UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
National Centers for Coastal Ocean Science
Silver Spring, Maryland 20910

MEMORANDUM FOR: The Record

FROM: Steven Thur, Ph.D.
Acting Director

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Date: 2017.05.08 07:50:10 -04'00'

SUBJECT: Environmental Review Memo for RESTORE ACT Award #NA17NOS4510095, Titled; "Assessment of movement patterns and critical habitat for coastal and continental shelf small cetaceans in the Gulf of Mexico using newly developed remote satellite tagging techniques"

ENCLOSURES:
(1) MMHSRP_eis_volume1.pdf
(2) MMHSRP EA_final_6-29-15.pdf
(3) 18786-01 permit appendices signed.pdf (expiration June 30, 2020)
(4) MMHSRP_eis_appendices.pdf
(5) Restore proposal permit questions_responses from recipient.pdf
(6) Restore proposal permit questions_responses concurrence from NMFS.pdf
(7) Restore proposal permit questions_confirmation of PIs as CIs
(8) Balmer CI Letter_17April2017
(9) proposal_2624029.pdf

NAO 216-6, Environmental Review Procedures, requires all proposed projects to be reviewed with respect to environmental consequences on the human environment. This Environmental Review Memorandum addresses the determination that the activities for the following RESTORE ACT cooperative agreement #2624029, titled, "Assessment of movement patterns and critical habitat for coastal and continental shelf small cetaceans in the Gulf of Mexico using newly developed remote satellite tagging techniques" are covered by the Programmatic Environmental Impact Statement (EIS), "Final Programmatic Environmental Impact Statement for the Marine Mammal Health and Stranding Response Program (MMHRP EIS)" (Vol 1., Feb. 2009; *Encl 1*) or the "Environmental Assessment on issuing a scientific research and enhancement permit to the marine mammal health and stranding response program to include hot branding, unmanned aircraft systems, and vaccinations" (2015; *Encl 2*), in order to be excluded from further environmental policy review under the National Environmental Policy Act.

Project Description – Purpose and Need

The National Marine Fisheries Service currently manages for one species of small cetacean in the coastal waters of the Gulf of Mexico (bottlenose dolphin; *Tursiops truncatus*) and an additional seven (7) species along the continental shelf (Waring et al. 2015). Aerial and large vessel based surveys have provided baseline data on abundance and general distribution for these species (Waring et al. 2015). However, very little is known about their movements, behavior, and habitat use, which hampers the

development of management strategies and assessment of present and future anthropogenic impacts. Following the *Deepwater Horizon* (DWH) oil spill, the Natural Resource Damage Assessment (NRDA) estimated that 38% (26 – 58%, 95% CI) of the Northern Coastal Stock of bottlenose dolphins and 4% (2 – 6%, 95% CI) of continental shelf small cetaceans [Northern Gulf of Mexico Continental Shelf bottlenose dolphin and Atlantic spotted dolphin *(Stenella frontalis)* stocks] were killed as a result of the DWH oil spill (NOAA 2015), suggesting that these stocks need to be a priority for management and conservation efforts.

Williams et al. (2011) conducted a preliminary analysis of historic stranding records in the Gulf of Mexico and suggested that only 2% of mortality of coastal and continental shelf cetacean species is observed, indicating that surveillance of stranded carcasses will not be sufficient to monitor emerging threats or characterize risks. Unlike other restoration efforts that have been initiated for the Gulf of Mexico, implementation of similar efforts for small cetaceans has been hampered by a near total lack of knowledge about the status, critical habitat, interconnectivity and habitat use of these stocks. New methodologies are necessary to efficiently fill these data gaps and assess threats to coastal and continental shelf small cetaceans as these species continue to be exposed to a wide variety of anthropogenic stressors including fisheries mortality, persistent organic pollutants, and seismic operations (reviewed in Waring et al. 2015), all of which may influence the recovery trajectories.

