UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

APR 13 2010

Finding of No Significant Impact
For Issuance of a Scientific Research Permit (File No. 14604) to Harold Brundage, Environmental Research and Consulting, Inc., Kennett Square, Pennsylvania 19348,to Conduct Research on Endangered Shortnose Sturgeon (*Acipenser brevirostrum*)

National Marine Fisheries Service

On August 19, 2009, the National Marine Fisheries Service, Office of Protected Resources (NMFS PR) received an application (File No. 14604) from Harold Brundage, Environmental Research and Consulting, Inc., Kennett Square, Pennsylvania 19348, for a permit to conduct shortnose sturgeon research on the Delaware River.

In accordance with the National Environmental Policy Act (NEPA), NMFS prepared an Environmental Assessment (EA) analyzing the impacts on the human environment associated with permit issuance (*Environmental Assessment on the effects of issuance of a scientific research permit (File No. 14604) to conduct research on shortnose sturgeon in the Delaware River, April 2010*). In addition, a Biological Opinion was issued under Section 7 of the Endangered Species Act (ESA) (*Biological Opinion on the Permits, Conservation and Education Division's proposal to issue a Permit (Number 14604) to Harold Brundage, Environmental Research and Consulting, Inc., Kennett Square, Pennsylvania 19348 for research on shortnose sturgeon in the Delaware River pursuant to section 10(a)(1)(A) of the Endangered Species Act of 1973.)* The analyses in the EA, as informed by the Biological Opinion, support the following findings and determination.

The applicant is requesting authorization to characterize habitat use, relative abundance, reproduction, juvenile recruitment, temporal and spatial distributions, and reproductive health of the shortnose sturgeon (*Acipenser brevirostrum*) in the Delaware River and Estuary.

The National Oceanic and Atmospheric Administration's Administrative Order 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) NEPA implementing regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

1. Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat (EFH) as defined under the Magnuson - Stevens Act and identified in Fishery Management Plans?

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sanctuaries. Also, no coral reef ecosystems occur in the action area and thus none would be affected. However, designated EFH existing for 26 managed species in the tidal portion of the Delaware River would overlap a section of the proposed action area extending to rkm 148 at the mouth of the Schuylkill River in Pennsylvania. Although the researcher's boats would pass through and over the water column in the action area where EFH does exist in the Delaware River traveling to collect data from telemetry receivers (between rkm 0 and 148), NMFS determined this portion of the researcher's activity would not adversely impact the physical environment, including any portion considered EFH. Additionally, with respect to anticipated effects on EFH by gill/trammel nets and trawls fished in the Delaware River (between rkm 79 and 148), NMFS concluded these gear would result in minimal disturbance to the physical environment, including the bottom substrate and any portion having EFH.

NMFS PR requested concurrence whether the proposed action as conditioned would have adverse impacts or not on designated EFH in the Delaware River NMFS, Northeast Office of Habitat Conservation was contacted by email on December 21, 2009. On January 8, 2010, Karen Greene, Habitat Specialist, agreed by email that the proposed boating and netting activities would have no more than minimal impact to EFH.

2. Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

Response: No substantial impact on biodiversity or ecosystem function within the affected area is expected. The bottom substrate of the Delaware River is sandy loam sediment with some rocky substrate in the upper branches of the action area. The impacts to the river bottom would be during capture (gillnet); however, with minimal contact in localized areas of the river in addition to the mitigation measures set forth in the permit, we expect minimal disturbance of the benthic organisms and substrate.

Due to the nature of netting, the researchers would expect some other non-target species would become enmeshed. Other non-target species collected in the past during gill netting by the applicant include: American shad (*Alosa sapidissima*), Atlantic menhaden (*Brevoortia tyrannus*), blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), striped bass (*Morone saxatilis*), white perch (*Morone americana*), channel catfish (*Ictalurus punctatus*), and white catfish (*Ameiurus catus*). However, non-target fish would be removed from the net and released at the site of capture at short intervals, and it is believed that virtually all by-catch would be released alive without long-term effects on predator-prey relationships.

