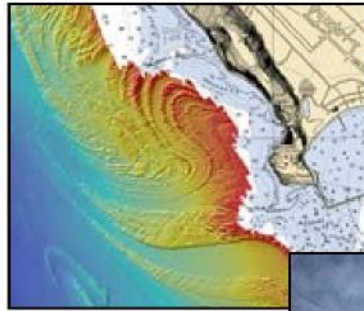


# LOW ENERGY OFFSHORE GEOPHYSICAL PERMIT PROGRAM REVIEW

August 2013



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## ACRONYMS AND ABBREVIATIONS

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μPa	micropascal
μsec	microsecond
CEQA	California Environmental Quality Act
CSLC	California State Lands Commission
CSUMB	California State University Monterey Bay
dB	decibel
dB re 1 μPa	decibel referenced at 1 micropascal
EIR	Environmental Impact Report
GPS	Global Positioning System
Hz	hertz
kHz	kilohertz
kJ	kilojoule
LNM	Local Notice to Mariners
MND	Mitigated Negative Declaration
MRMD	Mineral Resources Management Division, California State Lands Commission
msec	millisecond
MWCP	Marine Wildlife Contingency Plan
nm	nautical mile
NOAA	National Oceanic and Atmospheric Administration, U.S. Department of Commerce
OGPP	Offshore Geophysical Permit Program
OPC	Ocean Protection Council
OSCP	Oil Spill Contingency Plan
Pub.	Public
SCH	State Clearinghouse
SPL	sound pressure level
USGS	U.S. Geological Survey, U.S. Department of the Interior

This Program Administration Review Report (Report) focuses on evaluating the administration of and performance by the California State Lands Commission (CSLC) staff of the CSLC's Offshore Geophysical Permit Program (OGPP).

Pursuant to Division 6 of the California Public Resources Code, section 6826, and California Code of Regulations, Title 2, section 2100, the State of California, acting by and through the CSLC, may issue non-exclusive permits to qualified entities to perform geophysical surveys of the ocean bottom in offshore marine waters within its jurisdiction subject to specified terms and conditions. Permit holders include the U.S. Geological Survey (USGS), University Corporation at California State University Monterey Bay (CSUMB), and other entities that contract with public agencies, universities, and private companies that need data that can only be obtained through geophysical surveys. Geophysical surveys conducted under CSLC permits obtain critical data on a variety of ocean resources and uses. Areas of study and survey objectives include, but are not limited to:

- Scientific research, including surveys of near-shore sand erosion and deposition, seafloor changes, and seafloor topography and bathymetry;
- Surveying existing pipelines to assess any structural damage, corrosion, or spanning that could lead to a pollutant release;
- Identifying and avoiding seafloor hazards and faults when designing pipeline- and cable-laying projects, reducing the likelihood of dangerous leaks, ruptures and breakages;
- Surveying existing fiber-optic cables and other seafloor structures to determine how well they are buried or if they can be snagged by fishing gear; and
- Developing maps of hard bottom and essential fish habitat or cultural resources indicating where the placement of permanent or temporary objects (e.g., cables or anchors) should be precluded.

Surveys conducted under the OGPP authorize the use of electromechanical equipment (i.e., mini-sparkers, side-scan sonar, boomers, subbottom profilers, and echosounders). The use of high energy water compression devices (i.e., airguns or water guns) require project specific environmental analysis under the California Environmental Quality Act (CEQA) and are not permitted under the OGPP.

On August 11, 2011, the California Ocean Protection Council (OPC) approved a grant to the CSLC to review and modernize its OGPP. In general, the grant specified three tasks:

- Program Administration Review – The subject of this Report.
- An Updated Evaluation of the OGPP Pursuant to CEQA (Pub. Resources Code § 21000 et seq.) – This evaluation was part of a Mitigated Negative Declaration

(MND) that the CSLC prepared and circulated for public review in accordance with CEQA in July 2013 (State Clearinghouse [SCH] No. 2013072021). The MND, which is focused on evaluating the potential environmental effects of low energy survey operations, ensures that with the incorporation of a number of OGPP revisions and mitigation measures the CSLC has agreed to include in any geophysical survey permits it may issue, no significant effect on the environment will occur.

