

EXHIBIT G

**California State Lands Commission Presurvey Notice Requirements for
Permittees to Conduct Geophysical Survey Activities**

All parts of the Presurvey Notice must be adequately filled out and submitted to the CSLC staff a minimum of twenty-one (21) calendar days prior to the proposed survey date to ensure adequate review and approval time for CSLC staff. Note that one or more of the items may require the Permittee to plan well in advance in order to obtain the necessary documentation prior to the Notice due date (e.g., permits from other State or Federal entities). Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

- | Yes | No | |
|--------------------------|--------------------------|--|
| X | <input type="checkbox"/> | Geophysical Survey Permit Exhibit F |
| X | <input type="checkbox"/> | Survey Location (including a full-sized navigation chart and GPS coordinates for each proposed track line and turning point)
Explanation: _____ |
| <input type="checkbox"/> | X | Permit(s) or Authorization from other Federal or State agencies (if applicable)
Explanation: <i>No other State or Federal permits are required.</i> |
| X | <input type="checkbox"/> | 21-Day Written Notice of Survey Operations to Statewide Geophysical Coordinator/ |
| X | <input type="checkbox"/> | U.S. Coast Guard Local Notice to Mariners/ |
| X | <input type="checkbox"/> | Harbormaster and Dive Shop Notifications
Explanation: _____ |
| X | <input type="checkbox"/> | Marine Wildlife Contingency Plan
Explanation: _____ |
| X | <input type="checkbox"/> | Oil Spill Contingency Plan
Explanation: _____ |
| X | <input type="checkbox"/> | Verification of California Air Resources Board's Tier 2-Certified Engine Requirement
Explanation: _____ |
| X | <input type="checkbox"/> | Verification of Equipment Service and/or Maintenance (must verify sound output)
Explanation: _____ |
| <input type="checkbox"/> | X | Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable).
Explanation: <i>Survey area is not within Soquel Canyon or Portuguese Ledge MPAs</i> |

NOTE: CSLC staff will also require verification that current biological information was obtained and transmitted as outlined in Section 5 of this permit

EXHIBIT F

PRESURVEY NOTIFICATION FORM

Applicant/Permittee's Mailing Address:

Date: 3/4/2014

George Tate

Jurisdiction: Federal ____ State X Both ____

USGS Pacific Coastal and Marine Geology

If State: Permit #PRC 8394

400 Natural Bridges Drive

Region: III

Santa Cruz, CA 95060

Area: Monterey Bay, Moss Landing, CA

GEOPHYSICAL SURVEY PERMIT

Check one: New survey Time extension of a previous survey

U.S.G.S. Pacific Coastal and Marine Geology (Applicant/Permittee) will conduct a geophysical survey offshore California in the survey area outlined on the accompanying navigation chart segment. If you foresee potential interference with commercial fishing or other activities, please contact the person(s) listed below:

FEDERAL WATERS (outside 3 nautical miles)

- 1) Applicant's representative:
- 2) Federal representative: (e.g., Bureau of Ocean Energy Management [BOEM] or National Science Foundation [NSF])

NOTE: Any comments regarding potential conflicts in Federal waters must be received by the Applicant's Representative and lead Federal agency within ten (10) days of the receipt of this notice.

STATE WATERS (Inside 3 nautical miles)

- 1) Permittee's representative:
- 2) CSLC representative: Richard Greenwood

NOTE: Any comments regarding potential conflicts in State waters should be received as soon as possible by the Permittee's representative, no more than fifteen (15) days after the receipt of this notice.

1. Expected Date of Operation: April 1-5, 2014
2. Hours of Operation: 07:00-17:00
3. Vessel Name: R/V Parke Snavelly
4. Vessel Official Number: USGS-2001279
5. Vessel Radio Call Sign: WZ3374
6. Vessel Captain's Name: Pete Dal Ferro
7. Vessel will monitor Radio Channel(s): 13,16
8. Vessel Navigation System: Differential GPS

9. Equipment to be used:

- a. Frequency (Hz, kHz): 234.5 kHz
- b. Source level: (dB re 1 μ Pa at 1 meter (m) (rms): 200 dB RMS
- c. Number of beams, across track beam width, and along track beam width:
1 beam, Phase Differencing Bathymetric Sonar (PDBS), (interferometric); 360m swath width; 2m along track beam width.
- d. Pulse rate and length: 4.5-13.5pps at 34-500 μ seconds depending on depth
- e. Rise time: 7 μ seconds
- f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 uPa (rms) isopleths,
190 dB: 1M ; 180 dB: 8M ; 160 dB: 50M
These estimates are based on the underwater sound propagation equation:
$$RSPL = SL - 20 \log (R/R_0) - AR,$$
 where
RSPL=received sound potential level
SL= RMS source level re. 1 uPa (rms) based on manufacturer's specifications
R= Distance
R₀= Reference Distance (1 m)
A= sound absorption coefficient
- g. Deployment depth: 2 m
- h. Tow speed: 8 knots
- i. Approximate length of cable tow: 0 m; vessel pole mounted.

Applicant's Representative:

George Tate
US Geological Survey
400 Natural Bridges Drive
Santa Cruz, CA 95060
831-460-7484

California State Lands Representative:

Richard B. Greenwood
Statewide Geophysical Coordinator
200 Ocean Gate, 12th Floor
Long Beach, CA 90802-4331
(562) 590-5201

BOEM Representative:

Joan Barminski
Chief, Office of Reservoir & Production
770 Paseo Camarillo
Camarillo, CA 93010
(805) 389-7707

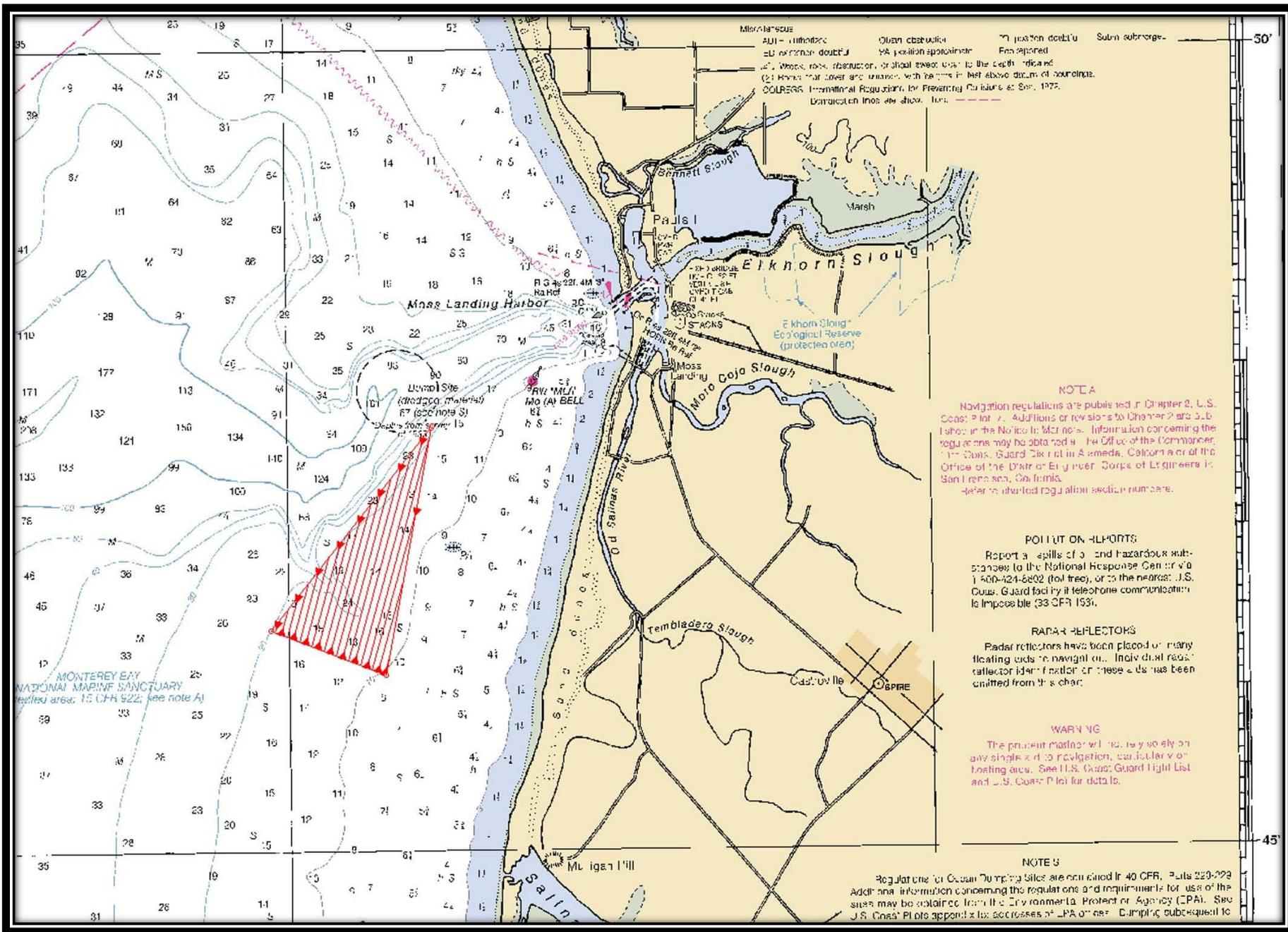
Other Federal Representative (if not BOEM):

