APPENDIX E: Protected Species Monitoring and Mitigation Protocol

2013 Light-touch California Halibut Trawl Survey in Monterey Bay:
Marine Mammal, Sea Turtle, Green Sturgeon and Pacific Sea Nettle Jellyfish
Monitoring and Mitigation Protocol

The below marine mammal, sea turtle, green sturgeon and Pacific sea nettle jellyfish monitoring and mitigation protocol are conditions put in place to minimize potential interactions with protected species and/or their critical habitat. Before the survey commences all scientific personnel must be trained by the National Marine Fisheries Service, Southwest Region, Protected Resourced Division's (NMFS-SWR-PRD) protected species specialist. The survey shall have one dedicated scientific crew member to perform all at-sea duties below in combination with having additional watches from any available biologists and crew members. The dedicated scientific crew member will be a National Marine Fisheries Service, Southwest Region, Sustainable Fisheries Division (NMFS-SWR-SFD) biologist.

Marine mammal, sea turtle, green sturgeon and Pacific sea nettle jellyfish (*Chrysaora fuscescens*) protocol, as described below, will be followed prior to, during, and following any trawl deployment. During transit to each station, for a period of at least 30 minutes before the tow, the Captain, deckhands, and all available scientists will visually scan the sea surface for marine mammals, turtles, and jellyfish. If marine mammals, other protected species, or jellyfish are sighted during this period, or upon arrival at the station, the scientific staff will determine if trawling operations can commence without likelihood of interaction between the gear and the animals sighted. This determination will be based on the species and number of animals sighted, their behavior, their position, and their vector relative to the path of the vessel, the professional judgment of scientific crew, and other factors. If marine mammals, turtles, green sturgeon or concentrated patches of jellyfish are directly observed, or if jellyfish are observed on the fathometer during this period and are determined to be at appreciable risk of interaction with gear, then the vessel will move away from the animals, at least 0.5 nm, to a new location within the same general area. For example, Pacific sea nettle jellyfish are considered critical habitat for the leatherback sea turtle under the Endangered Species Act and are an indicator that leatherback sea turtles may be in the area, but having jellyfish in the area does not have as high of scrutiny as other protected species that may be seen. If it has been determined to move to a new location and the protected species follow the vessel then the performing the tow will have to wait until the protected species leave. The final decision to stay or move to a new location should be made by the NMFS-SWR-SFD biologist. The visual scan for marine mammals, turtles, green sturgeon, and jellyfish will continue during each subsequent move until it is determined by the scientific crew that trawling operations can safely commence, or until the station is abandoned.

To reduce the potential of attracting marine mammals and other protected species to the vessel, trawl operations will be the first activity undertaken upon arrival at a new station. During each tow, the Captain and scientific crew will keep a continuous watch for marine mammals, other protected species and jellyfish. The observations should concentrate from the vessel out to a maximum distance of 647feet as that approximately how far the trawl will be from the vessel on any given tow, see Attachment 4 for observation distances depending on tow depth. If animals are sighted while the net is in the water, the scientific crew will document the interaction using a sighting record (Attachment 5) and determine the best strategy to avoid potential takes based on the species and number of animals sighted, their behavior, their positions, and vectors relative to the path of the vessel, and other factors. In some situations the decision may be to immediately retrieve the net and move away from the area. In other situations, the decision may be to continue towing until the animal(s) are clear of the area and away from potential contact with the gear during haul-back, when the risk of entanglement is believed to be highest. For example, if jellyfish, California sea lions or harbor seals are observed then maintain the tow, but if harbor porpoises are observed then the tow should stop. Every effort will be made to deploy and retrieve the

trawl net as quickly as possible to avoid potential interactions with marine mammals, other protected species or jellyfish.

With specific regard to leatherback sea turtles, on each trawl-survey morning or the night before the each survey day, the NMFS-SWR biologist will call Scott Benson (831-771-4154; Scott.Benson@noaa.gov) to get information on the location of any leatherbacks within the specific survey area in order to avoid potential interactions. Further, in past surveys Pacific sea nettle jellyfish were only observed and not weighted or counted due to broken individuals or the numbers were too numerous to be weighed. For the 2013 survey, every attempt will be made to identify, weigh and count jellyfish to the best of the scientific crew's ability as Pacific sea nettle jellyfish are considered primary prey for the leatherback sea turtle.

If one or more marine mammals, sea turtles, or green sturgeon are inadvertently caught in the trawl net and brought aboard, it will be the Captain and the crew's highest priority to release the animal back into the water as soon as it is safely possible. After release of the animal, the scientific crew will be responsible for recording the event on a sighting record form (Attachment 5), noting the status of the animal (e.g., injured, dead or alive), the species, and if possible other details such as sex, size, position of the vessel, time of day, etc. At that time the survey would not be allowed to continue and the survey would cease. Catching a protected species will also trigger immediate telephone contact to the NMFS-SWR-PRD leadership, regardless of the time of day, who will provide direction and take immediate action. Specifically, the scientific crew will immediately notify the appropriate personnel via telephone and convey all the pertinent information regarding the event via email. Monica DeAngelis (562-980-3232; Monica.DeAngelis@noaa.gov) will be notified for marine mammals, Christina Fahy (562-980-4023; Christina.Fahy@noaa.gov) will be notified for sea turtles, and Susan Wang (562-980-4199; Susan.Wang@noaa.gov) will be notified for green sturgeon.