

DRAFT
Marine Mammal and Sea Turtle Observer Protocols
For the Sinking of the Ex-USS Hoyt Vandenberg
(May 20, 2009)

No charges greater than 43 lb/delay will be used during the sinking of the Ex-USS Hoyt Vandenberg as an artificial reef. A maximum of 46 (forty-six) sets of cutting charges will be detonated on the hull intended to cut 39 inch to 42 inch holes in the hull of the ship below water line. The charges will be set across the 8 adjacent bulkhead areas and detonated in a delayed sequence to be protective of the marine environment and assist with vessel deployment. . All charges located between adjacent water tight bulkheads will be detonated at one time. Only the charges located within the same water tight bulk head will detonate at any one time. Specifics concerning quantity of explosives and time sequence are considered proprietary information of the contractor, but have been considered in the development of the protected species observer protocols

Definitions

- **Zone of Influence (ZOI):** The total surveillance zone to be monitored during the sinking of the Vandenberg.
- **Impact Zone:** The distance from a detonation within which both injury and harassment may occur.
- **Watch Zone:** an additional buffer zone to be monitored to detect animals that are heading towards the impacted area.
- **Fouled Range:** Condition at any time during the survey a protected species or *Sargassum* rafts of over 10 feet diameter are sighted within the impact zone . A **Fouled Range** will result in a **Hold** condition of the scheduled detonation of any charges until a **Clear Range** condition can be established.
- **Hold:** A condition of delay until it is determined that the impact zone around the ship is free of visible protected species or *Sargassum* rafts.
- **Clear Range:** Condition of the range when the impact zone is clear of conditions that would otherwise preclude the detonation of charges to proceed.

Zone of Influence and Protected Species Observer Requirements

- 1) A total ZOI of 0.6 nautical mile radius (will be established around the vessel. The ZOI is based upon a 0.32 nautical mile (ca. 1,961 ft) **Impact Zone** calculated by a maximum of 42.97 lb of explosives per delay (sea turtle equation, Young1991) and an additional **Watch Zone** of 0.28 nautical miles to watch for any protected species that may be in the area and heading toward the **Impact Zone**.
- 2) Pre-sink day anchoring: LE or City staff will search area within .32 nautical miles of anchored ship and note any occurrence of protected species to get general idea of marine animal activity or prevalence of large (10 ft. diameter or greater) *Sargassum* rafts.

- 3) The ZOI will be visually surveyed from the water by a minimum of two (2) individuals assigned specifically as protected species observers (PSOs) for one and a half hours (90 minutes) prior to the planned Vandenberg cutting charge detonation. Observations will cover the entire 0.6 nautical mile ZOI with concentrated a "final sweep" within the 0.32 nautical mile **Impact Zone** prior to the sinking. The 0.32 NM **Impact Zone** will be mark with two red buoys on both side of the ship perpendicular to the forward radar dish. The PSOs will be located on two separate vessels to ensure that no protected species (marine mammals and sea turtles) are present in or heading toward the **Impact Zone** at the time of charge ignition. A final "**Clear Range**" must be obtained 30 seconds prior to ignition.
- 4) An aerial PSO in an FWC Law Enforcement helicopter flights will be utilized starting 30 minutes before the planned sink time. The flight path should follow gradually expanding circles ("spiraling or corkscrewing") out from the center of the impact zone to the perimeter of the ZOI. This should be followed by gradually contracting circles until the aircraft returns to the center of the impact zone (the Vandenberg). Repeat the pattern for the specified time period.
- 5) "**Fouled Range**", "**Hold**" and "**Clear Range**" procedures will be in effect in the vicinity of the zone of influenced to be monitored.
- 6) If protected species or continuous rafts of *Sargassum* greater than 10 feet in diameter are spotted within this radius, or if protected species are sighted outside in **the Watch Zone** and **moving inbound** toward the Impact Zone, PSOs will immediately report by radio on the designated frequency to PSO coordinator, Bill Horn (FWC) who will be on board the command and control vessel the USCG Cutter Sawfish . He will then verbally report the observation (organism sighted, activity, general direction of movement) to the Project Commander (Jim Scholl) who will then declare a "**Fouled Range**".
- 7) A "**Hold**" condition shall be in effect for a period of time of no less than 30 minutes or until the area is clear of protected species. The PSO coordinator shall immediately receive a radio report from the observer crew chief on board the observer vessel or helicopter that made the protected species sighting. The radio report will report the identify, activity and movement direction status of any observed animal or *Sargassum* raft. The FWC coordinator shall make the Project Commander immediately aware of any sightings.
- 8) If no protected species are observed, PSO vessels and PSO helicopter shall check in with the PSO coordinator at 15 minute intervals reporting a "**Clear**" condition with no sightings of protected species or *Sargassum* rafts.
- 9) Detonation of scare charges to intentionally harass sea turtles or marine mammals into leaving the area is prohibited. Scare charges using detonation cord are potentially harmful to fishes (California Department of Fish and Game 2002) if the mass of the explosives is not considered. Detonation caps not exceeding 0.5 g (Collins et al. 2001) may be approved on a case-by-case basis for use as scare charges for sturgeon and smalltooth sawfish if needed. .
- 10) Upon detonation, the area will continue to be surveyed for no less than 60 minutes to monitor for adversely impacted protected species.