The survey area is bounded by the coordinates:

36° 47.5999 121° 48.8994
36° 46.4038 121° 50.0607
36° 46.1423 121° 49.2886

The track line coordinates are:

Line Number	Start Line		End Line	
1	36.78486369	-121.823906	36.77087273	-121.8288906
2	36.77112386	-121.829675	36.78350681	-121.8252636
3	36.78622055	-121.8225485	36.77062159	-121.8281061
4	36.77137498	-121.8304594	36.78214991	-121.8266211
5	36.7875774	-121.8211908	36.77037045	-121.8273217
6	36.7716261	-121.8312439	36.780793	-121.8279785
7	36.78893423	-121.8198332	36.77011931	-121.8265373
8	36.77187721	-121.8320283	36.77943608	-121.8293359
9	36.79029104	-121.8184754	36.76986816	-121.8257529
10	36.77212832	-121.8328128	36.77807913	-121.8306932
11	36.79164784	-121.8171177	36.769617	-121.8249685
12	36.77237943	-121.8335972	36.77672217	-121.8320505
13	36.79300462	-121.8157598	36.76936584	-121.8241841
14	36.77263053	-121.8343817	36.7753652	-121.8334078
15	36.76911467	-121.8233997	36.79333909	-121.8147664
16	36.77288162	-121.8351662	36.77400821	-121.834765
17	36.7688635	-121.8226153	36.78559539	-121.8166527
18	36.77785165	-121.8185386	36.76861233	-121.8218309
19	36.76836115	-121.8210465	36.77010786	-121.8204242



Regional Map of Survey Area

**Marine Wildlife Mitigation Plan
California Seafloor Mapping Program Bathymetric Survey
Monterey Bay, CA.**

(April 1-5, 2014)

1.0 INTRODUCTION

This marine wildlife mitigation plan is prepared in compliance with the USGS Pacific Coastal and Marine Geology Science Center's existing State Geophysical Permit PRC 8394. This plan is intended to provide guidance to USGS vessel operators and scientific field personnel collecting geophysical data for the Pacific Coastal and Marine Geology Science Center (PCMG) in Santa Cruz, CA to avoid significant impacts to marine wildlife that may occur during regular geophysical surveys.

1.1 Regulatory Basis

Species that are either currently in danger or soon likely to be in danger of extinction throughout all or a portion of its range are protected by the Endangered Species Act of 1973. The United States Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) implement the Endangered Species Act. During the consultation with NMFS to issue a permit for the offshore geophysical survey, it was determined no incidental take permits are required to use the equipment identified in this document to conduct scientific data acquisition in federal waters offshore of the California coast.

1.2 Geophysical Survey Purpose and Objectives

PCMG will conduct a high resolution swath bathymetric survey of a ~2 km square area off of Moss Landing, CA at the southern edge of Monterey Canyon. The work is being conducted to support the large, collaborative partnership of the California Seafloor Mapping Program (CSMP: see <http://walrus.wr.usgs.gov/mapping/csmp/>). CSMP's California agency partners include the California Ocean Protection Council and the California Geological Survey.

CSMP data and map products serve many purposes, providing critical data for informed decision making and all facets of coastal and marine spatial planning. Data to be collected in this proposed survey will complete missing areas conducted by the larger CSMP program. This baseline information will be specifically used to monitor change, characterize habitats, assess geologic hazards (sea-level rise, coastal erosion, earthquakes, tsunamis), and aid regional sediment management. The work and databases will also stimulate and enable new research and enhance public education and awareness.

PCMG will contact the NOAA Long Beach Office staff and local whale-watching operations to acquire information on the current composition and relative abundance of marine wildlife offshore as well as any pinniped haul out sites. Whale activity is moderate at the moment. The peak whale season is February - May in the Monterey Bay and there was a heightened level of activity during December through mid February due to the presence of extremely large baitfish populations. Whale activity in the area has decreased in the past month. The survey area is not near any known pinniped haul out sites. Additionally, one day prior to survey activities, the NOAA Long Beach office, local whale watching operations will be contacted to get an update on marine wildlife sightings in the area. This information will be conveyed to the captain and crew prior to the survey.

A review of environmental responsibility of project operations will be conducted by the chief scientist in charge of the survey operations prior to commencing the first day of operations. When new personnel will be in the crew, this training will be repeated at least for those new to the crew. They will be made aware of their individual responsibility and will be shown how to be aware of possible environmental impacts and how to mitigate them during the geophysical survey operations. Information relating to seasonality, as an indication of the types of animals that might be in our survey area, at the time of survey work will also be presented to the crew. A copy of this document will be provided to the crew of our survey vessel.

All personnel will be expected to be consistently aware that they are to be alert to any presence of marine wildlife while they are performing their duties. There are a number of signs/indications of marine wildlife presence and each crew member will be responsible to maintain vigilance for those signs within the constraints of their project duties. Some of those indications are:

- a. Sounds - such as splashing, vocalizations (by animals and birds), and blowing (breathing).
- b. Visual indications - birds aggregating, changes in water character such as areas of rippled water, white water caused by splashing, changes in color or shape of the ocean surface,

1.3 Survey Schedule and Layout

The survey is scheduled to commence field activities on April 1, 2014 and is expected to take no more than two days. The survey will be conducted aboard the R/V Parke Snavelly out of Santa Cruz harbor and will cover an area of approximately 2 square kilometers off of Moss Landing, CA.

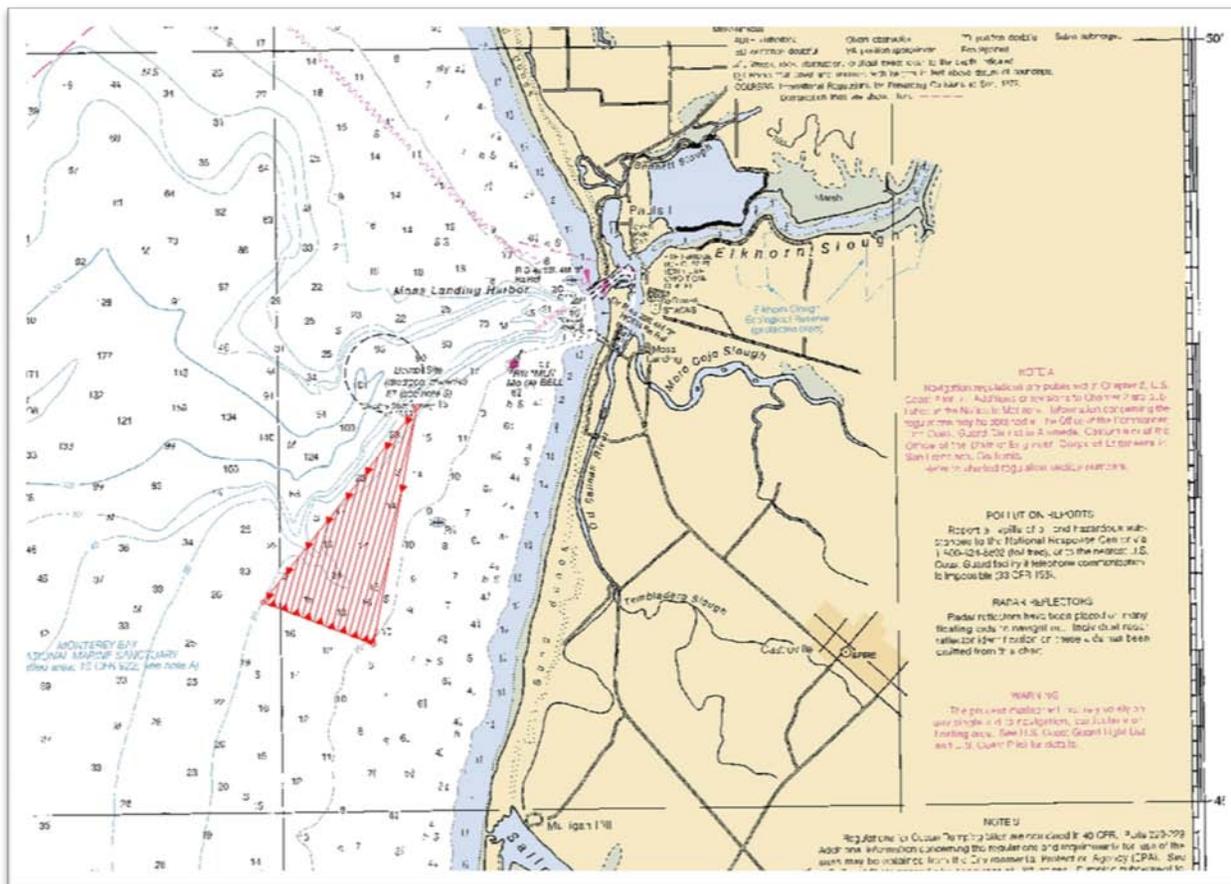


Figure 1. Regional Map of Survey Area

2.0 Survey Equipment and Activities

The survey vessel will be the R/V Parke Snavelly, a 36 foot long, aluminum-hulled catamaran owned and operated by USGS PCMGSC. Only daylight data collection will be conducted with the vessel returning to Santa Cruz harbor daily.

