Subject Matter Expert Consultations on Sea Turtle Cold-Stunned Issues for CE New England District

Response Summary:

Threatened and endangered sea turtles are known to occasionally cold-stun whenever individuals experience a sudden drop in water temperature. Cold-stunned turtles become torpid, unable to swim, and typically float to the water surface. Sea turtles do not have the biological mechanism for hibernation, therefore, they must migrate out of areas where the water temperature drops to intolerable temperatures and migrate to locations with favorable water temperatures. Typically, sea turtles along the U.S. Atlantic coastline will migrate out of northern latitudes for the winter months, starting about September and October, then migrate back to these northern latitudes in spring, about March and April. It is this seasonal occurrence of sea turtles that have provided some of the foundations of the environmental windows for sea turtle protection during dredging projects along the U.S. Atlantic and Gulf of Mexico coastline. Cold-stunning happens when some of these turtles do not migrate out of the colder latitudes before the sudden reductions in water temperature occurs. Many of these cold-stunned turtles die without assistance from human rescue interactions. These cold-stunned animals are vulnerable to vessel strikes since they are unable to move at all when in a cold-stunned state of torpor. Cold-stunning is not a new phenomenon in the natural history of sea turtles but has been increasingly documented throughout the U.S. Atlantic and Gulf of Mexico coastline due to increases in the turtle populations as well as the altered weather patterns from climate change. Over the past 40 years, the USACE Navigation Program has dealt with many issues and environmental windows related to sea turtles and dredging projects. For the first time anywhere in this 40-year history of dredging-related impacts on sea turtles, the NMFS and the USACE New England District are discussing potential restrictions and/or environmental windows for cold-stunned turtles during cutterhead dredging and beach nourishment in Cape Cod Bay. Ms. Dena Dickerson is the primary subject matter expert and world authority on topics related to dredging impacts on sea turtles. Mr. Welp is a subject matter expert on dredging equipment and operational methodologies. This DOTS Response was for Ms. Dickerson and Mr. Welp to provide expert review and consultation to the USACE New England District and NMFS on the USACE Biological Assessment as well as NMFS Special Conditions documents related to restrictions or protection protocols for protection of potential cold-stunned sea turtles during cutterhead dredging to be performed at Town of Sandwich, Massachusetts in Cape Cod Bay.

Period of Performance:

January through June 2019

Benefits of the Response to the USACE Dredging/Navigation Program:

The result of this DOTS Response facilitated a better understanding of the true and potential impacts to cold-stunned turtles during cutterhead dredging operations, especially in the Cape Cod Bay area. This information allowed the CE District to produce a more applicable and factual Biological Assessment to NMFS and for NMFS to provide more realistic and acceptable Conservation Special Conditions for the target project.

Deliverable:

Ms. Dickerson and Mr. Welp provided document reviews, consultation and expert opinion for personnel with USACE New England District, USACE New England Division, and NMFS, and participated in collaborative meeting with all parties.

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