseases by transplanting seed from leased grounds and marginal areas into high-survival upbay natural oyster beds.

The oyster industry is a carefully managed fishery and incorporates a significant assessment infrastructure with an annual stock assessment, stock survey, and shellfisheries-disease models to predict yearly harvest of adults (refer to Section 2.0). The management program in place includes a total allowable catch based on biological reference points that assure expansion of the population in 75% of all years, unless increased harvest demand is deemed desirable to improve population dynamics. Fishing activities do not pose a substantive influence on spat or juvenile oyster survival. Fishing mortality rate on these beds is <10% of the natural mortality rate.

Oyster diseases are spread by water-borne transport. Movement of oysters by man is inconsequential in the spread of MSX or Dermo (E. Powell, Haskin Shellfish Resarch Lab, pers. comm.).

Thank you for the opportunity to comment on the subject draft report. Please contact Mr. Carlo Popolizio of my staff at (609) 383-3938, extension 32, if you have any question or require further assistance.

Sincerely,

Timothy Kubiak
Acting Supervisor

REFERENCE

Wintermyer, M.L. and K.R. Cooper. 2003. Dioxin/furan and polychlorinated biphenyl concentration in eastern oyster (*Crassostrea virginica* Gmelin) tissues and the effects on egg fertilization and development. 22(3) 737-746.

No response required.

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

May 14, 2007

Minas M. Arabatzis, Chief,
Planning Division
Philadelphia District
Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

ATTN: Barbara Conlin, Project biologist
RE: Delaware Bay Oyster Restoration Project, Delaware and New Jersey- draft Environmental Assessment

Dear Mr. Arabatzis:

NOAA Fisheries, Northeast Region's Habitat Conservation Division has received your letter requesting our review and comment on the draft environmental assessment (DEA) for the Delaware Bay Oyster Restoration Project. The DEA evaluates the potential environmental impacts of a proposal to continue a multi-year effort to provide habitat restoration to existing oyster beds within the Delaware Bay. The 2007 restoration project includes planting 700,000 bushels of ocean quahog and surf clam shell on approximately 25 acre plots on existing oyster beds in New Jersey and Delaware waters. The New Jersey Department of Environmental Protection and the Delaware Department of Natural Resources will choose the sites. NMFS supports the restoration of this ecologically important species and commends the Army Corps of Engineers (ACOE) and the Oyster Revitalization Tack Force for their efforts. We also support continued funding of this important project.

We have reviewed the DEA and find that the potential impacts to NOAA trust resources have been adequately evaluated. The essential fish habitat (EFH) assessment could have contained a more detailed evaluation of the project's impacts on individual species, but in general, we concur with the ACOE's conclusion that the impacts to EFH will be minimal. As noted in the DEA, the Delaware Bay has been designated as a habitat area of particular concern (HAPC) for sandbar shark (*Carcharinus plumbeus*). HAPC are subsets of EFH identified based on one or more of the following considerations: 1) the importance of the ecological function, 2) extent to which the habitat is sensitive to human-induced degradation, 3) whether and to what extent, development activities are stressing the habitat type, or 4) rarity of habitat type (50 CFR 600.815(a)(8)).

The Delaware Bay is an important pupping and nursery area for the sandbar shark. The EFH assessment in the DEA does not evaluate specifically the potential for the oyster restoration project to impact this HAPC. However, the locations of the proposed oyster restoration sites are primarily located above the areas of the bay identified as the prime pupping and nursery areas for the sandbar shark. As a result, we can agree that the impacts to the HAPC for sandbar shark will be minimal.

Potential impacts to EFH and in particular, sandbar sharks are addressed in the Environmental Effects section of the report.

Several species of sea turtles are of each year including the threatened loggerhead (*Caretta caretta*), endangered Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*) and green (*Chelonia mydas*) sea turtles are present in Delaware, mainly during the late spring, summer and early fall when water temperatures are relatively warm. Consultation pursuant to Section 7 of the Endangered Species Act between NMFS and the federal action agency may been necessary for the proposed oyster restoration activities. Please contact Ms. Julie Crocker of our Protected Resources Division at the following address for information on the Section 7 consultation needs for this project.

Ms. Julie Crocker
NOAA Fisheries
Protected Resources Division
One Blackburn Drive
Gloucester, MA 01930-2298
978-281-9300 ext. 6530

If you have any questions regarding this matter, please contact Karen Greene at 732 872-3023.

Sincerely,

Stanley W. Gorski
Field Offices Supervisor

cf: PRD – Crocker
Del. Coop. Tech Committee Reps.:
Miller – DE
Himchek- NJ
Kaufmann - PA
Kahnle – NY
Santoro - DRBC

Protected Resources Division was contacted and it was concluded that no further Section 7 consultation was required (pers. comm. L. Lankshear, June 2007).