PCMG proposes to use the following equipment to collect the required data:

- SEA Swath Plus Phase Differencing Bathymetric Sonar Echo Sounder

The proposed survey will require the use of a marine vessel and in-water equipment that generate noise during data acquisition. The results of modeling of the noise generated by the survey equipment is shown in Table 1. Those results indicate that the area within which the 160 dB re: 1µPa rms sound level (the level specified by NOAA as potentially harmful to sensitive marine mammals) can be observed by monitors onboard the survey vessel.

Table 1. Distances to Received Pressure Levels from Equipment Sound Source

Sounder System	Frequency (kHz)	Source Level (dB peak)	Source Level (dB rms)	Distance to SL160 dBrms (meters)	Distance to SL 180 dB (rms) (meters)	Distance to SL190 dB (rms) (meters)
SEA Swath Plus Echo Sounder	234.5 kHz	216	200	50	9	3

These estimates are based on the underwater sound propagation equation:

$RSPL = SL - 20 \log(R/R_o) - AR$ where,
 RSPL= Recieved sound potential level
 SL= RMS source level re. 1 uPa (rms) based on manufacturer's specifications
 R= Distance
 Ro= Reference Distance (1 m)
 A= sound absorption coefficient

The greatest distance from the sound source to the 160 dB level (160 m) for the proposed equipment) is considered the "safety zone" for this equipment. However, because the operating frequency of 245 kHz is above the cutoff hearing threshold for marine mammals, CSLC has determined that the observance of the "safety zones" is not a requirement for this survey (personal communication, K. Keen, CSLC).

3.0 Marine Wildlife

3.1 Marine Wildlife

The following discusses the marine wildlife that have been recorded within the project region, those taxa that are most likely to be within the project region during the ROV survey, and methods that will be instituted by the vessel operator to reduce or eliminate potential impacts to marine wildlife during transit and survey operations. Assigned Marine Wildlife Observers (MWO), the vessel master and others in the vessel wheelhouse will watch for marine wildlife and will institute the aforementioned mitigations.

Table 2 provides information on the seasonal variations in the marine wildlife that are expected to be or have been reported within the Project area.

Table 2: Abundance Estimates for Marine Mammals and Reptiles of California Unless Otherwise Indicated

Common Name Scientific Name	Population Estimate	Current Population Trend
REPTILES		
Cryptodira		
Olive Ridley turtle <i>Lepidochelys olivacea</i>	1.39 million (Eastern Tropical Pacific)**	Increasing
Green turtle <i>Chelonia mydas</i>	3,319-3,479** (Eastern Pacific Stock)	Increasing
Loggerhead turtle <i>Caretta caretta</i>	1,000 (California)**	Decreasing
Leatherback turtle <i>Dermochelys coriacea</i>	178 (California)**	Decreasing
MAMMALS		
Mysticeti		
California gray whale <i>Eschrichtius robustus</i>	18,017 (Eastern North Pacific Stock)	Fluctuating annually
Fin whale <i>Balaenoptera physalus</i>	2,624 (California/Oregon/Washington Stock)	Increasing off California
Humpback whale <i>Megaptera novaeangliae</i>	1,878 (California/Oregon/Washington Stock)	Increasing
Blue whale <i>Balaenoptera musculus</i>	2,046 (Eastern North Pacific Stock)	Unable to determine
Minke whale <i>Balaenoptera acutorostrata</i>	202 (California/Oregon/Washington Stock)	No long-term trends suggested
Northern right whale <i>Eubalaena japonica</i>	17 (based on photo-identification) (Eastern North Pacific Stock)	No long-term trends suggested
Sei whale <i>Balaenoptera borealls</i>	83 (Eastern North Pacific Stock)	No long-term trends suggested
Odontoceti		
Short-beaked common dolphin <i>Delphinus delphis</i>	343,990 (California/Oregon/Washington Stock)	Unable to determine
Long-beaked common dolphin <i>Delphinus capensis</i>	17,127 (California Stock)	Unable to determine
Dall's porpoise <i>Phocoenoides dalli</i>	32,106 (California/Oregon/Washington Stock)	Unable to determine
Harbor porpoise <i>Phocoena phocoena</i>	1,478 (Morro Bay Stock)	Increasing
Pacific white-sided dolphin <i>Lagenorhynchus obllquidens</i>	21,406 (California/Oregon/Washington Stock)	No long-term trends suggested
Risso's dolphin <i>Grampus griseus</i>	4,913 (California/Oregon/Washington Stock)	No long-term trends suggested
Short-finned pilot whale <i>Globicephala macrorhynchus</i>	465 (California/Oregon/Washington Stock)	No long-term trends suggested
Bottlenose dolphin <i>Tursiops truncatus</i>	684 (California/Oregon/Washington Offshore Stock)	No long-term trends suggested
	290 (California Coastal Stock)	No long-term trends suggested
Northern right whale dolphin <i>Lissopelphis borealis</i>	6,019 (California/Oregon/Washington Stock)	No long-term trends suggested
Sperm whale <i>Physeter macrocephalus</i>	751 (California/Oregon/Washington Stock)	No long-term trends suggested
Killer whale <i>Orcinus orca</i>	85 (Eastern North Pacific Southern Resident Stock)	Decreasing
	162 (Eastern North Pacific Offshore Stock)	No long-term trends suggested

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 Marine Wildlife Mitigation Plan - Monterey Bay Fill-in

Pinnipedia		
California sea lion <i>Zalophus californianus</i>	141,842 (U.S. Stock)	Unable to determine; increasing in most recent three year period
Northern fur seal <i>Callorhinus ursinus</i>	5,395 (San Miguel Island Stock)	Increasing
Guadalupe fur seal <i>Arctocephalus townsendi</i>	3,028 (Mexico Stock) Undetermined in California	Increasing
Northern (Steller) sea lion <i>Eumetopias jubatus</i>	2,479 California Stock	Decreasing
Northern elephant seal <i>Mirounga angustirostris</i>	74,913	Increasing
Pacific harbor seal <i>Phoca vitulina richardsi</i>	31,600	Stable
Fissipedia		
Southern sea otter <i>Enhydra lutris nereis</i>	2,711*	Unable to determine

Estimates provided by National Marine Fisheries Service (NOAA Fisheries 2011) *

Estimate provided by USGS (2010)

** Estimates provided by National Marine Fisheries Service (NMFS) (2004), Marquez, et al. (2002), Eguchi et al. (2007), Benson et al. (2007), and NMFS (2007). Estimates are based on number of current numbers of nesting females.

During the transit periods, there is a potential for encountering marine wildlife and therefore onboard monitoring will occur. Table 3 lists those species that are likely to occur in the survey area

Table 3. Marine Wildlife Species and Most Likely Periods of Occurrence within the Survey Area

Family Common Name	Month of Occurrence ^{<1>}											
	J	F	M	A	M	J	J	A	S	O	N	D
REPTILES												
Cyrodira												
Olive Ridley turtle (T) ⁽²⁾												
Green turtle (T) ^{(1),(2)}												
Loggerhead turtle (T) ⁽²⁾												
Leatherback turtle (E) ⁽²⁾												
MAMMALS												
Mysticeti												
California gray whale												
Blue whale (E)												
Fin whale (E)												
Humpback whale (E)												
Minke whale												
Sei whale (E)												
Northern right whale (E)												
Odontoceti												
Short-beaked common dolphin												
Dall's porpoise												
Harbor porpoise												
Long-beaked common dolphin												
Pacific white-sided dolphin												
Risso's dolphin												
Sperm whale												
Short-finned pilot whale												
Bottlenose dolphin												
Northern right whale dolphin												
Killer whale												
Pinnipedia												
Northern fur seal ⁽³⁾												
California sea lion												
Northern elephant seal ⁽⁴⁾												
Pacific harbor seal												
Guadalupe fur seal (T)												
Steller sea lion												
Fissipedia												
Southern sea otter (T) ⁽⁵⁾												
Relatively uniform distribution												
	Not expected to occur						Most likely to occur due to seasonal distribution					

(E) Federally listed endangered species.

