

EcoSystems Management Associates, Inc.

Oceanographic, Geophysics and Underwater Engineering Services

30 November 2015

Ms. Kelly Keen
Environmental Scientist
100 Howe Avenue, Suite 100 South
Sacramento CA 95825-8202

Subject: Proposed Geophysical Survey Offshore of San Clemente at San Onofre

Dear Ms. Keen:

Please find attached our pre-survey requirements for a geophysical survey offshore of San Clemente at San Onofre Nuclear Generating Station (SONGS). This survey will include a multibeam sonar survey and a side scan survey. Equipment will include a Kongsberg EM3002 dual multibeam sonar, side scan sonar, a sound velocity profiler, and a DGNS positioning and attitude system. Equipment specifications for the sonar equipment are in Exhibit F. The purpose of this survey is to determine areas of hard substrate nearby the intake and discharge systems.

The purpose of this survey is to determine areas of hard substrate nearby the intake and discharge systems. Enclosed in this application you will find: 1) Exhibit F (Notification of Geophysical Survey Equipment Used), 2) the Marine Wildlife Contingency Plan (which covers the MM BIO 1-9 specifications listed in Exhibit H), 3) the Oil Spill Contingency Plan (which covers the MM HAZ-1 –3 specifications listed in Exhibit H), 4) Verification of equipment service and/or maintenance and sound output, 5) Copies of certified mail sent to recipients indicated in Exhibit E, and 6) the Exhibit G Checklist.

The proposed survey will be conducted offshore of the City of San Clemente, between 10 to 50 feet water depths. Figures 1 and 2 show the location of the survey area and the proposed track lines respectively. Table 1 gives the GPS coordinates of each track line.

The target dates for the survey will likely be between either December 22nd and 23rd, 2015 or January 6th and 7th, 2016. The variability in dates is due to unpredictable weather conditions at that time of year. Survey activities will only be conducted during daylight hours. Ecosystems Management Associates, Inc. (ECO-M) maintains a permit for conducting offshore geophysical surveys with the California State Lands Commission and provides pre-cruise information required by the State for minimizing impacts to marine life. Furthermore, survey timing and location are coordinated with local government agencies and fisheries to avoid interference with recreational and commercial boating.

New amendments to Safety Zone Monitoring (Condition 7(i) and MM BIO-3) specify that the monitoring of safety zones for surveys using passive geophysical equipment and surveys where any and all active geophysical equipment is operated at frequencies ≥ 200 kHz are no longer required. During this survey, we plan to use only high frequency equipment (≥ 200 kHz, see Exhibit F). Thus, safety zone monitoring is not required. However, ECO-M staff will still

implement safety measures to ensure marine mammals are not disturbed or injured during survey activities. Because safety zone monitoring is not required for this survey, and due to the small size of the ECO-M vessel (27'), we are proposing an exemption from the MWM requirement. Instead, we propose to utilize a crew member to perform these functions. Our crew has many years of experience performing sonar surveys. Despite the absence of a MWM, crew members will still implement safety measures to ensure marine mammals are not disturbed or injured during survey activities. These measures are outlined in the Marine Wildlife Contingency Plan, which all crew members will be required to read.

Sincerely,



ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.

Hany Elwany, Ph.D.
President

Attachments (Electronic):

- a. Exhibit G checklist
- b. Exhibit F
- c. Marine Wildlife Contingency Plan
- d. Oil spill Contingency Plan
- e. Verification of Equipment Service and/or Maintenance and Sound Output
- f. Copies of certified mail sent to recipients indicated in Exhibit E.



Figure 1. Map showing location of the proposed geophysical survey offshore of San Clemente at San Onofre. The survey area is shown in the white box. GPS coordinates mark the outside boundaries of the survey area.