- Scientific Review – The scientific review, which consisted of a review of the current information relevant to geophysical surveys (such as scientific literature and reports; findings from governmental agencies, industry, and academic institutions involved with acoustic surveys and marine wildlife; and communication with applicable State and Federal agencies, industry, and other entities) and modeling studies performed to evaluate underwater acoustics and inform mitigation or new permit requirements, have been incorporated as appendices into the MND.

This Report fulfills the above-referenced Program Administration Review task required as part of the OPC grant award. While it is intended to be a companion document to the MND, it is separate and distinct from the CSLC's CEQA obligations.

In this Report, the CSLC has systematically examined OGPP processes, procedures, and requirements to identify those elements that are lacking or may be impractical, inefficient, or unnecessary. Where these challenges are noted, the Report identifies recommendations for improvement. The Report will be presented by CSLC staff along with the MND and any other relevant information when the Commission meets to consider approval of the OGPP Update; this will ensure any Program approved by the Commission will be implemented in a process that:

- Uses the most relevant science for the conservation of sensitive offshore resources and protection of public health and safety in marine waters;
- Does not result in a significant impact to the environment; and
- Is implemented in the most effective, efficient, and transparent manner possible.

### 2.1 BACKGROUND AND HISTORY OF THE PROGRAM

The CSLC, under Division 6 of the Public Resources Code, holds sovereign lands, which include tide and submerged lands adjacent to the entire coast and offshore islands of the State from the mean high-tide line to 3 nautical miles (nm) offshore, in the Public Trust, except where lands have been granted in trust to local jurisdictions.<sup>1</sup> Under the Public Trust Doctrine, uses of trust lands are generally limited to those that are water dependent or related, and include commerce, fisheries, navigation, environmental preservation, and recreation; Public Trust lands may also be kept in their natural state for habitat, wildlife refuges, scientific study, or open space (CSLC Public Trust Policy, [www.slc.ca.gov](http://www.slc.ca.gov); click on the “Information” and “Statements” links).

Geophysical research in California State waters has been conducted since the 1940s. Early surveys used explosive devices to generate the acoustic pulse signals necessary to acquire geophysical data. However, beginning in 1967, non-explosive techniques were implemented. Acoustic sources that have been used in offshore geophysical surveys include, but are not limited to, airguns and airgun arrays, subbottom profilers, single beam and multibeam echosounders, and side-scan sonars. Equipment types covered under the OGPP are further discussed in **Section 2.4**; however, it should be noted that the use of any air or water compression devices (e.g., airguns, water guns) for generating acoustic pulses is expressly prohibited under the current OGPP and OGPP Update.

The CSLC has been the State agency with jurisdiction over geophysical survey activities in State waters since 1941 when the State Legislature added section 6826 to the Public Resources Code to allow the CSLC to adopt regulations and grant permits for geophysical activity. The CSLC has issued permits to conduct geophysical survey activities in some form since 1945. Since 1984, the CSLC has relied on a MND (SCH No. 84020113), with subsequent additional conditions imposed in 1987 and 2008, to comply with CEQA when issuing individual geophysical survey permits for low energy survey activities. Prior to adoption of the 1984 MND, the CSLC issued permits without environmental review, finding them “categorically exempt” as information collection activities pursuant to section 15306 of the State CEQA Guidelines.<sup>2</sup> The 1984 MND analyzed the expected impacts resulting from the use of both high ( $\geq 2$  kilojoule [kJ] energy input) and low energy ( $< 2$  kJ energy input) geophysical survey equipment and identified measures to mitigate significant impacts to wildlife and the environment from geophysical surveys (Minute Item 11, 5/24/1984).