Satellite telemetry is a valuable tool to collect data on the movement patterns and habitat use of marine megavertebrates (reviewed in Hart and Hyrenbach 2009). The ability to monitor tagged cetaceans over time has provided unique insights and resulted in the development of robust management strategies and habitat restoration plans for numerous species (Evans 2008). While the deployment of satellite telemetry devices via remote means has been used to gather critical information from large cetaceans [(e.g., sperm whales *(Physeter macrocephalus)* and humpback whales *(Megaptera novaeangliae)*; Mate et al. 2007)], remote tag attachment for small cetaceans (e.g., bottlenose dolphins and Atlantic spotted dolphins) is not well developed. Satellite tagging of small cetaceans (specifically bottlenose dolphins) in the Gulf of Mexico has been limited to shallow estuarine waters, where it is possible to temporarily capture and restrain animals (Balmer et al. 2011, Balmer et al. 2014a). Such capture-release approaches have not been successfully applied in the deeper coastal or continental shelf waters, because they are very expensive, logistically complex, and ultimately an inefficient means to deploy large numbers of tags (Balmer et al. 2014b). Development of a new remote tag attachment methodology, that overcomes the need for capture, is needed for small cetacean species that reside in the coastal and continental shelf waters of the Gulf of Mexico. Remote deployments of these tags would allow for the study of movements, habitat utilization, and stock interconnectivity of these species for which little is known.

The objectives of this project are to:

(1) Develop a new and innovative tool to remotely attach telemetry devices to monitor the movement, behavior, and habitat use of coastal and continental shelf small cetaceans (phase I); and

(2) Deploy satellite tags remotely on free-swimming small cetaceans in the coastal and continental shelf waters of the Gulf of Mexico to facilitate safe collection of data on movements and critical habitats for these species that can be used to inform management agencies on appropriate management and restoration strategies (phase II).

Existing NEPA documents

NMFS issues permits to the NMFS Marine Mammal Health and Stranding Response Program (MMHSRP) for takes of marine mammals under NMFS jurisdiction for enhancement and research,

pursuant to the Marine Mammal Protection Act of 1972, and the Endangered Species Act of 1973. Specifically the permit 18786-01 (*Encl 3*, expiration June 30, 2020) would authorize the MMHSRP to continue to conduct emergency response of ESA-listed marine mammals, disentanglements of and health-related research on marine mammals, and collection, receipt, transfer, import, export, analysis, and curation of marine mammal parts.

The 2015 NMFS Environmental Assessment (EA) on issuing a scientific research and enhancement permit to the MMHSRP to include hot branding, unmanned aircraft systems, and vaccinations" incorporated by reference the Final Programmatic Environmental Impact Statement (MMHSRP EIS) for the MMHSRP (2009). The MMHSRP EIS evaluated the MMHSRP's entire program, including various enhancement and research activities permitted by NMFS and conducted by government employees, stranding agreement holders, and researchers. As stated in the MMHSRP EA (2015), the analyses and conclusions in the MMHSRP EIS (2009) are still valid as applied to the MMHSRP activities covered under the #18786-01 permit. Since the MMHSRP EA (2015) focuses its analysis on three activities that are not proposed to be conducted within this grant proposal, we incorporate by reference the relevant sections of the MMHSRP EIS (*Encl 1*) into this Environmental Review Memorandum (ERM) and compare those activities to the proposed project activities to exclude this project from further NEPA review.

The MMHSRP EIS analyzes activities associated with

1) Stranding agreements and response,
2) Carcass disposal,
3) Rehabilitation activities,
4) Release of rehabilitated animals,
5) Disentanglement activities, and
6) Biomonitoring and research activities

As they pertain to the following resources:

- Biological resources: protected and sensitive habitats, submerged aquatic vegetation (SAV) and macroalgae, sea turtles, marine mammals, threatened and endangered species, fishes, birds, and other wildlife;
- Water and sediment quality;
- Human health and safety;
- Cultural resources; and
- Socioeconomics.

In addition, the MMHSRP EIS reviews an ESA/MMPA permit that authorizes the taking of animals during close approach, capture, tagging, marking, biopsy sampling, collection of sloughed skin and feces, breath sampling, blood sampling, administration of drugs, euthanasia, and incidental harassment (Level B only). General descriptions of these research methodologies are found in Appendix H of the MMHSRP EIS (*Encl 4*). No serious injury or morality of animals is authorized by the permit.