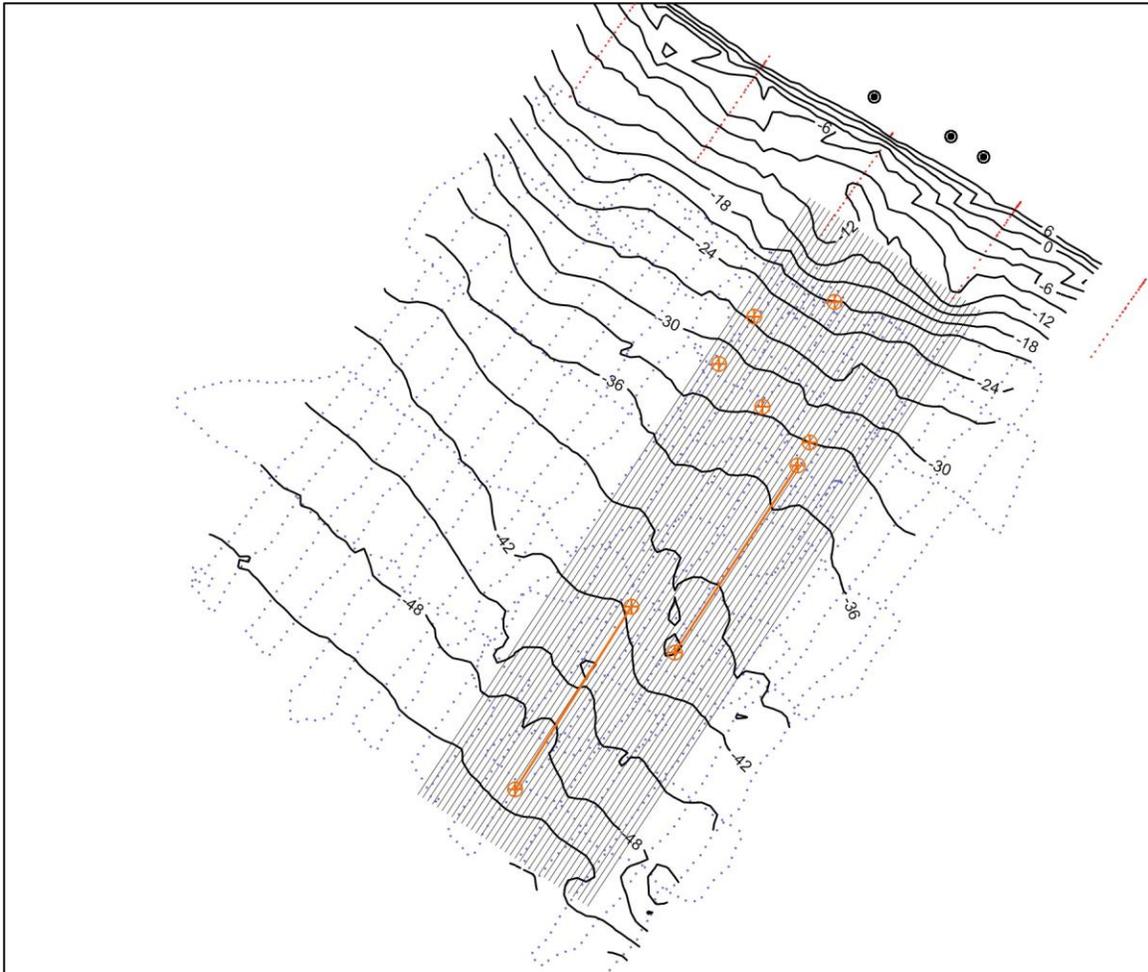


Figure 2. Map showing the bathymetry and survey lines to be completed for the proposed geophysical survey offshore of San Clemente at San Onofre.

Table 1. GPS Coordinates (NAD83) for the start and end points of each survey line.

Line	Lat Start	Long Start	Lat End	Long End
1	33.3484990819-N	117.5748822097-W	33.3671805685-N	117.5606333530-W
2	33.3484018762-N	117.5747012242-W	33.3670833423-N	117.5604523447-W
3	33.3483046703-N	117.5745202391-W	33.3669861159-N	117.5602713369-W
4	33.3482074642-N	117.5743392545-W	33.3668888892-N	117.5600903294-W
5	33.3481102577-N	117.5741582702-W	33.3667916622-N	117.5599093223-W
6	33.3480130510-N	117.5739772863-W	33.3666944350-N	117.5597283156-W
7	33.3479158440-N	117.5737963029-W	33.3665972075-N	117.5595473094-W
8	33.3478186368-N	117.5736153198-W	33.3664999798-N	117.5593663035-W
9	33.3477214293-N	117.5734343372-W	33.3664027518-N	117.5591852980-W
10	33.3476242216-N	117.5732533549-W	33.3663055235-N	117.5590042930-W
11	33.3475270135-N	117.5730723731-W	33.3662082949-N	117.5588232883-W
12	33.3474298053-N	117.5728913916-W	33.3661110661-N	117.5586422841-W
13	33.3473325967-N	117.5727104106-W	33.3660138371-N	117.5584612802-W
14	33.3472353879-N	117.5725294299-W	33.3659166077-N	117.5582802768-W
15	33.3471381788-N	117.5723484497-W	33.3658193781-N	117.5580992737-W
16	33.3470409695-N	117.5721674699-W	33.3657221483-N	117.5579182711-W
17	33.3469437599-N	117.5719864904-W	33.3656249181-N	117.5577372688-W
18	33.3468465500-N	117.5718055114-W	33.3655276878-N	117.5575562670-W
19	33.3467493399-N	117.5716245327-W	33.3654304571-N	117.5573752655-W
20	33.3466521295-N	117.5714435545-W	33.3653332262-N	117.5571942645-W
21	33.3465549188-N	117.5712625767-W	33.3652359950-N	117.5570132639-W
22	33.3464577079-N	117.5710815993-W	33.3651387636-N	117.5568322636-W
23	33.3463604967-N	117.5709006222-W	33.3650415318-N	117.5566512638-W
24	33.3462632852-N	117.5707196456-W	33.3649442999-N	117.5564702644-W
25	33.3461660735-N	117.5705386694-W	33.3648470676-N	117.5562892653-W
26	33.3460688615-N	117.5703576936-W	33.3647498351-N	117.5561082667-W
27	33.3459716493-N	117.5701767182-W	33.3646526024-N	117.5559272685-W
28	33.3458744368-N	117.5699957431-W	33.3645553693-N	117.5557462707-W
29	33.3457772240-N	117.5698147685-W	33.3644581360-N	117.5555652733-W
30	33.3456800110-N	117.5696337943-W	33.3643609025-N	117.5553842762-W
31	33.3455827977-N	117.5694528205-W	33.3642636687-N	117.5552032796-W
32	33.3454855841-N	117.5692718471-W	33.3641664346-N	117.5550222834-W
33	33.3453883703-N	117.5690908741-W	33.3640692002-N	117.5548412876-W
34	33.3452911562-N	117.5689099015-W	33.3639719656-N	117.5546602922-W
35	33.3451939418-N	117.5687289293-W	33.3638747307-N	117.5544792972-W
36	33.3450967272-N	117.5685479575-W	33.3637774956-N	117.5542983026-W

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.

- | Yes | No | |
|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Geophysical Survey Permit Exhibit F |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Survey Location (including a full size navigation chart and GPS coordinates for each proposed track line and turning point)
Explanation: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Permit(s) or Authorization from other Federal or State agencies (if applicable)
Explanation: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 21-Day Written Notice of Survey Operations to Statewide Geophysical Coordinator/ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | U.S. Coast Guard Local Notice to Mariners/ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Harbormaster and Dive Shop Notifications
Explanation: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Marine Wildlife Contingency Plan
Explanation: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Oil Spill Contingency Plan
Explanation: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Verification of California Air Resources Boarr’s Tier 2-Certified Engine Requirement
Explanation: <u>Pursuant to section 93118.5 of CARB’s Airborne Toxic Control Measures, the Tier 2 engine requirement applies only to dieselfueled vessels.</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Verification of Equipment Service and/or Maintenance (must verify sound output)
Explanation: _____ |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable)
Explanation: <u>Survey area is away from the nearest MPA.</u> |

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:	29 November 2015
<u>Ecosystems Management Associates</u>	Jurisdiction: Federal _____ State <u>x</u> Both _____	
<u>2166 Avenida de la Playa, Suite E</u>	If State: Permit # <u>PRC 8536.9</u>	
<u>La Jolla, CA, 92037</u>	Region: <u>Statewide</u>	
	Area: _____	

GEOPHYSICAL SURVEY PERMIT

Check one: New survey _____ Time extension of a previous survey _____

ECO-M (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

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 Between December 22nd & 23rd, 2015 or January 6th & 7th, 2016
2. Hours of Operation 0600-1600 hrs
3. Vessel Name Farallon
4. Vessel Official Number CA Registration CF8977HJ
5. Vessel Radio Call Sign N/A – no longer required by Feds