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<sup>1</sup> Commencing in 1851 and continuing to the present, the California Legislature has periodically transferred portions of the State’s prime waterfront lands to local or specific governmental entities for management purposes. These statutory tide and submerged land grants are also held in trust for Public Trust purposes, but permitting and leasing authority for the lands largely rests with the grantees, as stipulated in each statute.

<sup>2</sup> The State CEQA Guidelines are found in California Code of Regulations, Title 14, section 15000 et seq.

Over the following three years, the CSLC became aware of studies and increased concerns regarding the potential effects of acoustic pulses from high energy surveys, such as airguns, on marine life and divers. With this information, the CSLC, at its October 7, 1987 meeting, determined that permits for high energy geophysical surveys employing airguns could not be issued unless and until an Environmental Impact Report (EIR) was certified (Minute Item 27, 9/23/1987). The CSLC's decision was upheld by the California Court of Appeal (*Meridian Ocean Systems, Inc., et al. v. California State Lands Commission* (1990) 222 Cal. App. 3d 153.). As a result, the current OGPP covers equipment such as side-scan sonar, magnetometers, mini-sparkers, fathometers, and other electromechanical devices but prohibits use of energy sources that exceed 2 kJ of energy input.

In August 2008, the CSLC implemented a series of mitigation measures in association with geophysical permit review and approval that required permit holders to develop specific plans (i.e., Marine Wildlife Contingency Plans [MWCP]; Oil Spill Contingency Plans [OSCP]), provide notification of nighttime operations, and detail the specifications for equipment to be employed.

At the CSLC's December 2009 meeting, the question of the effectiveness and protectiveness of the OGPP was reopened during discussions on staff's recommendation to revoke one company's low energy survey permit because of possible permit violations. The vessel involved, the *Pacific Star*, had struck and killed a blue whale north of Fort Bragg on October 19, 2009, en route to conduct a hydrographic survey. Although the company operating the vessel held a current CSLC offshore geophysical survey permit, the company believed hydrographic surveys were outside the purview of the permit, and that as such, the permit's conditions (including notifying CSLC staff prior to commencement of the survey and presence of a marine wildlife monitor aboard the survey vessel) did not apply to the activity. The CSLC: (1) obtained written acknowledgement from the permittee that (a) ocean floor surface mapping using multibeam echosounders is subject to the issued permit; and (b) the permit holder would comply with all provisions of its permit, including prior notice of surveys and the presence of a marine wildlife monitor en route to and from and during survey operations; and (2) directed staff to notify all geophysical permittees of the whale collision incident and reinforce the need for specific permit provision compliance.

As noted above, a considerable amount of relevant research has been completed since the CSLC adopted the original Negative Declaration in 1984. In 2011, the CSLC sought and received funding from the OPC to update and modernize the OGPP.

Of particular interest to the CSLC are the applied study efforts characterizing acoustic sources and methodologies and analyses of sound-related impacts to various marine resources – marine mammals, sea turtles, and fishes. As noted by the OPC in its staff recommendation related to the grant award, recent acoustic-related study results “reveal a more complex picture of the hazards associated with ocean noise, based on frequency and sound pressure levels (SPL), rather than just energy levels,” which are important factors to consider when evaluating and understanding the potential effects of anthropogenic sound on the marine environment. How sound is perceived by an animal



is dependent on several factors including the hearing (frequency) range of the animal and the strength (loudness) of the sound. As a sound propagates away from the source (e.g., a low energy device), its strength, or loudness, decreases, and is additionally influenced by several environmental factors including the sound speed profile and temperature of the ocean, as well as its interaction with the ocean bottom. These interactions ultimately determine the distance at which a sound will contribute to ambient noise levels in the ocean, and understanding and modeling these interactions is important for establishing mitigation measures (e.g., safety zones) that effectively protect marine wildlife.