- 11) Post deployment diving activities will be conducted by the clearance divers under the direction of Bob Smith, Clearance Dive Coordinator with the Artificial Reef of the Keys Organization. These divers will be briefed before the sink event by the Overall Marine PSO Coordinator and shall report in writing any observations of protected species and their condition if observed on or underwater.
- 12) Detonation of explosives will occur no sooner than one hour following sunrise and no later than one hour before sunset.
- 13) The sinking event will not be conducted if the ZOI cannot be adequately monitored or if weather conditions do not permit full visibility of the ZOI. The event will not be conducted if there is greater than a Beaufort Sea state of 3, greater than 4-5 foot seas or if visibility is reduced to below 2 NMI. (A Beaufort scale "Force 3, sea state" is defined as "8-12 MPH, 7-10 knots, Gentle Breeze, Large wavelets. Crests begin to break. Foam of glassy appearance. Perhaps scattered white horses."). Sea state will be recorded by vessel-based PSOs every 30 minutes.

Disposition of FWC/County PSOs:

Observer Coordinator on board USCG Sawfish, (Command and Control)

The Overall PSO Coordinator /Team Leader, will be Bill Horn, Marine Fisheries Biologist, Florida Fish and Wildlife Conservation Commission (FWC) work phone: 850.922.4340 x 208; cell phone: 850.566.6176; email: bill.horn@myfwc.com;

Observer on Board the FWC Law Enforcement Helicopter

Kyle Baker (NMFS)

Observer On board M/V Amazing Grace (25 ft)

Craig Wanous (FKNMS)

Captained by Sheri Sullenger, Assisted by JoEllen Sullenger

Observer On Board R/V Mola, Mola (FWC 25 ft Parker)

Keith Mille (FWC), Ben Bird –alternate (FWC)

Captained by Cindy Lewis, Assisted by Bill Ferrell, Mike McAllister, Kerry Maxwell

Patrolling Patterns of R/V Mola, Mola and M/V Amazing Grace

One PSO vessel, the R/V Mola, Mola covers the Port side of the ship, the other PSO, the Amazing Grace, covers the starboard side and the vessels "mow the lawn in their respective assigned hemisphere of the search zone with the Vandenberg separating them.

Vessel Patrolling Speed during Protected Species Observations:

Minimal speed to make way for observations. No anchoring allowed.

Physical locations of observers on each vessel shall be as high in the vessel as practical with good views of the forward half of the vessel while underway. Vessels with as high an observation vantage point out of the water as possible should be utilized.