6. Vessel Captain's Name Tim Norall
7. Vessel will monitor Radio Channel(s) 16
8. Vessel Navigation System DGPS
9. Equipment to be used Kongsberg EM 3002 dual multibeam sonar, side scan sonar (Klein-Ross 4900)

- a. Frequency (Hz, kHz)
- Multibeam - 300 kHz
 - Side scan sonar - 400 kHz
- b. Source level (dB re 1 μ Pa at 1 meter (m) [root mean square (rms)])
- Multibeam Sonar = 214 dB
 - Side scan sonar = 220 dB
- c. Number of beams, across track beamwidth, and along track beamwidth
- # beams – multibeam = 508; echosounder = 1
 - Across track beamwidth – multibeam = Tx 1.5°;
 - Along track beamwidth – multibeam = Rx 1.5°,
- d. Pulse rate and length
- Multibeam: rate=40 Hz (25 ms); length = 150 μ sec,
 - Side scan sonar: 25-400 μ sec
- e. Rise time
- Multibeam - 0.05 ms, 165 μ sec
 - Side scan sonar- 12.5-200 μ sec
- f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 μ Pa (rms) isopleths

Source	Dist. To160 dB (m)	Dist. To 180 dB (m)	Dist. To190 dB (m)
Multibeam	150	36	5
Side-Scan	33	8	3

- g. Deployment depth 1 m, 8m
- h. Tow speed 3 knots
- i. Approximate length of cable tow less than 10m

Applicant's Representative:
Dr. Hany Elwany
President, EcoSystems Management Assoc.
2166 Avenida de la Playa, Suite E
La Jolla, CA, 92037
hany@coastalenvironments.com

California State Lands Representative
Richard B. Greenwood
Statewide Geophysical Coordinator
200 Oceangate, 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):

EcoSystems Management Associates, Inc.

Oceanographic, Geophysics and Underwater Engineering Service

30 November 2015

Ms. Kelly Keen
Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento CA 95825-8202

Subject: Proposed Geophysical Survey Offshore San Clemente at San Onofre – AIR-1 Exemption

Dear Ms. Keen:

This letter is to document that the ECO-M vessel *Farallon* is exempt from the requirements of the AIR-1: Engine Tuning, Engine Certification, and Fuels requirement of the Non-Exclusive Geophysical Survey Permit (PRC 8536).

The *Farallon* is a gasoline-powered engine. It has a new engine as of 2011 that has a three-star rating. According to Section 93118.5: Airborne Toxic Control Measures for Commercial Harbor Craft, Subchapter 7.5: Airborne Toxic Control Measures of the California Air Resources Board, only diesel engines are required to comply with the CARB Tier 2 Certification.

Sincerely,

ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.



Hany Elwany, Ph.D.
President

ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.

MARINE WILDLIFE CONTINGENCY PLAN

Submitted to

California State Lands Commission
Mineral Resources Management Division
200 OceanGate, 12th Floor
Long Beach, CA 90802-4331

by

EcoSystems Management Associates, Inc.
2166 Avenida de la Playa, Suite G
La Jolla, CA, 92037

30 November 2015

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ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.

MARINE WILDLIFE CONTINGENCY PLAN

1.0 INTRODUCTION

This plan is intended to serve as a guide to operations to avoid significant impacts to marine wildlife that may occur during a geophysical survey. This plan is prefaced by a brief description of the project and the regulatory basis for marine wildlife protection followed by:

- The species likely to be present during the survey and the special status species of concern;
- A proposed operational plan for the company performing the survey, EcoSystems Management Associates, Inc. (ECO-M), to exercise caution while marine wildlife is present; and
- The procedure to follow should a collision occur between the survey vessel and marine wildlife.

2.0 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 Fisheries (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 and conduct the fieldwork. Regarding the consultation, the U.S. Army Corps of Engineers determined proposed activities may affect, but were not likely to adversely affect listed species (i.e., informal consultation). NMFS and USFWS have concurred with this statement.

NMFS also implements the Marine Mammal Protection Act of 1972, which protects all marine mammals within U.S. waters from intentional killing or harassment. Any accidental contact with marine wildlife during the course of the survey will be promptly reported to the NMFS Stranding Coordinator, Southwest Region, Long Beach.

The California State Lands Commission (CSLC) protects the natural environment for scenic and wildlife habitat values for the public trust. State agencies require marine mammal monitoring for any survey operations. The marine mammal population in general includes whale species, porpoises, dolphins, pinnipeds, and others. Some species are migrants that pass through central California waters on their way to calving or feeding grounds elsewhere, some are seasonal visitors that remain for weeks or months; others are resident for much or all of the year.

3.0 OPERATIONAL MEASURES FOR REDUCING IMPACTS TO MARINE MAMMALS AND TURTLES

ECO-M's project operations will utilize the following procedural techniques to limit the imposition of survey activities on any marine animals known to be within a sphere of influence. The survey vessel will have personnel on board during operations that are NOAA-approved marine wildlife monitors. The monitors will have authority to influence the operation of the vessel in regard to marine wildlife interaction but will be contravened by the captain of the vessel in matters of vessel and crew safety.

3.1 PRE-SURVEY ACTIVITIES

ECO-M contacted the NOAA Long Beach Office staff and a local whale-watching operation (Aquarium of the Pacific in Huntington Beach) to acquire information on the current composition and relative abundance of marine wildlife offshore as well as any pinniped haul out sites. From these sources, it was determined that whale activity is expected to be low at this area during the time of surveys, as September is the beginning of whale season for gray or blue whale migrations. Additionally, grey and blue whales generally travel greater than one mile (5,280 ft.) offshore, and this survey will be conducted approximately 2,000 ft. offshore. According to Justin Greenman, Assistant Stranding Coordinator at the NOAA Long Beach Office, this area is not near any known pinniped haul out sites or pinniped rookeries (Figure 1). This information will be conveyed to the vessel operator and crew, survey party chief, and onboard Marine Wildlife Monitors (MWMs). Additionally, one day prior to survey activities, the NOAA Long Beach office and the Aquarium of the Pacific 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.

An initial or board review of environmental responsibility of project operations will be undertaken at the beginning of each segment of the project. 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 within the geophysical survey vessel's 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(s). A copy of this document will be provided to each member of the geophysical survey team, as well as 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, spume, the disturbance of the normal sea view that can be caused by animals floating, rolling, diving, or leaping.
- c. Smell - on occasion marine organisms can be associated with smell from breath or defecation.
- d. Electronic observation - often the presence of schools of “bait fish” can be seen on some of the geophysical survey equipment. That presence, along with an increasing number of schools, can suggest that this area could possibly be associated with increased feeding activity of marine mammals and thereby suggest that increased awareness efforts should be undertaken. Under these circumstances, ECO-M’s personnel will be alerted to be more observant.