It is also likely that small numbers of subadult Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) would be taken during sampling for shortnose sturgeon. The Atlantic sturgeon is a candidate species being considered for listing under the ESA. Any Atlantic sturgeon captured would be handled using the same procedures as shortnose sturgeon and thus, negative effects would not be significant for the species.

3. Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety?

   Response: Issuance of the permit is not expected to have substantial adverse impacts on public health or safety that could reasonably be expected by the proposed research activities. This action would involve the use of 95% ethanol pre-measured in vials for preservation, storage, and transportation of tissue samples. MS-222 powder, used for anesthetizing shortnose sturgeon during surgery, would also be transported in premeasured amounts and mixed onboard. The researchers would wear gloves and masks during mixing of the chemical; therefore, direct contact with the alcohol or MS-222 would be eliminated. Additionally, researchers would be advised in the permit to dispose of the anesthetic safely following state approved measures.

4. Can the proposed action reasonably be expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species?

   Response: The proposed research activities could potentially have adverse effects on individual endangered shortnose sturgeon including mortality, but the effects are not expected to be significant at the population or species level.

   The permit activities require standard NMFS research and mitigation protocols to minimize stress and harmful effects on the species. In the Biological Opinion produced for this action, NMFS concluded issuance of the permit would not likely jeopardize the continued existence of the endangered shortnose sturgeon. Critical habitat has yet to be designated for shortnose sturgeon; thus, none would be affected.

   Likewise, bycatch would be returned immediately to the water with minimal exposure to handling stress. Because nets would typically be checked at short intervals, NMFS believes that virtually all bycatch would be released alive. Atlantic sturgeon is considered a "species of concern" occurring in the Delaware River in small numbers; hence, there is potential for Atlantic sturgeon to be caught as bycatch during expanded research activities. Accordingly, the researchers would monitor nets closely and if this sturgeon species is captured, appropriate measures would be taken to ensure its survival. Additionally, should there be a subsequent Federal listing established for Atlantic sturgeon, or other species, during the permitted time frame, the effects of the proposed research on the species would be analyzed at that time.

   Also, in the unlikely event marine mammals or sea turtles are encountered while netting, researchers would be directed by permit conditions to avoid contact with the animals. NMFS, Northeast Regional Office reviewed the application for potential interaction with these marine mammals and agreed with NMFS-PR that netting in areas detailed in the accompanying EA would serve to limit interactions. However, in the unlikely event researchers do come into contact with any of these marine mammals, either through boating or netting activities, the Northeast Regional Office suggested appropriate precautionary measures. Namely, netting would not be deployed when animals are observed within the vicinity of the research; and animals would be allowed to either leave or pass through the area safely before net setting is initiated. Also, in all boating activities (including travel to acoustic arrays outside of the netting area), researchers would be advised to watch for marine mammals to avoid harassment

or interaction and also to review the NMFS Northeast Region Marine Mammal Approach and Viewing Guidelines located online at http://www.nero.noaa.gov/prot_res/mmv/.

5. Are significant social or economic impacts interrelated with natural or physical environmental effects?

   Response: There are no known social or economic impacts associated with the proposed action. Therefore, there would be no significant social or economic impacts interrelated with natural or physical environmental effects.

6. Are the effects on the quality of the human environment likely to be highly controversial?

   Response: A *Federal Register* notice (74 FR 59961) was published on November 19, 2009, allowing other agencies and the public to comment on the action. All agency comments were addressed and responses were included in the decision memos for the permit. None of the comments were controversial and none addressed the proposal's potential effects on the quality of the human environment. No comments from the public were received on this application.

7. Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish habitat, or ecologically critical areas?

   Response: The research methods in the proposed permit have been analyzed under the current April 2010 EA. The activities in this proposed permit would not be expected to result significant impacts to any unique areas mentioned above. Additionally, with respect to anticipated effects on EFH by gill/trammel nets and trawls fished in the Delaware River (between rkm 79 and 148), NMFS concluded these gear would result in minimal disturbance to the physical environment, including the bottom substrate and any portion having EFH.

8. Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

   Response: Potential risks by proposed research methods are not unique or unknown, nor is there significant uncertainty about impacts. Monitoring reports from other permits of similar nature, and published scientific information on impacts of shortnose sturgeon, indicate the proposed activities would not result in significant adverse impacts to the human environment or the species. There is considerable scientific information available on the likely impacts.

9. Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

   Response: Overall, the proposed action would be expected to have no more than short-term effects on individual endangered shortnose sturgeon and no effects on other aspects of the environment. The incremental impact of the action when added to other past, present, and reasonably foreseeable future actions discussed in the environmental assessment would be minimal and not significant.

10. Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

    Response: The action would not take place in any district, site, highway, structure, or object listed in or eligible for listing in the National Register of Historic Places, thus none would be impacted. The proposed action would also not occur in an area of significant scientific, cultural or historical resources and would not cause their loss or destruction.

11. Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

    Response: The U.S. Geological Survey has documented several aquatic nuisance species occurring in the Delaware River watershed having potential to be spread by the actions of the proposed research. However, the applicant has agreed to follow certain conditions proposed by NMFS (outlined in the accompanying permit) minimizing potential spread of these aquatic nuisance species. Therefore, the proposed research activities would not be expected to result in introduction or spread of non-indigenous species to other watersheds. The research activities would also not involve bilge water or other issues of concern relative to nonindigenous species.

12. Is the proposed action likely to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

    Response: The decision to issue this permit would not be precedent setting and would not affect any future decisions. NMFS has issued numerous scientific research permits to study shortnose sturgeon pursuant to section 10 of the Endangered Species Act, thus this is not the first permit NMFS has issued for this type of research activity. Issuance of a permit or permit modification, to a specific individual or organization for a given research activity, does not in any way guarantee or imply NMFS would authorize other individuals or organizations to conduct the same research activity. Any future request received, including those by the applicant, would be evaluated upon its own merits relative to the criteria established in the MMPA, ESA, and NMFS' implementing regulations.

13. Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

    Response: Issuance of the proposed permit is not expected to violate any Federal, State, or local laws for environmental protection. NMFS has sole jurisdiction for issuance of such permits for shortnose sturgeon and has determined the research consistent with applicable provisions of the ESA. The permit contains language stating this permit does not relieve the Permit Holder of the responsibility to obtain other permits, or comply with other Federal, State, local, or international laws or regulations.

14. Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

Response: NMFS concluded the proposed procedures would have potential adverse effects on individual shortnose sturgeon. However, because shortnose sturgeon are a robust species and respond well to the types of handling proposed, the cumulative effects on the Delaware River population are not likely long-term or significant on the species.

Because a new status review for the Atlantic sturgeon has begun, NMFS considered the potential for cumulative effects on Atlantic sturgeon as bycatch. Accordingly, NMFS established provisions for monitoring interactions with Atlantic sturgeon and placed conditions in the permit stating if an Atlantic sturgeon is incidentally captured, it must be handled with similar protocols authorized for shortnose sturgeon and at least PIT tagged and genetically sampled. NMFS concluded that since researchers would be monitoring the nets closely, if Atlantic sturgeon were captured, appropriate measures would be taken to ensure survival. NMFS also concluded should there be a subsequent listing of Atlantic sturgeon coinciding with the proposed research activities, the effects of the research on Atlantic sturgeon would be analyzed at that time.

Likewise, NMFS considered impacts upon potential marine mammal interactions during sturgeon research in the Delaware River. Although interactions with marine mammals would be considered rare based on historical records in the river, the permit would be conditioned so that nets would not be set if marine mammals are seen in the vicinity of the research, and also mandate the animals must be allowed to leave the area before the nets are set.

DETERMINATION

In view of the information presented in this document and the analysis contained in the Environmental Assessment (EA) prepared for Issuance of Permit No. 14604, pursuant to the ESA, and the ESA section 7 Biological Opinion, it is hereby determined that the issuance of Permit No. 14604 will not significantly impact the quality of the human environment as described above. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environment Impact Statement for this action is not necessary.

APR 13 2010

James H. Lecky
Director, Office of Protected Resources

Date