## 2.2 GEOGRAPHIC COVERAGE

The geographic coverage for OGPP permits typically includes the marine waters of the State, exclusive of granted lands. Onshore and inland water geophysical survey activities are also covered under the program within the framework of project-specific permits (see below). In administering the OGPP, the CSLC divides State waters into four separate regions. Region designations and boundaries are defined as follows (illustrated in **Figure 1**):

Region I	The area between the California-Mexico border to Los Angeles/Ventura County line.
Region II	The area between the Los Angeles/Ventura County line and Santa Barbara/San Luis Obispo County line.
Region III	The area between the San Luis Obispo/Monterey County line and Sonoma/Mendocino County line, excluding San Francisco, San Pablo, and Suisun Bays.
Region IV	The area in between the Sonoma/Mendocino County line and California-Oregon border.

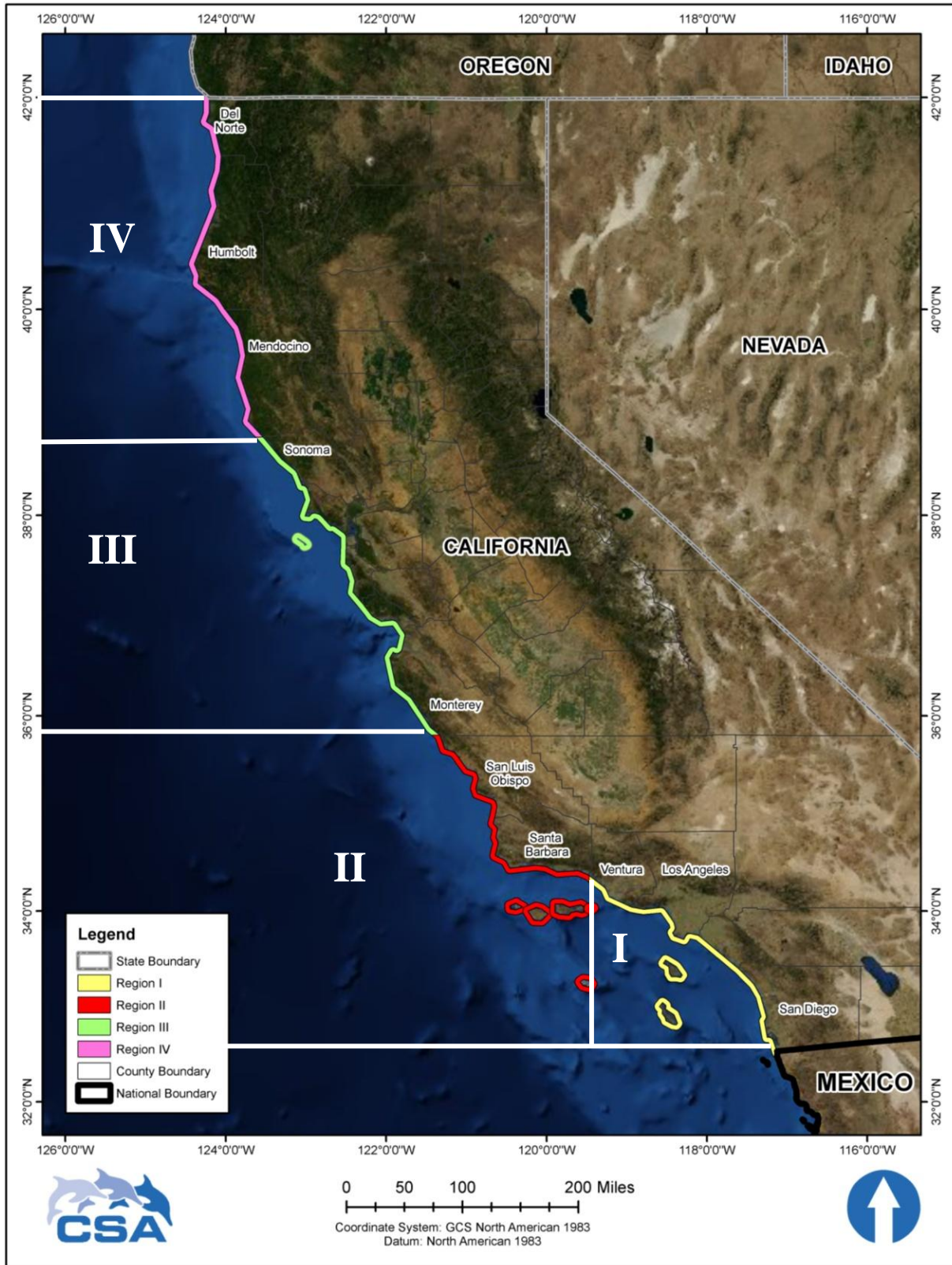
## 2.3 PERMIT TYPES

Geophysical permits are issued for either:

- General offshore low energy (statewide) geophysical operations; or
- Project-specific (low energy, high energy, or inland waters – including the greater San Francisco Bay area) geophysical operations.

Because there is no provision in the Public Resources Code for permit renewal, statewide geophysical permits are currently issued for one year, and must be reassessed and approved by the Commission on an annual basis. Project-specific permits follow a similar procedure in terms of application and fee payment, and are issued for a prescribed period of time, generally less than one year.

**Figure 1. Regions Delineated Under the California State Lands Commission Offshore Geophysical Permit Program**



## 2.4 EQUIPMENT TYPES

The types of equipment authorized by the CSLC under the OGPP include:

- Subbottom profilers (i.e., mini-sparkers, boomers, chirp, and general subbottom profiler systems), which provide seismic reflection profile data – information regarding the shallow subsurface structure of the seafloor;
- Echosounders (i.e., single beam and multibeam echosounders, and fathometers), which provide specific data regarding site-specific bathymetry and/or seafloor features (e.g., sediment ridges, rock outcrops, shipwrecks, underwater cables);