3.2 Marine Wildlife Monitors

At all times during survey activities, one marine wildlife monitor (MWM) will be present on the vessel. The qualifications of the MWM is located in Appendix A of this document. The MWM 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 MWM present on our boat. A MWM is required because the survey will be using a piece of acoustic generating geophysical equipment (i.e., multibeam echosounder). However, because the piece of equipment is over 200kHz, captain/crew can fulfill this role, upon request, and would be responsible for monitoring for marine wildlife and recording all observations. After speaking to Justin Greenman, Assistant Stranding Coordinator at the NOAA Long Beach office, migrating whales are more likely to be found further offshore (1 mile or more). The offshore extent of our survey boundary will be 0.3 miles from shore; therefore the likelihood of encountering a migratory marine mammal within this area is low. However, in order to avoid any contact with marine mammals within our survey area, we will make contact with the Aquarium of the Pacific, which whale watch at Huntington Beach, and request a heads up if migrating whales are spotted near shore and are heading our direction. We will make contact with these organizations two weeks before the survey, again one day before the survey, then on the day of the survey via VHF radio to request information on migratory whale sightings. We believe this method, coupled with the MWM, will avoid any negative contact with marine mammal species.

3.3 Operational Measures

Operational measures to reduce impacts to marine mammals or turtles will include: (1) soft-start technique, (2) slow vessel speeds, (3) avoidance of pinniped haul out sites, and (4) limitations on equipment usage.

Soft Start Technique

The soft-start technique will involve initiating each piece of equipment at the lowest practical sound level, increasing the output in steps not exceeding approximately 6 decibels per 5-minute period.

Vessel speed

To obtain good, clean data, normal survey speeds are usually maintained between 2 and 3 knots. This speed is significantly slow in relation to transit speeds maintained by marine mammals and is only a little above the speed necessary to maintain steerage.

Limitations on equipment usage

Limitations on the frequency, pulse length, and pulse rate will be implemented to reduce potential harmful noises.

4.0 COLLISION REPORTING

In the event of a collision between the vessel and a marine mammal or reptile, the vessel operator will document the conditions under which the accident occurred. These conditions include:

- Vessel location (latitude, longitude) when the collision occurred;
- Date and time of collision;
- Speed and heading of the vessel at the time of collision;
- Observation conditions (e.g. wind speed and direction, swell height, visibility in miles or kilometers, and the presence of rain, fog) at the time of collision;
- Species of marine wildlife contacted (if known)
- Whether an observer was monitoring wildlife at the time of collision, and;
- Name of the vessel, owner/operator, and captain officer in charge of the vessel at the time of collision.

After a collision, the vessel shall stop, but will continue with operations if it is deemed that no further damage will result to the animal by doing so. The vessel is not obliged to stand by and may proceed after confirming that it will not further damage the animal by doing so. The vessel shall then communicate by radio or telephone all details to the vessel's base of operations. From the vessel's base of operations, a telephone call shall be placed to the Stranding Coordinator, NMFS, Southwest Region, Long Beach. Alternatively, the vessel captain may contact the NMFS Stranding Coordinator directly using a cell phone.

It is unlikely that the vessel will be asked to stand by until NMFS or California Department of Fish & Game (CDFG) personnel arrive, but this shall be determined by the Stranding Coordinator. Under the Marine Mammal Protection Act, the vessel operator is not allowed to aid injured marine wildlife or recover the carcass unless requested to do so by the NMFS Stranding Coordinator.

Collisions with marine wildlife will be reported promptly to the NOAA Fisheries Stranding Coordinator. The Stranding Coordinator will then coordinate subsequent action, including enlisting the aid of marine mammal rescue organizations, if appropriate.

Although the NOAA Fisheries has primary responsibility for marine mammals in both state and federal waters, CDFG should 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

Justin Viezbicke
California Stranding Network Coordinator
National Marine Fisheries Service
(562) 980 3230 office
(808) 313 2803 cell
justin.viezbicke@noaa.gov

STATE

California Department of Fish & Game
Long Beach, CA 90802
(562) 590-5132

California State Lands Commission
Division of Environmental Planning and
Management
Sacramento, CA
(916) 574-0748
slc.ogpp@slc.ca.gov

5.0 MARINE PROTECTED AREAS

The proposed survey area does not fall into a designated marine protected area (MPA).

6.0 REFERENCES

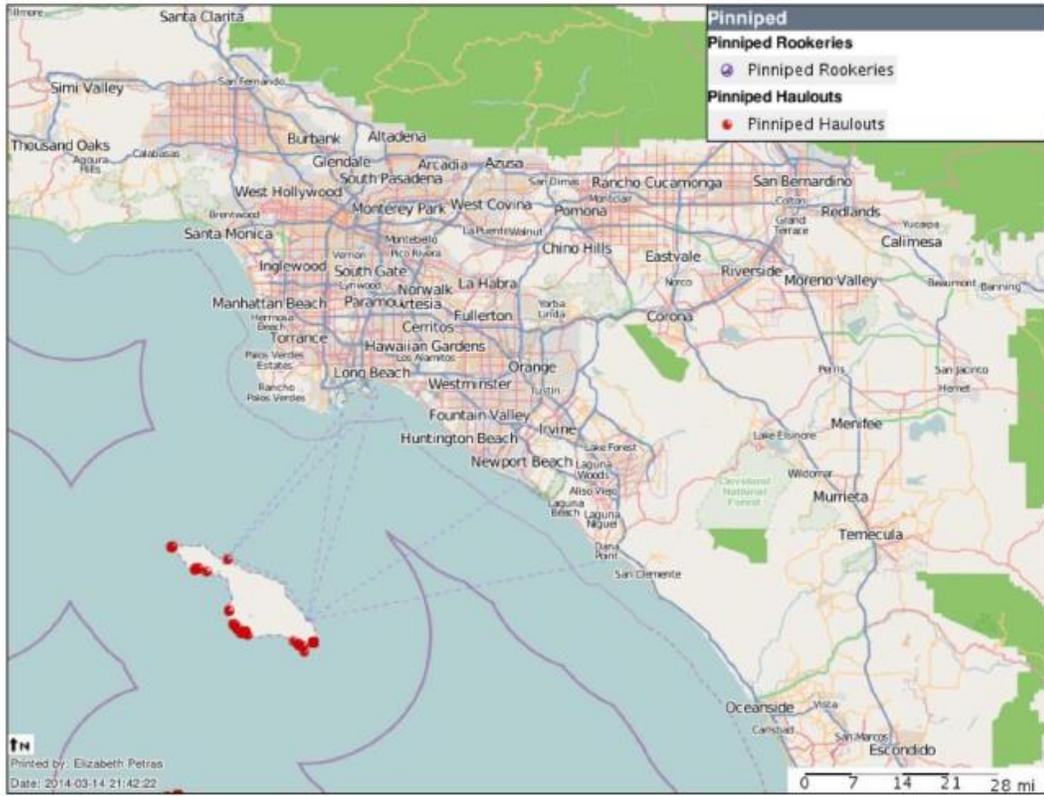
California Department of Fish and Game (CDFG) / California Department of Fish and Wildlife (CDFW). 2013. Guide to southern California marine protected areas. 120 pp.