Information on the Applicable Permit

Permit No. 18786-01 (*Encl 3*. expires 06/30/2020) to conduct health-related scientific research studies on marine mammals and marine mammal parts; is issued to the MMHSRP. Proposed project activities are covered under Appendix 1b Table 2 line no. 2 for "Dolphin unidentified range-wide –small cetacean research activities in the wild, captivity or rehabilitation, all non-ESA listed small cetaceans". This

includes tagging of live and dead small cetaceans, close approach by boat, and photography to document activities.

According to this permit (*Encl 3,* Section I. part 2, pg 10), "the Director, NMFS Office of Protected Resources (OPR), shall be the sole arbiter of whether a given activity is within the scope and bounds of the authorization granted in this permit. The Permit Holder must contact the Permits Division for verification before conducting the activity if they are unsure whether an activity is within the scope of the permit. Failure to verify, where NMFS subsequently determines that an activity was outside the scope of the permit, may be used as evidence of a violation of the permit, the MMPA, the ESA, FSA and applicable regulations in any enforcement actions."

To comply with this requirement NCCOS shared the project information with NMFS OPR and initiated a meeting on March 17, 2017 to discuss compliance with the following OPR personnel; Amy Sloan (Deputy Chief), Amy Hapeman, and Shasta Mcclenahan from the OPR/Permits and Conservation Division, and Colette Cairns from the Endangered Species Act and Interagency Cooperation Division. Additional questions and clarifications from NMFS were adequately addressed by the award recipient in an email dated March 21, 2017 *(Encl 5*) and on April 12, 2017 NCCOS received verification from NMFS that all proposed activities fall within the scope of the permit (*Encl 6*).

The Permit Holder is the MMHSRP, the Responsible Party and Principal Investigator is Dr. Teri Rowles, and co-investigators include Deborah Fauquier, D.V.M., M.P.V.M., Ph.D., Trevor Spradlin, M. Res.; Jaclyn Taylor, MS; and Sarah Wilkin, MS. In addition, NCCOS received an email from NMFS on April 14, 2017 (*Encl 7*) that all co-investigators (CI) working on this project are authorized to conduct research under this permit (e.g., Brian Balmer and Keith Mullin). This information was confirmed in a letter from NMFS authorizing Brian Balmer as a CI (*Encl 8*). All terms and conditions of the authorization letter will be adhered to for the project's duration. Other personnel on this project will be working as technical advisors and do not need to be listed as CIs.

Project Activities:
Based on the proposed research activities NCCOS incorporates by reference the relevant sections of the MMHSRP EIS, which includes the Biomonitoring & Research Activities as described in Section 2.1.6 (pg. 2-14, Alternative F3) and Section 4.2.6.2 (pg. 4-28 to 4-38). In particular, Section 4.2.6.2 describes the environmental effects of the following activities that would be potentially applicable to the proposed activities:

a. Close Approach, Vessel and Aerial Surveys (aerial surveys would not be conducted by NCCOS) (pg. 4-30)
b. Tagging/attachment of Scientific Instruments – Cetaceans (pg. 4-31)

An analysis of mitigation measures to avoid, minimize or eliminate the potential adverse effect on the resources is also incorporated by reference from the MMHSRP EIS (Section 5.2.1 pg. 5-1 and Section 5.2.6 pg 5-9 to 5-14). In addition, project personnel would adhere to the terms and conditions of the Permit #18786-01.

This project will be completed in two phases:

Phase 1. (FY17) – Includes development of a tool to allow remote deployment of single-pin satellite tags to the dorsal fins of bow riding dolphins (bow riding refers to commonly observed behavior were dolphins predictably surface in the bow wave that is created in front of a vessel as it moves through the water). The device would allow a person, standing in a pulpit, to safely attach a tag to a dolphin as it surfaced in front of the research vessel. These single-pin satellite tags are recognized as the safest way to

attach long-term tags to small cetaceans. The new method would be perfected on dead stranded dolphins obtained in collaboration with NMFS' Southeast Region marine mammal stranding networks, prior to any live deployments.