(T) Federally listed threatened species.

(1) Not Used

(2) Rarely encountered, but may be present year-round. Greatest abundance during July through September.

(3) Only a small percent occur over continental shelf (except near San Miguel rookery, May-November).

(4) Common near land during winter breeding season and spring molting season.

(5) Only nearshore (diving limit 100 feet).

Sources: Bonnell and Dailey (1993), NOAA Fisheries (2011), NCCOS (2007)

4.0 ONBOARD MITIGATIONS

4.1 Fishing Gear Clearance

In addition to submitting the required Notice to Mariners that will advise commercial fishers of pending on-water activities, prior to the start of each survey day, the vessel will traverse the proposed survey corridor for that day to note and record the presence of deployed fishing gear. No survey lines within 30 m (100 ft) of the observed fishing gear will be completed. The survey crew will not remove or relocate any fishing gear; removal or relocation will only be accomplished by the owner or by an authorized CDFG agent.

4.3 Marine Wildlife Monitors

At all times during survey activities, one to two marine wildlife monitors (MWOs) will be present on the vessel. The qualifications of the MWO is located in Appendix B of this document. The onboard MWO shall have the authority to stop operations if a mammal or turtle is observed is observed within the specified safety zone. The MWO will be present at the highest practical vantage point on the vessel and will use binoculars to observe the surrounding area. We are requesting to have one MWO instead of two present on our boat because of the small size of the vessel (36 ft. LOA) and because the CSLC has determined that, because the frequency of our bathymetric echo sounder is above the hearing range of marine mammals, we will not be required to observe the 160 dB safety zone for this operation. In addition, the addition of a second observer represent a fifth person on board would present a crowded condition in the vessel spaces and is a safety concern. We will make contact with the NOAA Long Beach office and local whale watching organizations prior to commencement of operations to acquire information on the current composition and abundance of marine wildlife offshore and convey sighting data to the vessel crew and MWOs prior to departure. The certification of MWOs is provided in Appendix A

4.3 Mitigations During Transit and Survey

The research vessel will transit during day-light hours from Santa Cruz harbor. During transits, there is a potential for encountering marine wildlife and onboard monitoring will be conducted by the MWOs, the vessel master and science crew. During transits the vessel will maintain a minimum distance of 100 m (1,640 ft.) from observed animals. If the vessel master observes a marine mammal within the path of the transiting vessel, they will immediately slow the vessel and/or change course in order to avoid contact.

Cetaceans (whales) vary in their swimming patterns and duration of dives and therefore all shipboard personnel will be watchful as the vessel crosses the path of a whale or anytime whales are observed in the area.

If whales are observed during transits, the vessel master will institute the following measures:

- Maintain a minimum distance of 100 m from sighted whales;

- Do not cross directly in front of or across the path of sighted whales;
- When transit directions is parallel to whale path, maintain constant speed that is not greater than the whales speed, or alter transit direction away from whale path;
- Do not position the vessel in such a manner to separate female whales from their calves;
- If a whale engages in evasive or defensive action, slow the vessel and move away from the animal until the animal calms or moves out of the area.

During survey operations, the vessel will maintain survey a speed of 5-8 knots and will maintain a heading that coincides with survey track lines. If marine wildlife is observed within the vicinity of the vessel, the vessel master will take precautions to avoid collision, ending and restarting the track line survey if necessary.

If a collision with marine wildlife occurs, the vessel master will document the conditions under which the accident occurred, including the following:

- Location of the vessel when the collision occurred (latitude and longitude);
- Date and time;
- Speed and heading of the vessel;
- Observed conditions (e.g., wind speed and direction, swell height, visibility in miles or kilometers, and presence of rain or fog);
- Species of marine wildlife contacted; and
- Organization, vessel ID and name of master in charge of the vessel at time of accident.

In accordance with NOAA requirements, after a collision, the vessel should stop, if safe to do so. The vessel may proceed after confirming that it will not further damage the animal by doing so. The vessel will then communicate by radio or telephone all details to the vessel's base of operations. The PCMG Marine Operations Superintendent will contact the Stranding Coordinator, NMFS, Southwest Region, Long Beach, to obtain instructions. Alternatively, the vessel captain may contact the NMFS Stranding Coordinator directly using the marine operator to place the call or directly from an onboard telephone, if available to:

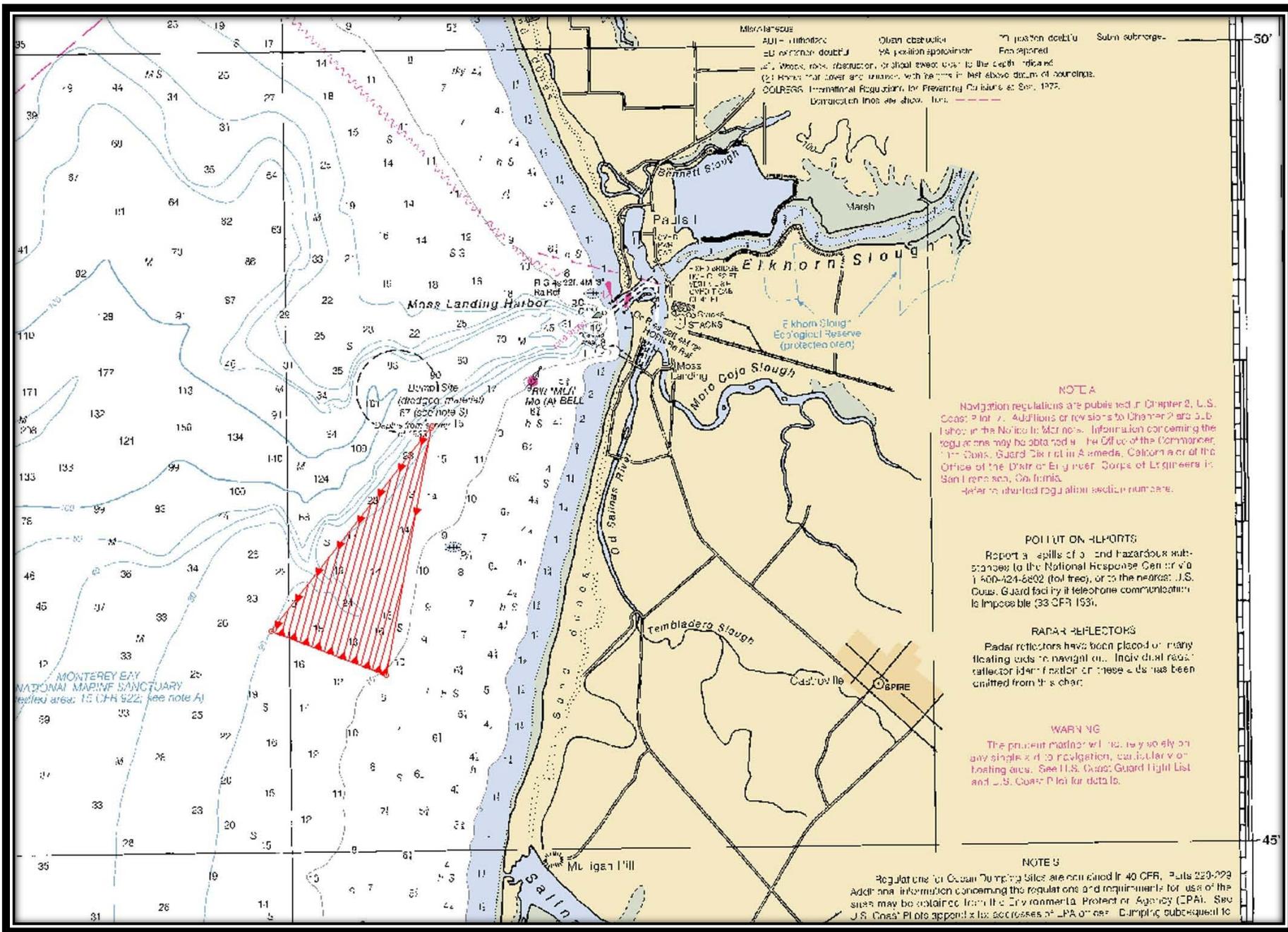
**NOAA Southwest Regional Stranding
Coordinator
National Marine Fisheries Service
501 West Ocean Blvd, Suite 4200
Long Beach, CA 90802-4213
562-980-4017
Contact: Sarah Wilkin
Email: sarah.wilkin@noaa.gov**

It is unlikely that the vessel will be asked to stand by until NOAA or CDFG personnel arrive, however this will be determined by the Stranding Coordinator. According to the MMPA,

the vessel operator is not allowed to aid injured marine wildlife or recover the carcass unless requested to do so by the NOAA Stranding Coordinator.