National Oceanic and Atmospheric Administration (NOAA), 2013a. Pinniped rookeries and haul-out sites, Southern California. Coastal Response Research Center

National Oceanic and Atmospheric Administration (NOAA), 2013b. Gray whale (*Eschrichtius robustus*) <http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/graywhale.htm>

National Park Service, 2015. Whales at Cabrillo National Monument.
<http://www.nps.gov/cabr/learn/nature/whales.htm>

Ocean Institute, 2008. California gray whale. http://www.ocean-institute.org/visitor/gray_whale.html



US DOC | NOAA | NOS | NOAA Office of Response & Restoration Coastal Response Research Center ERMA | Environmental Response Management Application Southwest
Email Comments: orr.erma@noaa.gov © 2007-2014 University of New Hampshire

Figure 1. Location of the known pinniped haul out sites and rookeries in the project vicinity (NOAA, 2013a).



Figure 2. Location of MPA's from Point Dume to the U.S. Mexico Border (CDFG, 2013.).

APPENDIX A
MARINE WILDLIFE OBERVER CERTIFICATE



Figure A-1. Marine wildlife monitor certification

ROSS Laboratories, Inc.

3138 Fairview Avenue East • Seattle, Washington 98102
(206) 324-3950 (206) 329-0250 Fax

November 19, 2015

Hany Elwany, Ph.D.
President
Coastal Environments, Inc.
2166 Avenida de la Playa, Suite E
La Jolla, CA 92037
Tel. 858-459-0008
Fax 858-459-0107
hany@coastalenvironments.com
www.coastalenvironments.com

Dear Dr. Elwany,

We appreciate the opportunity to checkout your following hydrographic survey systems.

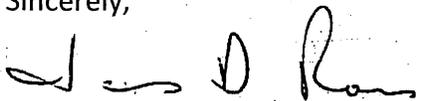
1. Echo-Souder Bathy 500 MF
2. Klein 590 side scan sonar /
3. Custom sub-bottom profiler system with 4T61 Massa Transducer.
4. Multi beam systems Kongsberg EM3002 & Reson.
5. Side scan sonar Klein 590 and Ross 4900.

Other than some mechanical repairs to the Ross sub bottom tow fish and a new data cable, all systems are working well and meet the original manufacturer's specifications. This was determined either by in house testing or review of customers data.

All of the systems have been maintained properly according to the manufactures specifications.

I hope we have the opportunity to work with you again. Please let me know if we can answer any questions or be of help.

Sincerely,



James D. Ross

Ross Laboratories, Inc.

206.324.3950

Email: jim@rosslaboratories.com

ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.

OIL SPILL CONTINGENCY PLAN

Submitted to

California State Lands Commission
Mineral Resources Management Division
200 OceanGate, 12th Floor
Long Beach, CA 90802-4331

by

EcoSystems Management Associates, Inc.
2166 Avenida de la Playa, Suite E
La Jolla, CA 92037

25 March 2015

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ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.

**MANAGEMENT OF ACCIDENTAL DISCHARGE AND VESSEL PROBLEMS
DURING OFFSHORE/ONSHORE GEOPHYSICAL SURVEY**

1.0 INTRODUCTION

At the initiation of each project or project phase, a spill management review will be conducted by the vessels captain who is in all cases the responsible authority. It should be pointed out that any oil spill in United States (U.S.) marine waters shall be reported immediately (on the same day). Reporting information is stated in Section 8.0.

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 engine room of the vessel. Thus, if a spill occurred, these would be contained in the engine room, 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 room, 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 foreman 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 foreman 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 foreman shall notify the Coast Guard and port facility.

(iv) Pipe leakage:

The vessel foreman 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 foreman 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 SPILLS RESULTING FROM CASUALTIES AND VESSEL PROBLEMS

In the event of a casualty, the vessel foreman's first priority is to ensure the safety of the vessel's personnel and to initiate actions that may prevent escalation of the incident and marine pollution.

(i) Grounding:

The likelihood of grounding, although remote, could occur when the vessel is working near shore. Should an unforeseeable grounding event occur that causes a spill, the vessel foreman shall immediately report the accident to the Coast Guard and port facility. It is mandatory that the survey company immediately report the incident to the California Office of Emergency Services ("OES").

(ii) Fire or explosion:

If a fire or explosion occurs, the Coast Guard and port facility will be notified immediately by the vessel foreman. While awaiting a response from the USCG or local fireboat agencies, all crewmen shall report to the foreman for a head count. In the event that one or more crewmen are missing, the vessel foreman shall so notify the site safety officer and direct a search for the missing crew where practical. If one or more crewmen are injured, the foreman shall render first aid with the assistance of available crewmen. The foreman shall also notify the site safety officer of any injuries sustained as a result of the fire or explosion.

The crew will fight the fire with portable fire extinguishers if this can be done safely. The foreman shall determine if the fire or explosion warrants abandoning the vessel. If it is determined that the vessel is to be abandoned, the crew shall don life vests and safely enter the water or available life raft.

If there is a spill as a result of the fire or explosion, the vessel foreman shall immediately report the incident to the Coast Guard and port facility. It is mandatory that the survey company immediately report the incident to the OES.

(iii) Collision:

A collision is unlikely to cause a spill unless the vessel sinks or the fuel tank is “holed.” If it is determined that the vessel is to be abandoned, the crew shall don life vests and safely enter the water or available life raft.