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Land Use Regulation
P.O. Box 439, Trenton, NJ 08625-0439
Fax # (609) 292-8115
Fax # (609) 777-3656
www.state.nj.us/landuse

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

MAY 23 2007

Minas M. Arabatzis
Chief, Planning Division
Department of the Army
Philadelphia District, Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107-3391

RE: Delaware Bay Oyster Bed Shell Planting, Delaware and New Jersey
Federal Consistency Determination and Section 401 Water Quality Certification
Division of Land Use Regulation File No. 0000-05-0017.1 CDT 070001

Dear Mr. Arabatzis:

The New Jersey Department of Environmental Protection, Division of Land Use Regulation Program, acting under Section 307 of the Federal Coastal Zone Management Act (P.L. 92-583) as amended, has reviewed your letter dated March 30, 2007, the accompanying Coastal Zone Consistency Statement and the Draft Environmental Assessment entitled "Delaware Bay Oyster Bed Shell Planting, Delaware And New Jersey", dated April 2007. Based on the above, the Division has determined that the project, as currently designed, is consistent with New Jersey's Coastal Zone Management Rules N.J.A.C. 7:7E-1.1 et seq, as amended to October 2, 2006 and the applicable Rules guiding issuance of a Section 401 Water Quality Certificate.

Project Description

The U.S. Army Corps of Engineers has proposed a project to implement a resource revitalization program within the Delaware Bay - a unique and ecologically valuable area. The New Jersey Department of Environmental Protection (NJDEP) and Delaware Department of Natural Resources and Environmental Control (DNREC) are partners in this project as are the two interstate agencies Delaware River and Bay Authority (DRBA) and Delaware River Basin Commission (DRBC). A secondary objective of the project is to seek involvement of a wider constituency in the revitalization program. This component will be implemented by the Partnership for the Delaware Estuary, a regional, nonprofit organization, based in Wilmington, Delaware. In an effort to increase the Estuary-wide awareness and support for the revitalization of the oyster industry in Delaware Bay, a multifaceted education and outreach program will be initiated to bring together stakeholders region-wide to build stewardship for this natural resource.

The proposed project will take place in portions of the natural oyster beds of Delaware Bay in the states of Delaware and New Jersey, as well as the leased beds off the New Jersey Cape Shore of Delaware Bay, as selected by NJDEP and DNREC. The sites will be selected based on annual bottom surveys to be carried out at the inception of the project. The sites will be recorded by GPS and mapped on GIS. The objective is to directly plant, or place downbay up to 700,000 bushels of shell. Planting areas will be approximately 25 acres in size although local bottom conditions will dictate actual size of each planted area.

No response required.

Cultch comprised of surf clam shell and ocean quahog shell will be planted. Shell will be stockpiled throughout the year on State-owned property. For cultch planting to be successful, the shell must be planted during the oyster's prime spawning period, which is approximately mid June to early July. Cultch planting densities will vary depending on bottom hardness or condition, but will typically range from 1,500 to 2,500 bushels per acre.

A monitoring program will be instituted to acquire the data necessary to evaluate the success of the shell-planting program. The Monitoring and Assessment Program will consist of seven components: (1) monitoring of downbay shell plants pursuant to the decision to transplant the spatted shell upbay; (2) the measurement of spat settlement potential carried out from late June through late September; (3) monthly tracking of trends in growth and disease exposure for the shell plants; (4) a quantitative evaluation in October to determine the overall success of each year's program at season's end; (5) dredge calibration to determine the applicability of remote sampling by oyster dredge of shell plants; (6) survey of targeted oyster beds to improve bed areal estimates, where required; and (7) the development of a shell budget to evaluate the efficacy of the shell-planting program in maintaining habitat integrity.

This consistency determination is issued subject to compliance with the following conditions.

1. The height of the shell fill placed on the bay bottom shall not exceed 6 inches, as described at the April 13, 2005 Joint Permit Processing Meeting.

2. The planting operation shall not interfere with navigation or pose a hazard to navigation. All in-water equipment shall be adequately lighted and marked in accordance with U.S. Coast Guard regulations.

3. Stockpiled shell shall not be located on wetlands, wetland buffers, beaches or dunes.

4. Be advised that the planted shell may not be relocated without submittal of a request to LURP to modify this Federal Consistency Determination, and approval of that request after the required public notice period.

If the Army Corps of Engineers does not agree to the conditions of the Federal Consistency Determination, this conditional concurrence is treated as an objection. Pursuant to Section 930, Subpart H of the Federal Coastal Zone Management Act the Army Corps of Engineers may appeal the State agency decision. See section 930.120 through 930.131 of 15 CFR for Federal appeal procedures.