Although NOAA has primary responsibility for marine mammals in both state and federal waters, the CDFG will also be advised that an incident has occurred in state waters affecting a protected species. Reports should be communicated to the federal and state agencies listed below:

Federal Sarah Wilkin, Stranding Coordinator Southwest Region National Marine Fisheries Service Long Beach, California (562)980-4017	State Enforcement Dispatch Desk California Department of Fish and Game Long Beach, California (562)590-5132	State California State Lands Commission Mineral Resources Management Division Long Beach, California (562) 590-5071
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Regional Map of Survey Area

APPENDIX A: MARINE WILDLIFE OBSERVER CERTIFICATIONS

Since 2006, the USGS Pacific Coastal and Marine Science Center (PCMGSC) has provided trained marine mammal observers in support of low power geophysical surveys in California State Waters and Federal Waters under NOAA National Marine Fisheries (NMFS) jurisdictions. These surveys have been conducted under permit authorizations from California State Lands Commission (CSLC) (Permit# PRC 8394) and various NMFS Incidental Harassment Authorizations (IHAs) and Letters of Concurrence. PCMGSC has provided training for 17 of their staff research scientists and science and technical support staff as marine wildlife observers (MWO) to support our science programs geophysical surveys and meet our marine mammal mitigation obligations under pursuant to our CSLC and NMFS permit requirements.

The MWO training for our science and technical support staff is provided by Dr. James Harvey, a Professor of Marine Science at MLML and the Interim Director of MLML, and has taught courses on the biology and ecology of marine turtles, birds, and mammals for 22 years. Jim has advised more than 70 graduate students as they obtained their M.S. degree, and has all of the instructional material (handouts, identification manuals, slides, video, etc.) for teaching this workshop.

The training was conducted during a 2 day workshop at Moss Landing Marine Laboratories on the identification of marine mammal species, including handouts, slides, and video. All species of marine mammals in the area of planned USGS activities were discussed, their status and trends, and identifying features that allow species identification, and possibly differentiation between sexes and age classes. The workshop participants were instructed in the “normal” behaviors of marine mammals using visual explanations, slides, and video. A typical data sheet will be prepared and participants instructed how they would complete the data form. The rationale for the need for trained observers and importance of the data was emphasized. This training concluded with an observational cruise aboard an MLML vessel on Monterey Bay to observe the marine mammals discussed in the course in their natural setting and receive identification tips and other information in a field setting similar to that which they would expect during science operations.

PCMG Certified Marine Mammal Observers

<u>Observer Name</u>	<u>Staff Position</u>
Ginger Barth	Research Scientist
Jonathan Childs	Research Scientist
Guy Cochrane	Research Scientist
Jamie Conrad	Research Scientist
Theresa Fregoso	Science Support
Steven Hartwell	Science Support
Patrick Hart	Research Scientist
Sam Johnson	Research Scientist
Tom Lorenson	Science Support
Tom Parsons	Research Scientist
Carol Reiss	Science Support

USGS Pacific Coastal and Marine Geology Science Center
California Seafloor Mapping Program (CSMP) - Monterey Bay Swath Mapping Survey

<u>Observer Name</u>	<u>Staff Position</u>
Ray Sliter	Science Support
Mike Torresan	Science Support
Peter Triezenberg	Science Support
Steve Watt	Research Scientist
Pete Dal Ferro	Science Support - Vessel Master
Jenny White	Science Support - Vessel Master

**U.S. GEOLOGICAL SURVEY
PACIFIC COASTAL AND MARINE GEOLOGY SCIENCE CENTER**

**MANAGEMENT OF ACCIDENTAL DISCHARGE AND VESSEL INCIDENTS
DURING OFFSHORE GEOPHYSICAL SURVEYS**

1.0 INTRODUCTION

The survey operations will be conducted aboard the USGS Research Vessel Parke Snavelly, a 36 foot aluminum catamaran powered by twin Volvo Penta diesel engines. Because of the vessel's relatively small size, it is anticipated that response to any operational spills will be quickly identified and response will be initiated quickly and efficiently by the vessel master and on board designated vessel crew. At the initiation of each project or project phase, a spill management review will be conducted by the vessel master who is in all cases the responsible authority. Oil spills in United States (U.S.) marine waters shall be reported immediately.

2.0 OPERATIONAL SPILLS

Operational spills might involve one or more of the following substances carried on board the vessel: (i) fuel; (ii) lube oil; (iii) hydraulic oil; or (iv) waste oil. The vessel is equipped with a Buffalo Quick-Response Oil Spill Kit, which includes socks for fast spill containment (three 4" socks), woven polypropylene sheets (15 sheets) for rapid absorption of surface oil and protective gear, protective gloves (1 pair), disposal bag (1), and a set of instructions. This oil spill kit is located in the forward cabin of the vessel. This spill kit is rated to clean up 5 gallons of liquid. All of the liquids (listed below) that could cause a hazardous spill are either in the fuel tank or are located in the aft deck engine maintenance compartment of the vessel. Thus, if a spill occurred, these would be contained in the engine or maintenance compartments or, or if a grounding or instance occurred that punctured the gas tank, this would leak into the water, which is beyond the scope of our cleanup efforts. In the event a spill occurred in the engine compartment, the oil spill kit would be used to contain the hazardous liquids and the bilge would not be emptied until it could be pumped out at a hazardous waste facility. We do not anticipate a spill of greater than 5 gallons.

(i) Fuel:

A spill kit shall be available for use in the event of a spill. If the fuel is spilled on the deck, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

(ii) Lube oil:

A spill kit shall be available for use in the event of a spill. If the oil is spilled on deck or in the machinery space, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

(iii) Hydraulic oil:

A spill kit shall be available for use in the event of a spill. If the oil is spilled on deck or in the machinery space, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

(iv) Pipe leakage:

The vessel master shall check the piping and rubber hose daily for leakage. Where leakage is found, it shall be repaired immediately, in the event of leakage, the vessel deck engineer shall secure valve(s) at the appropriate tank before repairing the leak. Spilled fuel on the vessel shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

3.0 EMPLOYEE TRAINING ON OIL SPILL CONTINGENCY PLAN

Prior to the launching of the vessel for any activities, all captain and crew members on the vessel will have read the Oil Spill Contingency Plan, understand procedures to be implemented in the event of an oil spill, and know where the oil spill kit is located on the vessel.

4.0 VESSEL FUELING

All vessel fueling will be conducted at an approved docking facility. No cross vessel fueling will be performed. Appropriate spill avoidance measures during filling procedures will be observed.

5.0 PRIORITY ACTIONS TO ENSURE PERSONNEL AND VESSEL SAFETY

Safety of vessel personnel and the vessel are paramount. In the event that a crewman's injuries require outside emergency assistance, the PCMG safety officer shall be contacted immediately and emergency personnel contacted. While awaiting emergency assistance, the on board vessel master or qualified vessel crew personnel will render first aid and/or CPR. The nearest emergency medical facilities for this area is:

Dominican Hospital Emergency Department
1555 Soquel Dr, Santa Cruz, CA 95065
(831) 462-7710

6.0 MITIGATING ACTIVITIES

If safety of both the vessel and the personnel has been addressed, the vessel master shall care for the following issues:

- Assessment of the situation and monitoring of all activities as documented evidence.
- Care for further protection of the personnel, use of protective gear, assessment of further risk to health and safety.
- Containment of the spilled material by absorption and safe disposal within leak proof containers of all used material onboard until proper delivery ashore, with due consideration to possible fire risk.
- Decontamination of personnel after finishing the cleanup process.

All personnel shall refer to the MSDS's on board for additional information.

7.0 EMERGENCY CONTACTS FOR STATE AND FEDERAL AGENCIES

Emergency numbers for U.S.C.G. for the San Francisco and Central Coast Areas are:

Pacific SAR Coordinator - Alameda: 510-437-3700

Rescue Coordination Center, Alameda: 510-437-3700

Any oil spill in U.S. marine waters shall be reported immediately to the following state and agencies:

West Coast Oil Spill hot-line	800-OELS-911, <i>or</i>
Department of Fish and Game CalTIP	888-CFG-CALTip
(Californians Turn In Poachers & Polluters)	(888-334-2258). <i>and</i>
U.S. Coast Guard National Response Center	800-424-8802
California Office of Emergency Services (OES)	800-OILS-911 or 800-852-7550.