The remote tag attachment prototype would be tested on a minimum of 10 dorsal fins (more if necessary to modify the attachment design further). The factors to be examined during this phase of the project are:

- What is the most appropriate design that fully penetrates the dorsal fin and is the safest for the tagged animal with minimal trauma? Such as, type of attachment pin necessary; Roto, radio, and satellite tag attachments that have been deployed on dolphins have been constructed using plastic, plastic with a steel tip, and stainless steel anchors.
- What is the force required for the attachment pin to fully penetrate the dorsal fin?
- What is the optimal location for attachment as well as potential impacts if not attached at the optimal location?

For the prototype to meet the standards for live animal deployments, the co-investigators, which consist of a team of researchers and veterinarians with extensive experience in anatomy/physiology, tagging/impacts of tag attachment, and behavior of small cetaceans, would assess all of the above factors. The first and foremost consideration is animal welfare. They would specifically evaluate the tagging methodology to ensure there is minimal impact to the tagged individual. They would be comparing the results of the tests using stranded dorsal fins, to the follow-up monitoring of approximately 100 dolphins previously tagged with single pin attachments during health assessments in the southeastern U.S. Secondly, the tagging methodology must address the goals of the project, to remotely tag free-swimming small cetaceans and collect fine-scale data on individuals in the coastal and continental shelf waters of the northern Gulf of Mexico. If either of these considerations are not met at the highest level, no live animal deployments would be conducted.

Phase1 activities are covered by the Stranding Agreements Template and Criteria (MMHSRP EIS, Section 2.1.1.2, pg. 2-2), which refers to the rights and responsibilities of NMFS and the stranding network participants depending on the different roles of the participants (e.g., dead vs. live animal response). Stranding networks must comply with the terms and responsibilities of their Stranding Agreements. In addition, the Tagging/Attachment of Scientific Instruments – Cetaceans (pg. 4-31) Section 4.2.6.2 of the MMHSRP EIS covers tagging aspects of project activities.

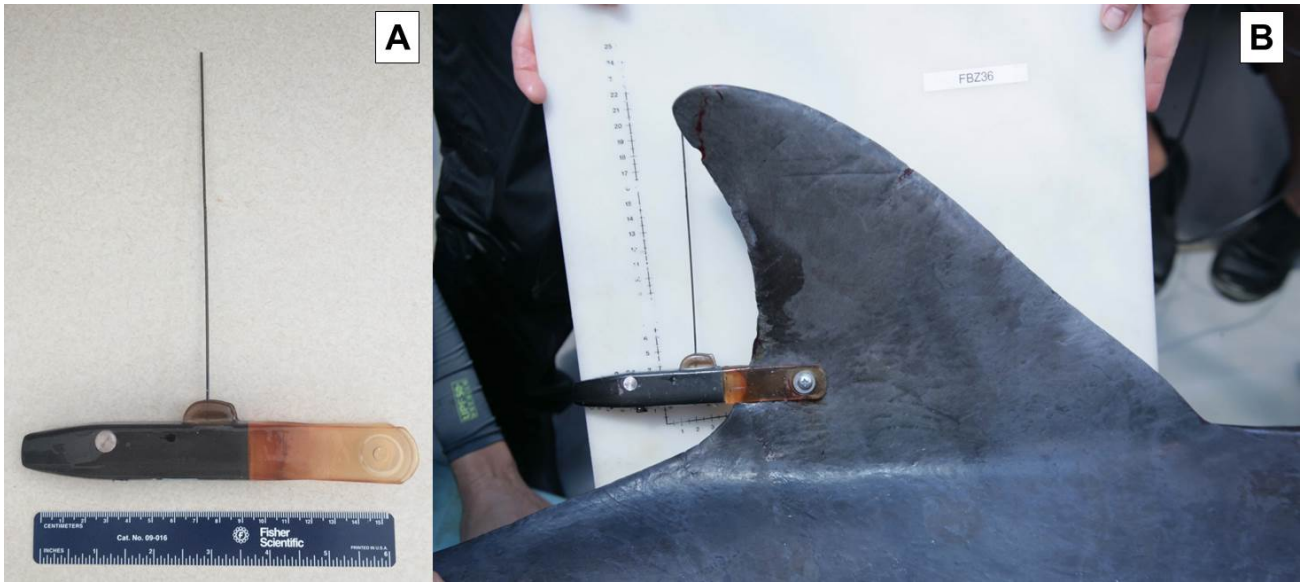

Figure 1.(A) Single-pin satellite tag and (B) single-pin satellite tag attached to bottlenose, excerpted by permission from Brian Balmer