If the collision causes a spill from the fuel tank, the foreman shall immediately report the incident to the site safety officer, Coast Guard, and port facility. It is mandatory that the survey company immediately report the incident to the OES.

(iv) Vessel submerged/foundered:

If the vessel is submerged or foundered to the extent that it, or parts of it, is submerged, all measures shall be taken to evacuate all persons on board. Avoid contact with any spilled oil. Alert other vessels/vessels and/or the nearest coastal state for assistance in rescuing lives and the vessel as far as possible.

5.0 SPILLS RESULTING FROM VESSEL FUELING

All vessel fueling will be conducted on land at a gas station or at an approved docking facility. No cross vessel fueling will be performed.

6.0 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 site safety officer shall be contacted immediately and emergency personnel contacted. While awaiting emergency assistance, the survey company’s vessel personnel will render first aid and/or CPR.

7.0 MITIGATING ACTIVITIES

If safety of both the vessel and the personnel has been addressed, the vessel foreman 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 leakproof 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.

8.0 MEASURES TO BE TAKEN IN THE EVENT OF CASUALTY

(i) Response to collision

The vessel foreman and crew shall ensure that the following actions are taken.

- When there is no immediate danger to their own vessel and crew, rescue crew of the other vessel.
- Investigate the damaged area of the vessel and the ingress of water and take emergency measures to prevent the damage from becoming worse.
- When ingress of water is found as a result of damage investigation, take necessary measures to prevent water from coming in, or pump out the water already taken in, according to the position and amount of water taken in. Such measures include the closing of water-tight doors, inserting wooden plugs, use of collision mats, cement box, strengthening of bulkhead, and use of water discharge pumps.
- When water penetration is severe even after countermeasures are taken and there is a danger of the vessel sinking, consider intended grounding on an appropriate shore.

(ii) Response to grounding

If the vessel runs aground, the vessel foreman and crew shall muster and the following steps should be taken immediately.

- (1) Eliminate all avoidable sources of ignition and ban all smoking on board.

Further actions:

- (1) Carry out a visual inspection of the vessel to determine the severity of the situation.
- (2) Take soundings around the vessel to determine the nature and gradient of the seabed.
- (3) Check difference in the tidal ranges at the grounding site.
- (4) Evaluate tidal current in the grounding area.

Having assessed the damage that the vessel has sustained, and taking into account the effects

of hull stress and stability, the foreman should decide whether any action can be taken to avoid further spillage, such as:

- (1) Transfer of cargo and bunkers internally. If the damage is limited—for example, to one or two tanks—consideration should be given to transfer of liquid from damaged to intact tanks.
- (2) Review existing and forecasted weather conditions to see if they will adversely affect the vessel.
- (3) Evaluate the possibility of transferring cargo to barges or other vessels, and request such assistance accordingly.
- (4) Trim or lighten the vessel sufficiently to avoid damage to intact tanks, thereby avoiding additional pollution from spillage of oil or noxious liquid substance.

The foreman should obtain information about the situation, including the following.

- (1) Tides and currents
- (2) Weather, including wind, state of sea and swell.
- (3) Any weather forecast changes.
- (4) Nature of the bottom.
- (5) Depth of water around the vessel, the calculated buoyancy needed to refloat, draught, and trim after refloating.
- (6) Condition of the vessel, including stresses on the hull.

Strict safety precautions should be taken before entering any empty space, in order to avoid any risks from toxic fumes or oxygen deficiency.

Soundings should be taken around the vessel to determine the extent of the grounding/stranding as accurately as possible. If the sea is too rough for accurate sounding, it may be possible to measure the distance from the seabed to the main deck. By marking this on a longitudinal section from the general arrangement drawings, the extent of grounding can be determined.

If the vessel is structurally intact, an immediate attempt may be made to refloat her with or without assistance. In deciding whether to make an immediate attempt to refloat, the foreman should consider the use of the tugs and ground tackle as well as the possible damage that might be caused to the vessel.

Immediate refloating may be the best course to adopt even if the vessel has sustained bottom damage. However, if there are signs of excessive hogging, sagging or of undulations in the sides of the hull, more careful consideration is required before attempting to refloat the vessel. In these circumstances, lightening of the vessel may reduce the risk of further damage and pollution.

- (iii) Response to submerged/foundered

The vessel foreman and crew shall muster and ensure that the following actions are taken immediately.

- If the vessel is wrecked to the extent that it or parts of it are submerged, take all measures to evacuate all persons on board.
- Avoid contact with any spilled oil.
- Alert other vessels and/or the nearest coastal state for assistance in rescuing lives.
- All openings in hull and superstructures are to be checked for watertight integrity. Ensure that all water doors, sewage and other relevant damage control valves are closed.
- Fill bottom tanks with ballast low side first.
- Should the situation appear to be deteriorating, urgency or distress messages should be dispatched as appropriate.

The nearest hospital to our survey area is the San Pedro Urgent Care Facility, located at 1499 W. 1st St. San Pedro, California 90732. The number is: 310-241-2590.

9.0 REPORTING AN OIL SPILL TO STATE AND FEDERAL AGENCIES

Any oil spill in U.S. marine waters shall be reported immediately (on the same day) to the state and federal phone numbers below:

West Coast Oil Spill hot-line	800-OILS-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. Where did you see the spill?
- c. What do you think was spilled (oil, gas, diesel, etc.)?
- d. Can you estimate the size of the spill?
- e. The date & time you saw this spill? (PLEASE report on the same day).
- f. Did you see any oiled or threatened wildlife?
- g. Do you have any information or thoughts about who spilled the material?
- h. What, if any, activity did you observe 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 Palos Verdes area, these include the following contacts:

Oiled Wildlife Care Network
1-877-UCD-OWCN

Animal Advocates
323-651-1336

California Wildlife Center
818-222-2658
All Wildlife Rescue & Education
562-434-0141

South Bay Wildlife Rehab
310-378-9921

10.0 DIVER CHECKLIST

Prerequisites:

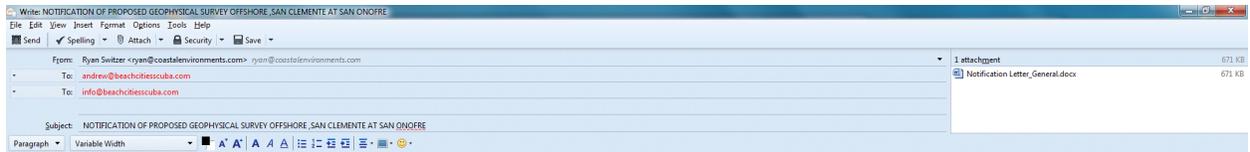
1. Copy of dive manual shall be at work site.
2. Site safety has reviewed work plan.
3. A written pre-job brief has been approved by the manager or designee.
4. All prerequisites required in the dive manual have been met.
5. Verify that a rescue plan is in place.
6. All procedures, drawings, and work documents are available.
7. All video and communication equipment is operable.
8. All diver qualifications are active.
9. Any known hazards have been identified.
10. Verify that all hazard barriers are in place.
11. Verify that waves and tidal conditions will not impact diving operations.
12. A diving supervisor shall be present at all times while the diver is in the water.