During the phone call, the following information will be given over the phone.

- a. Name and telephone number of caller.
- b. Spill location
- c. What was spilled (oil, gas, diesel, etc.)
- d. Estimated size of spill
- e. The date & time spill was identified (same day).
- f. Any oiled or threatened wildlife
- g. Source of spill, if known
- h. Activity observed at the spill site

After taking the necessary actions, the spill will be reported in writing to the Governor's Office of Emergency Services on their forms.

Additionally, California Department of Fish and Game certified wildlife rescue/response organizations will be contacted about the spill. In the Southern California area, these include the following contacts:

*US Geological Survey - Pacific Coastal and Marine Geology Science Center
Oil Spill Contingency Plan - Monterey Bay Fill-in*

Oiled Wildlife Care Network
1-877-UCD-OWCN

Animal Advocates
323-651-1336

California Wildlife Center
310-458-9453

South Bay Wildlife Rehab
310-378-9921

**U.S. GEOLOGICAL SURVEY
PACIFIC COASTAL AND MARINE GEOLOGY SCIENCE CENTER
GEOPHYSICAL SOUND SOURCE SYSTEMS MAINTENANCE RECORD**

SWATH Plus 234.5 kHz Interferometric Mapping Echo Sounder

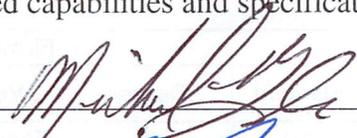
1.0 Introduction

The USGS Pacific Coastal and Marine Geology Science Center (PCMGSC) owns and operates a broad range of geophysical sound sources, seafloor mapping systems, geologic and geotechnical sediment sampling systems, and oceanographic instrument systems. This requires considerable technical and operational support to successfully undertake and complete its field programs. Operational and technical support for these systems is provided by the PCMG Marine Operations Facility (Marfac) in Santa Cruz, CA. Our Marfac group is staffed by a team of ten ocean engineers, electronics technicians, and marine engineering technicians. They operate, maintain and repair all geophysical and oceanographic systems used to support all of PCMGSC's scientific field operations.

The USGS-owned SWATHplus 234 mapping sonar is owned and operated by USGS Pacific Coastal and Marine Geology Science Center (PCMGSC). This system has been thoroughly checked, tested and calibrated according to the manufacturer's (SEA Ltd.) recommended procedures. This system is comprised of the transducer interface (TIU) unit Ser # 10011 which itself houses two transducer electronics module (TEMs) Ser # 2115 and 2107; and the two actual sonar transducers on a mount with fixed deck-leaders. The results of this evaluation confirms the SWATHplus 234 system to be operating at SEA's stated specifications in all regards.

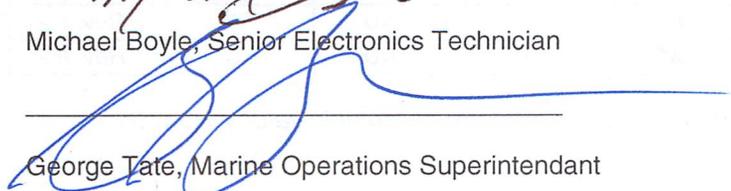
System checkout includes physical inspection of all components, cables, connectors and electronics for any signs of corrosion, wear or damage, all necessary cleaning and full functionality checks. Complete disassembly, cleaning, re-assembly of the TEMs followed by precise calibration and check of all Phase Offsets. Transducer capacitance and insulation tests for proper operation and any possible sign of transmitter or receiver degradation.

These procedures were followed by a full at-sea check of all system parameters in order to confirm system performance meets specs. The Swath Plus 234 is fully compliant with SEA stated capabilities and specifications.



Michael Boyle, Senior Electronics Technician

3-5-14
Date



George Tate, Marine Operations Superintendent

3-5-14
Date

SYSTEM CHECKOUT LIST

Date: 2/25/2014

Inspecting Technician: Michael Boyle

Operational Elements	Condition Flag	Comments
Physical condition, inside and out	OK	Good condition
Condition of connectors	OK	Good condition
Clean dust from fans	OK	Completed
Clean all connectors to ensure good contact	OK	All contacts clean
Check supply voltages	OK	Complete
Inspect cables and wires (wear on insulation, signs of damage, etc.)	OK	All cables in good repair
Remove the TEMs and take off the top of the cans	OK	Completed
Inspect the age and version, and comment on state and any issues with the hardware (e.g. known problems with later versions of TEM boards)	OK	Latest version Rev. 8.2 confirmed
Actual phase offsets after calibration recorded	OK	Phases recorded
Check cable runs, avoiding sources of wear and electrical interference.	OK	Completed
Screw-lock to hold nuts, screws, etc. in place	OK	Completed
Check transducers and cables for signs of wear and damage and possible water ingress	OK	Transducers dry and clean, no excessive wear
	OK	
Biological growth on transducer faces	OK	Transducer faces clean
Check connectors for signs of wear, damage and corrosion. Clean the pins if necessary.	OK	Completed
Check electrical connections using capacitance and "Megger" insulation tests from the transducer connectors	OK	Completed
Replace any sacrificial anodes, connector and housing seals, etc.	OK	Completed

Phase Offset Measurements

TEMS		Phase Offsets						Firmware
Side	Serial Number	Element	* Degrees	Element	* Degrees	Element	* Degrees	Ver.
Port	2115	AB	0	AC	1	AD	0	Rev. 8.2
Stbd	2107	AB	0	AC	0	AD	0	Rev. 8.2

*Nominal phase offset values are balanced across port and starboard; acceptable values are within 5 degrees.

Phase Offset Measurements

Stave	Port Transducer				Stbd Transducer			
	Pins	Nominal μf	Measured μf	*Within Spec.	Pins	Nominal μf	Measured μf	*Within Spec.
TX	D-E	0.0071	0.0071	X	D-E	0.0069	0.0069	X
	C-D	4.48	4.48	X	C-D	4.4	4.4	X
	C-E	4.53	4.53	X	C-E	4.39	4.39	X
A	A-B	0.0072	0.0072	X	D-E	0.0077	0.0077	X
	R-A	4.47	4.47	X	C-D	4.48	4.48	X
	R-B	4.54	4.54	X	C-E	4.52	4.52	X
B	P-N	0.0074	0.0074	X	D-E	0.007	0.007	X
	M-P	4.54	4.54	X	C-D	4.44	4.44	X
	M-N	4.53	4.53	X	C-E	4.5	4.5	X
C	L-K	0.0077	0.0077	X	D-E	0.0076	0.0076	X
	J-K	4.49	4.49	X	C-D	4.67	4.67	X
	J-L	4.53	4.53	X	C-E	4.56	4.56	X
D	H-G	0.0075	0.0075	X	D-E	0.0076	0.0076	X
	F-H	4.48	4.48	X	C-D	4.5	4.5	X
	F-G	4.48	4.48	X	C-E	4.48	4.48	X

*Nominal capacitance values are balanced across all transducer staves; acceptable values are within 20 percent of adjacent staves.

CALIFORNIA AIR RESOURCES BOARD TIER 2 ENGINE CERTIFICATION

MM-AIR-1: Engine Tuning, Engine Certification, and Fuels

The following information is provided as required for compliance with Mitigation Measure (MM) AIR-1: *Engine Tuning, Engine Certification, and Engine Fuels*. The USGS Research Vessel Parke Snively is a 36 ft., 2007 catamaran work boat. The vessel was built for USGS by Armstrong Marine in Port Angeles, WA and was delivered with two Volvo Penta D6-310 HP diesel engines. These engines comply with IMO NOx limits and the comprehensive emission requirements (EU RCD and US EPA Tier 2, rating 5 Marine Leisure and rating 4 Marine Commercial).

Regarding the NOx emissions, MM AIR-1 states that daily NOx emissions should not exceed 100 pounds based on engine certification emission factors. This can be accomplished with Tier 2 engines if daily fuel use is 585 gallons or less. This vessel only holds 150 gallons and has an efficiency of about 2 miles per gallon. Thus, on our survey, we expect to cover approximately 10-15 miles total, for an estimated maximum fuel consumption of 30 gallons.

The manufacturer's specifications for these engines is provided below.

Life- and Rescue Boat Propulsion Engines

D4/D6 SOLAS

132-272 kW (180-370 hp) crankshaft power acc. to ISO 8665

New powerful D4/D6 SOLAS range

Volvo Penta has now introduced a new powerful SOLAS approved range for use in fast rescue boats, lifeboats and tender boats: the D4-180, D4-225, D4-260, D6-280, D6-310, D6-330, and D6-370 common rail marine diesel engines with rating 4 and 5 power settings. The engines are SOLAS approved for both inboard, waterjet and sterndrive propulsion.