Phase 2. (FY 18-19; 2 years) This phase would be the implementation phase of the new remote attachment tool to satellite tag free-swimming small cetaceans in the Gulf of Mexico. The geographic focus of the study site will be the coastal waters of the Florida Panhandle (Panama City to Port St. Joe) in which Atlantic spotted dolphins and bottlenose dolphins are known to frequent (Fig. 2). Based upon small vessel surveys conducted by the research team (Balmer et al. 2008; Balmer et al. accepted), and large vessel surveys conducted by NMFS (Waring et al. 2015), the spring/summer has optimal weather conditions and highest small cetacean sighting rates in coastal waters. The researchers would conduct a 2-week field project during the spring/summer in 2018 and 2019 for remote tag deployments. The selection of a study site in coastal waters, as opposed to continental shelf waters, would greatly reduce initial costs of deployments, and may allow follow-up monitoring to assess animal and tag condition. During this phase, they would use a 6.3 m, center-console, Zodiac rigid-hulled inflatable boat (RhIB) and conduct line-transect surveys along the coast, 3 km from shore, 5 km from shore, 10 km from shore, and 15 km from shore (Fig. 2). Transect distances range from 60 – 70 km in length and depending on dolphin sighting rates, weather conditions and number of tags deployed, 1 – 2 transects would be completed on a given survey day. For any dolphin encountered, they would assess the animal's behavior to determine if it is a potential candidate for remote tag attachment. Those specific behaviors are bow riding and breathing at the bow of the research vessel.