Diver Equipment Checkout:

1. Ensure that there are two sources of breathing air available.
2. Ensure that air compressor fuel tank and oil levels are full prior to diving.
3. Ensure that breathing air compressors are not located in an area where the induction of harmful gases is possible.
4. Ensure that the Dive Supervisor inspects the diver's equipment per their daily equipment checklist.
5. Ensure that diver communication equipment checkout is performed.

Placing a Diver in the Water:

1. Notify the control room prior to commencing dive activities. Also:
 - a. Verify method of communication to be used with the control room.
 - b. Notify control room at conclusion of daily dive activities.
2. Verify that standby divers are in the immediate area and in a state of preparedness to enter the water within two minutes.
3. If SCUBA equipment is used, two divers shall be in the water.
4. Remove the diver from the water if any operational changes are encountered.

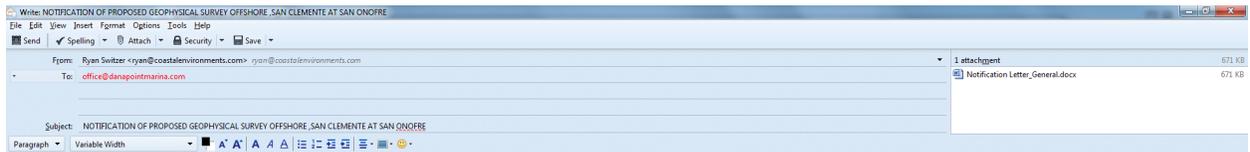


Dear Beach Cities SCUBA

Please find attached our [pre-survey requirements](#) for a geophysical survey offshore San Clemente at San Onofre.

The target dates for the survey will be between either December 22nd and 23rd, 2015 or January 6th and 7th, 2016, weather permitting. The proposed survey will be conducted offshore of the City of San Clemente, between 10 to 50ft of water.

Thanks,
Ryan Switzer
Project Scientist
858459-0008
ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.



Dear Orange County Harbor Patrol,

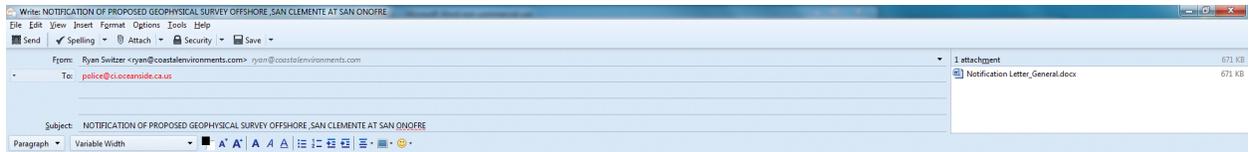
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The target dates for the survey will be between either December 22nd and 23rd, 2015 or January 6th and 7th, 2016, weather permitting. The proposed survey will be conducted offshore of the City of San Clemente, between 10 to 50ft of water.

If this is an incorrect email address could you please forward the email to the Orange County Harbor Patrol.

Thanks,
Ryan Switzer
Project Scientist
(858) 459-0008
ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.





Dear Oceanside Harbor Patrol,

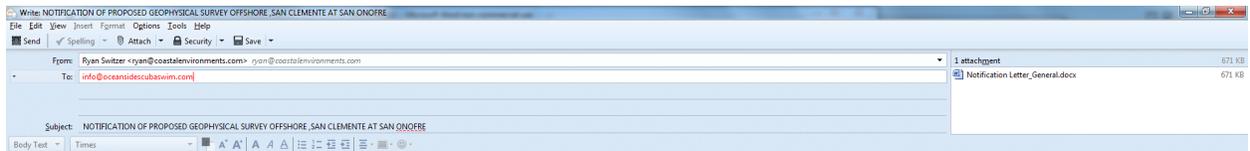
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If this is an incorrect email address could you please forward the email to the Oceanside Harbor Patrol.

Thanks,
Ryan Switzer
Project Scientist
(858) 459-0008

ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.



Dear Oceanside Scuba and Swim Center

Please find attached our pre-survey requirements for a geophysical survey offshore San Clemente at San Onofre.

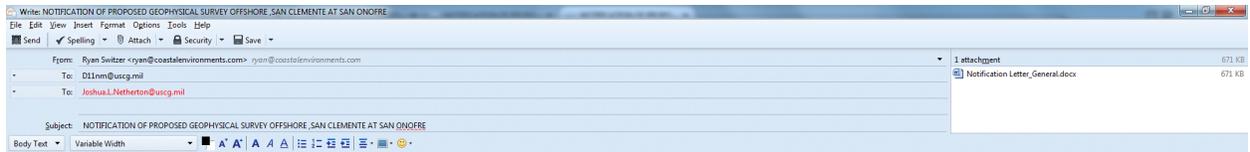
The target dates for the survey will be between either December 22nd and 23rd, 2015 or January 6th and 7th, 2016, weather permitting. The proposed survey will be conducted offshore of the City of San Clemente, between 10 to 50ft of water.

If you know of any other scuba/diver shops in the area could you please forward them this email or send me their email addresses so that I can notify them.

Thanks,
Ryan Switzer
Project Scientist
(858) 459-0008

ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.





Dear USCG

Please find attached our pre-survey requirements for a geophysical survey offshore San Clemente at San Onofre.

The target dates for the survey will be between either December 22nd and 23rd, 2015 or January 6th and 7th, 2016, weather permitting. The proposed survey will be conducted offshore of the City of San Clemente, between 10 to 50ft of water.

If you know of any other scuba/diver shops in the area could you please forward them this email or send me their email addresses so that I can notify them.