If you have any questions regarding this letter, please do not hesitate to call Colleen Keller of our staff at (609) 292-8262.

Sincerely,

5/23/07

Christopher M. Dolphin
Manager, Bureau of Coastal Regulation

Date

c: Barbara Conlin, U.S. ACOE, Philadelphia District
Kenneth C. Koschek, Office of Permit Coordination & Environmental Review
Kim Springer, Coastal Management Office
Kathleen Cann, Coastal and Land Use Compliance and Enforcement
Jim Joseph, Bureau of Shellfisheries
Kevin Broderick, Bureau of Tidealnds

The U.S. Army Corps agrees with the conditions of the Federal Consistency Determination.

JUN-05-2007 TUE 10:32 AM DE Coastal Mgmt FAX NO. 302 739 2048 P. 02

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL
DIVISION OF SOIL AND WATER CONSERVATION
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

DELAWARE COASTAL MANAGEMENT PROGRAM

TELEPHONE: (302) 739-9283
FAX: (302) 739-2048

May 30, 2007

Minas M. Arabatzis
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, Pennsylvania 19107-3391

RE: Delaware Coastal Zone Federal Consistency
Delaware Bay Oyster Restoration Project (FC 07.078)

Dear Mr. Arabatzis:

The Delaware Coastal Management Program (DCMP) has received and reviewed your consistency determination request for the above referenced project. Based upon our review and pursuant to National Oceanic & Atmospheric Administration regulations (15 CFR 930), the DCMP concurs with your consistency determination for the "Delaware Bay Oyster Restoration Project, Delaware and New Jersey- Draft Environmental Assessment." This concurrence is conditioned upon the issuance of all required permits and adherence to the restrictions and/or conditions placed on any and all permits issued to you for this project.

Additionally, the DCMP offers the following comments and suggestions:

1. Bottom sediment and integrated bottom sediment/bathymetry models constructed by the Delaware Bay Benthic Mapping Project (DBBMP) should be referenced and utilized in determining shell planting locations. This is especially important because the maps and models have illustrated that shell loss on the New Jersey side is mainly due to sediment sliding and high bottom currents redistributing the shell. On the Delaware side of the Bay, siltation problems can be lowered by planting shell on existing bathymetric highs as well as avoiding unstable sloping bottom locations.

2. Consider using alternative habitat and materials in the future plantings to enhance recruitment of oyster spat. This can be done by creating oyster preserves or sanctuaries, where limestone marl is used to create mounds where oysters spat can settle and grow undisturbed. These preserves would create a larger natural population that could create an enhancement of the natural seed productivity.

DBBMP has been evaluated. Proposed shell plant locations in Delaware are determined by DNREC based on annual stock surveys and evaluations of bottom substrate and topography by dredge. Mapping does not distinguish shell from live oysters and groundtruthing by dredge and/or diver is critical. Selected sites are limited to pre-existing oyster reef habitat, which are, by definition, topographic highs. No non-oyster reef bottom is selected for planting.

Use of limestone as a substrate option has been considered and will be evaluated should indigenous substrate sources become more limiting in the future.

JUN-05-2007 TUE 10:33 AM DE Coastal Mgmt FAX NO. 302 739 2048 P. 03

- These preserves would also increase the area of complex bottom habitat (including biogenic habitat), which provides refuge, nesting, and foraging grounds. This would mirror and enhance the greater biodiversity and productivity associated with oyster reefs than the adjacent sediments.
- Preserves should be located in relatively "shallow" environments to mirror present oyster environments, with adequate draft for vessels and should also be free of commercial oyster harvesting.
- Finally, the DCMP recommends utilizing alternative material for planting, such as limestone chip. This material is still readily available (as opposed to shell) and limestone chip may last longer in the bottom environment than sub-optimal cultch.

If you have any questions please do not hesitate to contact me or Tricia Arndt at (302) 739-9283.

Sincerely,

Sarah W. Cooksey, Administrator
Delaware Coastal Management Program

SWC/tka
cc: File 07.078
Barbara Conlin-USACE
Ray Miller-DFW

The oyster industry within Delaware Bay is a carefully managed fishery and incorporates a significant assessment infrastructure with an annual stock assessment, stock surveys, and shellfish-disease models to predict yearly harvest of adults (refer to Section 2.0). The management program in place includes a total allowable catch based on biological reference points that assure expansion of the population in 75% of all years, unless increased harvest demand is deemed desirable to improve population dynamics. Strict harvest quotas restrict adverse impact to standing stock. Fishing activities do not appear to pose a substantive influence on spat or juvenile oyster survival. Fishing mortality rate on these beds is < 10% of the natural mortality rate.