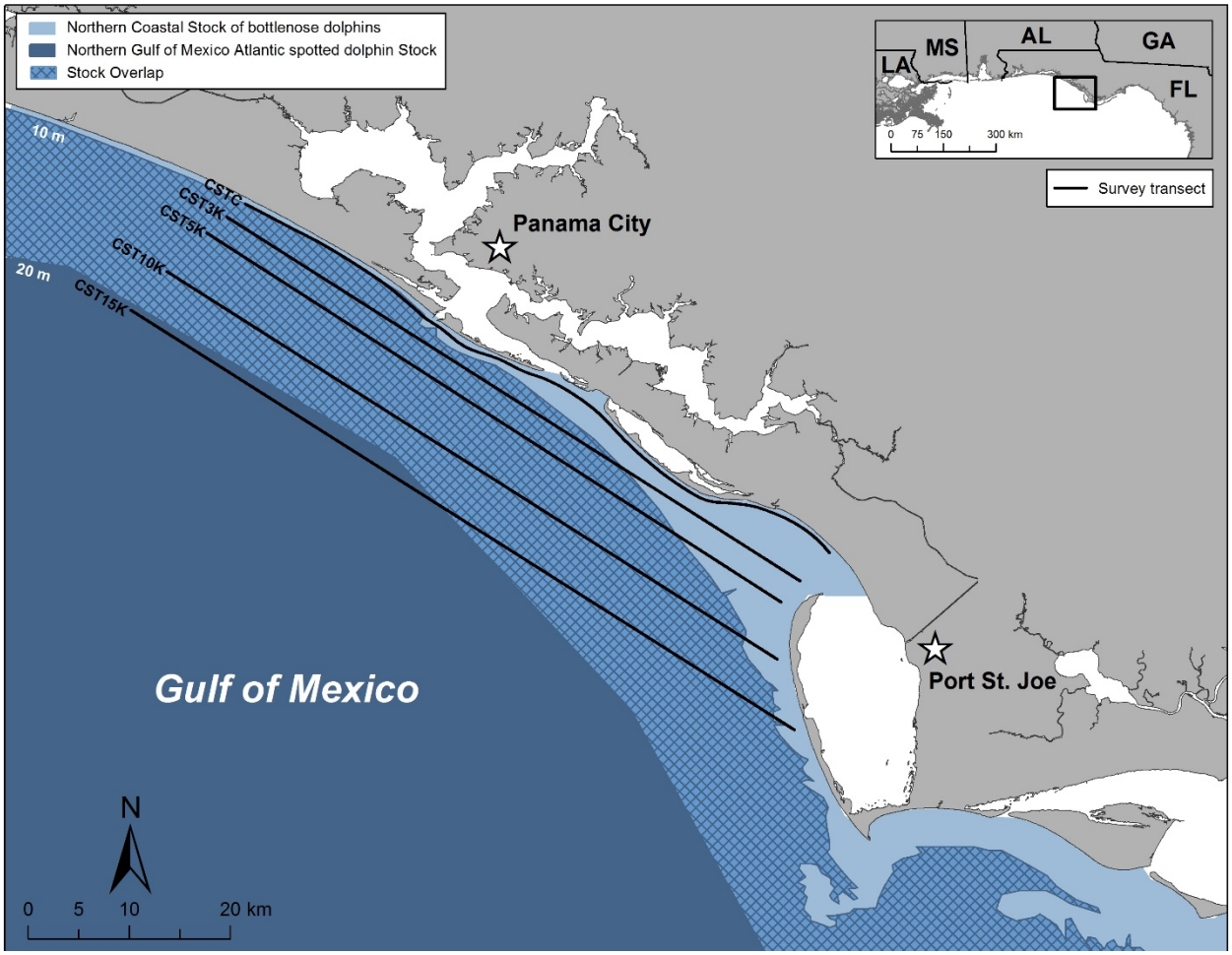

Figure 2. Gulf of Mexico satellite telemetry field site, bathymetry contours (10 and 20 m), and survey transects. Stock boundaries for the Northern Coastal Stock of bottlenose dolphins and Northern Gulf of Mexico Atlantic spotted dolphin Stock are highlighted in light and dark blue respectively. Overlap between these two stocks is indicated as the blue grid. Excerpted by permission from Brian Balmer

If an animal's behavior makes it a potential candidate for remote tag attachment, an attempt to tag it would be conducted using the tool developed in Phase 1. For tag deployment, each of the three field team members would have specific responsibilities: vessel operator, photographer, and tagger. The vessel operator would navigate the research vessel to provide the optimal conditions for deploying the tag. The photographer would obtain dorsal fin and body images of the tagged animal for follow-up tag monitoring and long-term photo-identification. The tagger would remotely deploy the tag on the dolphin's dorsal fin from a bow pulpit on the research vessel. The goal would be to deploy 15 satellite tags per field season for two years; 30 tags total.

One of the specific goals of this remote tag development is to offer a safer alternative to that of the traditional projectile tags. The attachment design only allows for the tag to be deployed on the dorsal fin of an animal by using a spring or CO_2 loaded lever that once the dorsal fin comes in contact with, the tag is deployed. The attachment device will ***not*** allow for the tag to be deployed on any other part of the dolphin. The attachment distance into the dorsal fin will be limited to less than 40mm, which is the approximate distance currently used to deploy single pin tags during health assessments and is considered safe and effective for tag attachment. In addition, only subadult to adult animals that do not appear compromised would be targeted for remote tag deployments and all mother-calf pairs would be

avoided. However it is important to note that single pin tags have been deployed during health assessments on all age classes, pregnant females, mother-calf pairs, and health compromised animals with intensive follow-up and no long-term impacts were identified as a result of tagging (Balmer et al. 2014). In addition, all sterilization protocols described in the MMHSRP application would be followed. Since these tags would be applied remotely, marine mammal veterinarians would be consulted for their insight on using a topical anesthetic, antiseptic, and/or antibiotic cream, all of which have been used at some level by other researchers that are deploying tags remotely on marine mammals.

To determine successful implementation of the new device every effort would be made to obtain photos to identify tag location on the dorsal fin, post-attachment. Tagged individuals would be monitored daily via Service Argos for the entire tag duration. These satellite locations would enable the researchers to identify if a tagged animal strands. If this occurs, we would notify the appropriate federal and state stranding response organizations. The field seasons for this project would be for two, 2-week intervals, which would allow follow-up monitoring to assess animal condition, post-tagging. If there are any indications from follow-up monitoring that the tags are not attached or functioning properly, field operations would be ceased and a re-evaluation of the tagging methodology would be performed.