Designed to withstand the tough Life- and Rescue boat environment

The D4/D6 Life- and Rescue boat engines are designed to comply with the requirements in the following regulations and standards:

- Council Directive 96/98/EC, as amended by Commission Directive 2002/75/EC
- SOLAS 74 Convention, as amended, Reg. III/4 and Reg. III/34
- LSA Code
- IMO Resolution MSC. 48(66)
- IMO Res. MSC. 81(70), Part 1, paras. 6.10.2 to 6.10.6 and 6.14.6 to 6.14.8.
- U.S.C.G.

SOLAS specifications

The SOLAS regulations specify the following demands for the engine:

- Withstand free fall of the lifeboat from 3 meters
- Withstand a lateral impact of 3.5 m/s of the lifeboat
- Stop automatically on capsizing and easily restart
- Fuel and lubricating systems shall prevent the loss of fuel and oil during capsizing
- Work submerged in water to the crankshaft centerline
- Work for not less than 5 min. after starting cold with the lifeboat out of the water

- Run properly at an angle of up to 10° trim and an angle of up to 20° list, either way
- Manual starting system or power starting system with two independent sources
- The lifeboat engine shall be designed to limit electromagnetic emissions
- The engine to be started without heater down to -15°C (-30°C with heater)

Standard high performance engines

All SOLAS engines are based on standard engine designs with SOLAS kits mounted and are tested in factory before delivery to boat builders. The major changes are a new position of the existing alternator and a new crankcase ventilation shutoff valve.

The design will extend the engine by approx. 270 mm in fore end to accommodate the new position of the alternator. The void space can be used to accommodate the batteries, as usual. See the drawing on page 2 for more information regarding dimensions of the SOLAS kit for D4/D6.

The SOLAS kit also includes a tilt switch, to be mounted on the engine bulkhead.

The base engine mounts are originally designed for high G-forces. Thus, there is no need for extra reinforcement for fast rescue boats and lifeboat applications to meet the SOLAS demands.

EVC for full control in all situations

All engines are equipped with EVC-C, the latest development in engine control and instrumentation for Volvo Penta marine engines, for easy installation and easy handling.

A propulsion package fully matched, tested and supported by one company

The engines and the drives are developed and produced by Volvo Penta, and the service of the engines will be well taken care of by more than 5,000 Volvo Penta commercial and leisure dealers around the world.

Meeting new emission standards

The common rail injection system in combination with electronics and an advanced combustion system are setting new standards in minimizing noxious emissions and particulates. The engines comply with IMO NOx limits and the comprehensive emission requirements EU RCD and US EPA Tier 2 rating 5 Marine Leisure, rating 4 Marine Commercial).

Certificate

The engines will be delivered with a certificate and marked with a wheelmark in accordance with the MED/SOLAS regulations.

D4/D6 SOLAS

Technical description

For full technical information and performance data for the D4 and D6 engines, please see the product bulletins and technical data sheets for the selected power setting and model of D4 and D6 engine family.

Technical Data

Crankshaft power + dry weight BT inboard

D4-180:	
@ 2800 rpm, kW (hp)	132 (180)
kg (lb)	482 (1063)
D4-225:	
@ 3500, kW (hp)	165 (225)
kg (lb)	482 (1063)
D4-260:	
@ 3500 rpm, kW (hp)	191 (260)
kg (lb)	482 (1063)
D6-280:	
@ 3500 rpm, kW (hp)	206 (280)
kg (lb)	580 (1279)
D6-310:	
@ 3500 rpm, kW (hp)	228 (310)
kg (lb)	580 (1279)
D6-330:	
@ 3500 rpm, kW (hp)	243 (330)
kg (lb)	580 (1279)
D6-370:	
@ 3500 rpm, kW (hp)	272 (370)
kg (lb)	580 (1279)

Battery

Minimum requirements for cold start:

- 12V, 1150 CCA for D4 engines
- 12V, 2300 CCA for D6 engines

Cold starting device

2 kW engine coolant heater to be installed for coldstarts below -15°C (down to -30°C)

Reverse gear

- Reverse gear with matched drop center and 8° down angle for compact installation and minimum propeller shaft angle.
- Bevel gears which results in smooth running at all speeds
- Hydraulically operated clutch for smooth shifting
- Electrical shifting performed by electro-magnetic valves
- Seawater-cooled oilcooler

Waterjet

- For selection of waterjet please contact your waterjet dealer.

Sterndrive DPH/DPR

- Complete with transom shield, and installation components
- Max tilt angle 50° (adjustable)
- Protective zinc anodes to prevent corrosion
- Built-in kick-up function to reduce possible damage, in the event the drive strikes an underwater object
- Electrical shifting performed by electronic actuator
- Power Trim with one-button operation in twin installation
- Fully integrated water inlet and exhaust system
- Fully hydraulic power-assisted steering system
- Isolated propellers to prevent corrosion

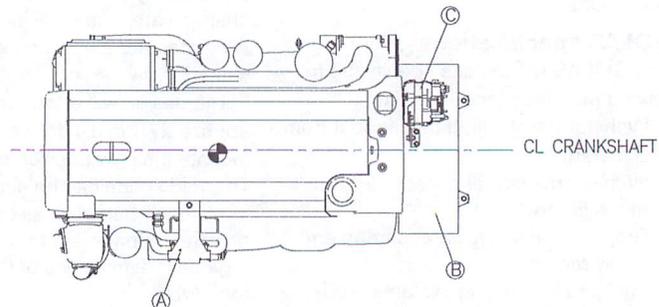
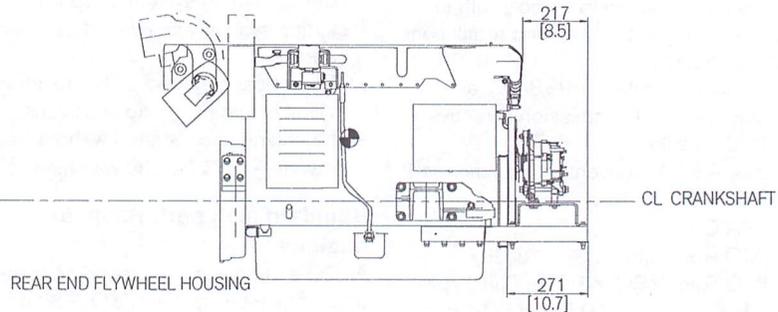
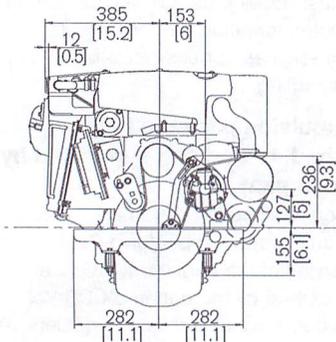
Contact your local Volvo Penta dealer for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Dimensions

Dimensions shown are additional dimensions for SOLAS kit on D4 and D6. Not for installation. For more dimensions, please refer to the respective product bulletin and installation drawing.



- Ⓐ CRANKCASE VENTILATION
- Ⓑ UNIVERSAL BRACKET
- Ⓒ NEW PLACEMENT FOR ALTERNATOR

VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

George Tate

From: George Tate
Sent: Wednesday, March 05, 2014 4:10 PM
To: 'slcogpp@slc.ca.org'; 'D11LNM@uscg.mil'
Cc: 'Greenwood, Richard@SLC'; 'Keen, Kelly@SLC'
Subject: Pre-survey Notice of Geophysical Survey Operations on Monterey Bay - Geophysical Coordinator and Notice to Mariners
Attachments: CSLC EXHIBIT F - Monterey Bay Fill-in.docx

PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY

The USGS Pacific Coastal and Marine Geology Science Center (PCMGSC) will be conducting a high resolution swath bathymetric survey of a ~2 km square area off of Moss Landing, CA at the southern edge of Monterey Canyon under California State Lands Permit #8394. The operations to be conducted will be a swath bathymetric survey using vessel pole mounted SEA Swath Plus echo sounder. The survey will be conducted from April 1-5, 2014. Our vessel is the USGS research vessel Park Snavely, a 36 foot aluminum Armstrong catamaran hull vessel. We will be flying day shapes required by the US Coast Guard during survey operations.

In keeping with our California State Lands Permit requirements, we are providing you with the attached Geophysical Presurvey Notice for your information.