Sites are located on productive oyster bottom only. All Delaware locations proposed for shell plants are located in shallow water (< -16 feet). The objective is to revitalize existing natural reefs and not create new ones from non-reef bottom habitat.

More information is needed to assess the durability of limestone over clam shell. Both substances are carbonate and subjected to the same taphonomic processes. Limestone may pose more scrutiny as a non-natural substance for placement in the bay than clam shell. Clam shell currently used has shown to be a highly effective alternative substrate to oyster shell (which is not currently available in sufficient quantities). Refer to Section 5.0 (Environmental Effects) Monitoring Results and the 2006 Shell Planting Program report provided in Appendix A for comparative discussions on the recruitment potential of planted clamshell and native shell.

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

JUN - 6 2007

Barbara Conlin
Philadelphia District Army Corps of Engineers
Environmental Resources Branch, Planning Division
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Dear Ms. Conlin,

This is in response to your telephone call on June 5, 2007, requesting confirmation of the effects of the proposed Delaware Bay Oyster Restoration Project on sea turtles listed under the Endangered Species Act (ESA). As you described in your telephone conversation, the Army Corp of Engineers (ACOE) is providing funding for the project under a habitat restoration project grant. The project is a continuation of the shell-planting and transplanting project initiated in 2005, and is proposed to continue annually for several consecutive years. The draft Environmental Assessment (EA) for this action prepared by the ACOE concludes that the project will not affect any species listed by NOAA's National Marine Fisheries Service (NMFS).

Four species of federally threatened or endangered sea turtles under the jurisdiction of NMFS may be found seasonally in the waters off Delaware and New Jersey and these species are known to occur in lower Delaware Bay. Sea turtles are expected to be in Delaware Bay in warmer months, typically from May 1 to November 30. The sea turtles in these waters are typically small juveniles with the most abundant being the federally threatened loggerhead (*Caretta caretta*) followed by the federally endangered Kemp's ridley (*Lepidochelys kempi*). The waters of Delaware Bay have also been found to be warm enough to support federally endangered green sea turtles (*Chelonia mydas*) from June through October. Federally endangered leatherback sea turtles (*Dermochelys coriacea*) may also be found in the waters off Delaware and New Jersey; however, this species is less likely to be present in Delaware Bay.

In addition to sea turtles, a population of endangered shortnose sturgeon (*Acipenser brevirostrum*) is known to occur in the Delaware River. While shortnose sturgeon are most often found in the region of the river above Philadelphia, tracking and sampling in recent years has demonstrated that shortnose sturgeon are frequently present in the area below Philadelphia and that individuals occur in Delaware Bay. Shortnose sturgeon are most likely to be present in the action area for this project during the summer months.

No response required.

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) are also present in the Delaware River and surrounding coastal waters. Atlantic sturgeon are considered a Candidate Species as NMFS has initiated a status review for this species to determine if listing as threatened or endangered under the ESA is warranted. If it is determined that listing is warranted, a final rule listing the species could be published within a year from the date of publication of the listing determination or proposed rule. While this species is not protected under the ESA, NMFS encourages project proponents to consider this species when designing and conducting projects in waters where Atlantic sturgeon may be present.

The proposed project will involve the placement of shell on existing oyster beds in Delaware Bay and the transplant of a portion of that shell after settlement of oyster spat. Approximately 700,000 bushels of shell will be directly planted or placed downbay to relocate spatted shell for later upbay transplant. Roughly 25-acre plots will be planted in Bay waters of both New Jersey and Delaware in June and July of 2007.

The proposed project will occur at the time of year when both shortnose sturgeon and sea turtles may be present in the action area. As noted in the EA, the placement of clean shell (oyster, surf clam and quahog) primarily on existing oyster beds is not expected to affect sea turtles or shortnose sturgeon in the action area. While sea turtles and shortnose sturgeon may be adversely affected by some types of dredging operations, the use of a small suction dredge or dry dredge used to transplant some of the shell later in the summer will not affect any listed species. The finding that the proposed project will not affect any listed species is supported by the information provided by ACOE and NMFS has no additional information that supports a different conclusion. As such, no further coordination with NMFS Protected Resources Division is necessary. Should you have any questions about these comments, please contact Julie Crocker at (978) 281-9300 ext. 6530 or by e-mail (Julie.Crocker@noaa.gov).

Sincerely,

for Mary A. Colligan
Assistant Regional Administrator
for Protected Resources

File Code: Sec 7 ACE Phil District DE Bay Oyster Restoration Project
PCTS : T/NER/2007/03443

No response required.