Phase 2 activities are covered by the Close Approach, Vessel and Aerial Surveys section (pg. 4-30) and the Tagging/attachment of Scientific Instruments – Cetaceans (pg. 4-31) Section 4.2.6.2 of the MMHSRP EIS.

Other Environmental Statutes:

- **EFH provisions of MSA** - This project's activities would have no direct or indirect adverse effects individually or cumulatively on essential fish habitats (EFH). Therefore, we are not consulting on this action according to Section 305(b) of the Magnuson Stevens Fishery Conservation and Management Act.

- **ESA** - In Appendix 10 of the permit #18786-01 there are a list of requirements for incidental take of sea turtles and effects on non-target species (such as sea turtles, Sturgeon, smalltooth sawfish, and Johnson's seagrass). Based on the description of project activities the incidental take of sea turtles is highly unlikely as the only direct effect could be vessel strike. There is no possibility that turtles could be incidentally captured during project activities and a vessel strike is highly unlikely as vessels will be transiting at reduced speeds to observe small cetaceans and maintain a constant lookout along with additional Best Management Practices (Pg. 9) as applicable to project activities. Therefore, NCCOS determines that project activities would not adversely affect sea turtles. No ESA-listed species of cetaceans would be targeted in this study; therefore, no adverse effects are expected. There is one (1) ESA listed fish species with designated critical habitat that is within the range of the project area; the Gulf sturgeon. The primary constituent elements essential for the conservation of Gulf sturgeon are those habitat components that support feeding, resting, and sheltering, reproduction, migration, and physical features necessary for maintaining the natural processes that support these habitat components. As project activities will only include transit through this critical habitat there would be no adverse effects to the essential elements that could destroy or adversely modify this critical habitat. Finally, there is no ESA-listed coral or seagrass species within the action area. Thus, NCCOS determines that the project's activities would not adversely affect any species or designated critical habitat pursuant to the Endangered Species Act (ESA). Therefore, we are not consulting on this action according to Section 7 of the ESA.

- **NHPA** - After review of the cultural resources data layer available from the National Park Service at the following website, NCCOS found two underwater Historic resources within the general area of project activities, the SS Tarpon (NRIS_Refnum 01000527) and the Vamar Shipwreck Site (NRIS_Refnum 06000243) that are within the action area of cruise research activities. However, no adverse impacts to cultural resources are expected as a result of either vessel transit or other research activities, thus NCCOS will not be requesting a Section 106 consultation.

- **NMSA or Protected Areas**- This project's activities are not being conducted in a National Marine Sanctuary or other protected area where permits are required.

Best Management Practices and Mitigation Measures

Mitigation measures have been developed to avoid, minimize, or eliminate the potential adverse effects on affected resources (See MMHSRP EIS Section 5.2.1 pg-5-1, Section 5.2.6 pg 5-9 to 5-14). In addition there is a Draft Policies and Best Practices Manual (Appendix C) that is a collection of protocols and guidance for stranding response, rehabilitation, and release activities (MMHSRP EIS Section 1.3.2.1). Further the terms and conditions of the NMFS permit 18786_01 would be adhered to by the award recipient include, but are not limited to (see permit for a complete list of measures):

1) Annual reporting of takes;
2) Immediate reporting and cessation of activities in the event of serious injury or mortality of a protected species;
3) Reporting if authorized take is exceeded; and
4) Employment of efforts to minimize disturbance of subject animals, by interference with reproduction, feeding, or vital functions.

References: We incorporate by reference the original RESTORE ACT proposal (*Encl 9*) and references therein.

Determination

The research activities proposed in this award have been previously analyzed in the MMHSRP EIS (Feb 2009), which remains valid as described in the MMHSRP EA. NCCOS has confirmed with NMFS authorities that all proposed activities and project personnel are covered by the valid permit #18786-01 (expiration June 30, 2020). In addition, no extraordinary circumstances or other environmental statutes are triggered by these project activities. Project activities are covered by the National Marine Mammal Foundation Institutional Animal Care and Use Committee permit #14-2017. Thus, proposed project activities qualify to be excluded from further NEPA review in accordance with Section 5A and B of NAO 216-6A Companion Manual (pg. 6-7).