Chain of Command –The PSOs on the two designated observation vessels and the aerial marine mammal observers will report directly by radio to the Overall PSO Coordinator with any required observer reports. The PSO Coordinator in turn reports to the Overall Project Commander (Jim Scholl) on board the Command and Control vessel USCG Cutter Sawfish.

Communications:

Communications protocol among observers on PSO vessels will be to directly report to the Overall PSO Coordinator any sightings without taking their eyes off the animal. They will verbally relay information using hand held VHF radios on a pre-selected channel (TBD) to communicate with the Overall PSO Coordinator.

Communication Frequencies among the PSO vessels, the aerial PSO, the PSO Coordinator and the Overall Project Commander are FWC Channel on FWC radios provided by Law Enforcement.

Any report of a stunned or killed marine mammal or sea turtle if any are sighted, will be reported to the FWC-Law Enforcement Incident Commander, Brad Williams immediately. Any injured marine mammals will also be reported to NMFS Stranding Hotline at (877) 433-8299 (pager). Sea turtles will be reported to the Florida Sea Turtle Stranding and Salvage Network (FLSTSSN).

Protocols for reporting such an incidental take scenario, who would file the report (incidental take) with NMFS. All dead or injured protected species should be also reported to NMFS' Southeast Regional Office by email at takereport.nmfs@noaa.gov or by telephone at (727) 824-5312.

Departure Time of Vessels and Point of Debarkation TBD

Data and Time PSOs need to be on board TBD

**Personal gear, specific items PSOs would need to bring on board
Sun glasses, sun screen, Binoculars.**

**Amount of time PSOs can expect to remain at sea.
4 hours total. 1 for arrival and buoy set up, 1.5 for observations, 1 for psot observations, .5 for buoy retrieval and return to port.**

Identification badges for PSO team if necessary, who will provide when will they be distributed, how should they be displayed. Not needed. PSO vessel were pre-approved by Security Command to be within the .5 mile security perimtere

Background Information on Development of Observer Protocol and Justification for Deviation of Protocol (example-explain search zone reduction to ¼ mile from ship as opposed to ½ mile radius-charges are in vessel interior with multiple bulkheads damping to some degree sound and shock waves; no proven demonstrable reason to have a ½ mile search zone in this situation; will actually be able to search more thoroughly.

List References.

Guidance from NMFS:

Note: NMFS has recommendations for marine mammal/sea turtle observations in explosive use situations (Baker 2009) but consultation is required on a case by case basis for individual projects. A conservative estimate to account for all protected species in the area is giving by the sea turtle equation (Young 1991):

$$\text{Impact zone radius (ft)} = 560 (\text{max lb/delay})^{0.33}$$

NMFS considers the impact zone calculation a conservative estimate of the impact zone distance (radius) from the detonation within which animals may experience harm or harassment. Shaped and fracturing charge designs are being developed and refined by the demolition industry that increase the efficiency of the work, resulting in smaller net explosive weights than for “bulk” charges that the impact zone is based upon. Given that the detonations are confined within the hull of the carrier using shaped charges, the impact zone is expected to be smaller than predicted resulting in a conservative estimate of predicted effects.

Baker, K. 2009. Assessment and Mitigation of Marine Explosives: Recommendations for Protected Species in the Southeast U.S. Draft. National Marine Fisheries, Southeast Regional Office.

California Department of Fish and Game. 2002. Use of Detonation Cord in Lake Davis to Control Population of Northern Pike: Initial Study and Proposed Mitigated Negative Declaration. Technical Report, January 2002.

Collins, M.R., F. Yelverton, and G.F. Revey. 2001. Response of shortnose sturgeon to scare charges. South Carolina Department of Natural Resources, unpublished report.

Young, G. 1991. Concise methods for measuring the effects of underwater explosions on marine life. Naval Surface Warfare Center, NAVSWC MP 91-220.