Best regards,

George Tate
Deputy Center Director for Operations
Pacific Coastal and Marine Geology
U.S. Geological Survey
Pacific Science Center
400 Natural Bridges Drive, Santa Cruz, CA 95060

831.460.7484 voice
831.421.9209 FAX
831.234.7399 cell

George Tate

From: George Tate
Sent: Wednesday, March 05, 2014 4:10 PM
To: 'cizenstark@santacruzharbor.org'; 'razzeca@mosslandingharbor.dst.ca.us';
'mcintyre@mosslandingharbor.dst.ca.us'; 'scheibla@ci.monterey.ca.us'
Cc: 'Greenwood, Richard@SLC'; 'Keen, Kelly@SLC'
Subject: Pre-survey Notice of Geophysical Survey Operations on Monterey Bay - Harbor Masters
Attachments: CSLC EXHIBIT F - Monterey Bay Fill-in.docx

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Deputy Center Director for Operations
Pacific Coastal and Marine Geology
U.S. Geological Survey
Pacific Science Center
400 Natural Bridges Drive , Santa Cruz, CA 95060

831.460.7484 voice
831.421.9209 FAX
831.234.7399 cell

George Tate

From: George Tate
Sent: Wednesday, March 05, 2014 4:10 PM
To: 'info@aquariusdivers.com'; 'tascuba@live.com'; 'info@asudoit.com';
'infomb@sevensescuba.com'; 'dive@aquarius2.com'; 'dive@silverprincecharters.com';
'dave@montereyblue.com'; 'info@mbdcscuba.com'; 'info@montereybaydiving.com'
Cc: 'Greenwood, Richard@SLC'; 'Keen, Kelly@SLC'
Subject: Pre-survey Notice of Geophysical Survey Operations on Monterey Bay - Dive Shops
Attachments: CSLC EXHIBIT F - Monterey Bay Fill-in.docx

PRE SURVEY NOTIFICATION FOR GEOPHYSICAL SURVEY

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Best regards,

George Tate
Deputy Center Director for Operations
Pacific Coastal and Marine Geology
U.S. Geological Survey
Pacific Science Center
400 Natural Bridges Drive, Santa Cruz, CA 95060

831.460.7484 voice
831.421.9209 FAX
831.234.7399 cell

George Tate

From: George Tate
Sent: Thursday, March 06, 2014 10:21 AM
To: 'monica.deangelis@noaa.gov'
Cc: 'Greenwood, Richard@SLC'; 'Keen, Kelly@SLC'
Subject: Marine Wildlife Observers Certifications
Attachments: PCMG Mammal Observer Training Certification.pdf

Hi Monica,

Kelly Keen tells me that you will be the reviewer for our MWOs for our geophysical surveys permitted by the State Lands Commission. We have been conducting geophysical surveys in State and Federal Waters under permits from NOAA (IHA's and Letters of Concurrence) and CSLC (Permit # PRC9384) since 1998 using MWO's trained by Dr. James Harvey at Moss Landing Marine Labs. These MWOs are USGS research scientists and technical science support staff that have undergone training to support our scientific field operations. The training was provided under a contract with the provider. Attached is our certification notice for our MWOs for your review.

Thank you for your help with this process.

Sincerely,

George Tate
Deputy Center Director for Operations
Pacific Coastal and Marine Geology
U.S. Geological Survey
Pacific Science Center
400 Natural Bridges Drive, Santa Cruz, CA 95060

831.460.7484 voice
831.421.9209 FAX
831.234.7399 cell

George Tate

From: Monica DeAngelis - NOAA Federal
Sent: Thursday, March 06, 2014 11:16 AM
To: George Tate
Cc: Greenwood, Richard@SLC; Keen, Kelly@SLC
Subject: Re: Marine Wildlife Observers Certifications

Follow Up Flag: Follow up
Flag Status: Flagged

Hi George,

If all of these folks listed in the document attended the training and feel confident that they can identify marine mammals, changes in behavior, etc. then things appear fine. Please let me know if you have further questions.

Cheers,

Monica

On Thu, Mar 6, 2014 at 10:21 AM, George Tate <gtate@usgs.gov> wrote:

Hi Monica,

Kelly Keen tells me that you will be the reviewer for our MWOs for our geophysical surveys permitted by the State Lands Commission. We have been conducting geophysical surveys in State and Federal Waters under permits from NOAA (IHA's and Letters of Concurrence) and CSLC (Permit # PRC9384) since 1998 using MWO's trained by Dr. James Harvey at Moss Landing Marine Labs. These MWOs are USGS research scientists and technical science support staff that have undergone training to support our scientific field operations. The training was provided under a contract with the provider. Attached is our certification notice for our MWOs for your review.

Thank you for your help with this process.

Sincerely,

George Tate
Deputy Center Director for Operations

Pacific Coastal and Marine Geology

*U.S. Geological Survey
Pacific Science Center
400 Natural Bridges Drive, Santa Cruz, CA 95060*

831.460.7484 voice
831.421.9209 FAX
831.234.7399 cell

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Monica L. DeAngelis

Marine Mammal Biologist

NOAA Fisheries West Coast Region

U.S. Department of Commerce

Office: 562-980-3232

Fax: 562-980-4027

Monica.DeAngelis@noaa.gov

To report whale sightings in California: whales@noaa.gov

www.westcoast.fisheries.noaa.gov



Keen, Kelly@SLC

From: George Tate <gtate@usgs.gov>
Sent: Monday, March 17, 2014 11:36 AM
To: Keen, Kelly@SLC
Cc: DeLeon, Jennifer@SLC; Oggins, Cy@SLC; Fabel, Joe@SLC; Greenwood, Richard@SLC; Basavalinganadoddi, Chandrashekar@SLC
Subject: RE: Presurvey Notification and Contingency Plans

Hi Kelly,

Thank you for your confirmation of our Presurvey Notification materials and clarification regarding mammal observers. The vessel master will be Peter Dal Ferro. The cruise chief will be Peter Dartnell. Our observations are automated; when there is a sighting, the systems operator (attending electronics engineer) makes an observation entry by hitting a function key on the navigation computer and fills in the observation data in the text field. This text file contains the species, number, time, behavior, ships position and vessel activity and is used to generate a GIS map of observations by event number for the post survey report.

Thanks for your help. It's been great working with you as we map our way through the new permitting process. Let me know if you have any questions.

Cheers,

George

George Tate
Deputy Center Director for Operations
Pacific Coastal and Marine Geology
U.S. Geological Survey
Pacific Science Center
400 Natural Bridges Drive, Santa Cruz, CA 95060

831.460.7484 voice
831.421.9209 FAX
831.234.7399 cell

From: Keen, Kelly@SLC [mailto:Kelly.Keen@slc.ca.gov]
Sent: Friday, March 14, 2014 4:54 PM
To: gtate@usgs.gov
Cc: DeLeon, Jennifer@SLC; Oggins, Cy@SLC; Fabel, Joe@SLC; Greenwood, Richard@SLC; Basavalinganadoddi, Chandrashekar@SLC
Subject: RE: Presurvey Notification and Contingency Plans

Hi George,

Thank you for providing the Presurvey Notification materials for USGS's upcoming geophysical survey – everything looked good.

Since your submission last week, I have been reviewing the mitigation measures established for geophysical equipment operated above 200 kHz in the Atlantic G & G PEIS. After corresponding with NOAA (Howard Goldstein, Office of Protected Resources) via email this afternoon, it was explained to me that NOAA does not require exclusion/safety zones to be monitored, protected species observers, or startup/shut down requirements for surveys when the only geophysical equipment being used is operated above 200 kHz (above the known functional hearing range of marine mammals). That being said, you do not need a designated MWM aboard the vessel for this survey, and the captain/crew can act as "stand-ins" to observe for marine wildlife (to avoid collision/entanglement). However, we do ask that either the captain or a member of the crew provide a summary report about marine mammal sightings/encounters (species, number, time, lat/long, behavior, activity of survey vessel, etc.) for the Post Survey Report. If you do choose to utilize the captain/crew, could you please provide a brief summary/statement about who will observe for marine wildlife and record sightings information, and I will include that with your Presurvey Notification materials.

Thank you, again, for your continued cooperation as we iron out the details of implementing the updated OGPP and Mitigation Monitoring Program during this first year. If you have any questions or need clarification, please let me know.

Best,

Kelly

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From: George Tate [<mailto:gtate@usgs.gov>]
Sent: Thursday, March 06, 2014 3:19 PM
To: Greenwood, Richard@SLC; Keen, Kelly@SLC; SLCOGPP@SLC
Cc: gtate@usgs.gov
Subject: Presurvey Notification and Contingency Plans

Richard,

Please find attached our pre-survey notification package including our marine mammal and oil spill contingency plans, CARB Tier 2 and equipment maintenance certifications as required under our SLC Permit #8394 for a bathymetric survey in Monterey Bay, CA April 1-5, 2014. Also included are copies of our pre-survey communications with NOAA, US Coast Guard, and local harbor masters and dive shops in the area. Please let me know if you have any questions.

Cheers,

George

George Tate
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