Thanks,
Ryan Switzer
Project Scientist
(858) 459-0008

ECOSYSTEMS MANAGEMENT ASSOCIATES, INC



EcoSystems Management Associates, Inc.

Oceanographic, Geophysics and Underwater Engineering Services

29 November 2015

NOTIFICATION OF PROPOSED GEOPHYSICAL SURVEY OFFSHORE SAN CLEMENTE AT SAN ONOFRE

Subject: Proposed Geophysical Survey Offshore San Clemente at San Onofre

Dear Sir/Ms.:

Please find attached our pre-survey requirements for a geophysical survey offshore San Clemente at San Onofre. Figure 1 shows the location of the survey area. The purpose of this survey is to determine areas of hard substrate nearby the intake and discharge systems. The target dates for the survey will be between either December 22nd and 23rd, 2015 or January 6th and 7th, 2016, weather permitting. The proposed survey will be conducted offshore of the City of San Clemente, between 10 to 50ft of water.

The vessel that will be conducting the geophysical survey is "Survey Vessel Farallon". The "Survey Vessel Farallon" is a 27' gasoline powered boat. The captain of the vessel will be Mr. Tim Norrall. The vessel will be monitoring radio channel 16. The survey operations will be conducted during daylight hours, between 0600-1600 hours.

1. This survey will include a multibeam sonar survey and a side scan survey. Equipment will include a Kongsberg EM 3002 dual multibeam sonar and a side scan sonar (Klein-Ross 4900). Equipment specifications are listed on the following page.

EcoSystems Management Associates, Inc. (ECO-M) maintains a permit for conducting offshore geophysical surveys with the California State Lands Commission and provides pre-cruise information required by the State for minimizing impacts to marine life. Furthermore, survey timing and location are coordinated with local government agencies and fisheries to avoid interference with recreational and commercial boating.

1. Expected Date of Operation December 22nd and 23rd, 2015 or January 6th and 7th, 2016
2. Hours of Operation 0600-1600 hrs
3. Vessel Official Number CA Registration CF8977HJ
4. Vessel will monitor Radio Channel(s) 16
5. Equipment to be used Kongsberg EM 3002 dual multibeam sonar, side scan sonar (Klein-Ross 4900)
 - a. Frequency (Hz, kHz)
 - 1) Multibeam - 300 kHz
 - 2) Side scan sonar - 400 kHz
 - b. Source level (dB re 1 μ Pa at 1 meter (m) [root mean square (rms)])
 - 1) Multibeam Sonar = 214 dB
 - 2) Side scan sonar = 220 dB

- c. Number of beams, across track beamwidth, and along track beamwidth
- # beams – multibeam = 508; echosounder = 1, Across track beamwidth – multibeam = Tx 1.5°;
 - Along track beamwidth – multibeam = Rx 1.5°,

d. Pulse rate and length

1) Multibeam: rate=40 Hz (25 ms); length = 150 μ sec, 2) Side scan sonar: 25-400 μ sec

e. Rise time

1) Multibeam - 0.05 ms, 165 μ sec 2) Side scan sonar- 12.5-200 μ sec

a. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 μ Pa (rms) isopleths

Source	Dist. To160 dB (m)	Dist. To 180 dB (m)	Dist. To190 dB (m)
Multibeam	150	36	5
Side-Scan	33	8	3

b. Tow speed 3 knots

If you have any questions regarding this geophysical survey, please contact Dr. Hany Elwany at: 858-459-0008, hany@coastalenvironments.com.

Sincerely,



ECOSYSTEMS MANAGEMENT ASSOCIATES, INC.

Hany Elwany, Ph.D.
President

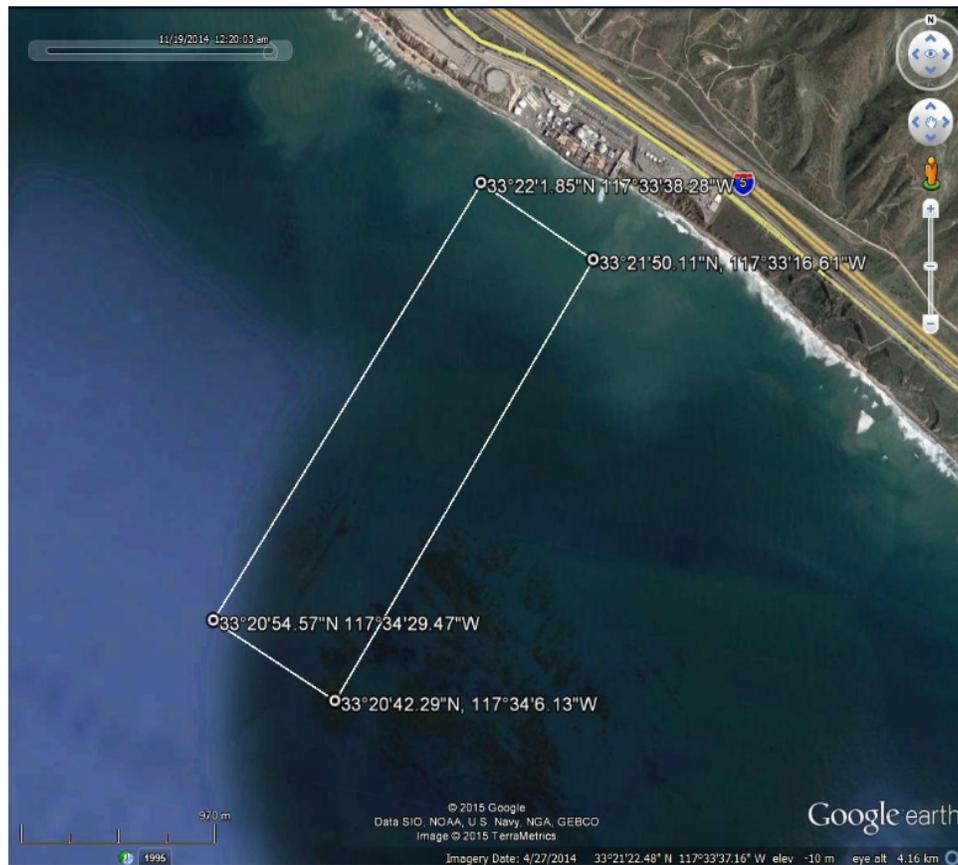


Figure 1. Map showing location of the proposed geophysical survey offshore of San Clemente at San Onofre. The survey area is shown in the white box.