- Side-scan sonars, which provide similar data as multibeam echosounders, producing detailed imagery of the seafloor and seafloor features;
- Multi-component systems (i.e., containing two or more complementary equipment types); and
- Passive systems (i.e., magnetometer, gravity meters).

Under the current OGPP, permit holders are authorized to operate geophysical survey equipment in State waters, not including granted lands, when no more than 2 kJ of energy input is used for any acoustic pulse-generating equipment during a survey. Further, the use of any air or water compression devices (e.g., airguns, water guns) for generating acoustic pulses is expressly prohibited.

**Table 1** provides specifications for representative geophysical equipment being used under permit in State waters. While this tabular listing is not exhaustive, it does provide important information regarding geophysical survey equipment in terms of dominant frequencies, peak output, and pulse duration, all factors of importance in assessing the potential impacts of these noise sources on sensitive marine resources. More importantly, it identifies key characteristics of geophysical survey equipment that should be considered within the framework of the current geophysical permit program.

**Table 1. Characteristics of Equipment Used During Permitted Low Energy Geophysical Surveys**

Type and Representative Equipment	Dominant Frequency or Frequencies	Deployment Depth	Tow Speed	Maximum Output (dB re 1 $\mu$ Pa at 1 m)	Beam Width	Signal Duration
<b>SUBBOTTOM PROFILERS</b>						
<b>Mini-sparkers</b>						
SIG 2Mille mini-sparker	800 Hz (center frequency)	Surface towed	Variable	204 (rms)	Not stated	1 msec (approximate)
<b>Boomers</b>						
Huntec '70 deep tow boomer	0.2–16 kHz	Surface towed	Variable	215 (peak)	H: 8°–105° (>1 kHz) to omnidirectional ( $\leq$ 1 kHz)	180 $\mu$ sec
AP3000 triple plate boomer system	100-800 Hz	Surface towed	Variable	219 (peak) @ 1.5 kJ	H: 8°–105° @ >1 kHz	60 msec
Geo Acoustics boomer shallow seismic system	0.5–6 kHz	Surface towed	8 knots	227 (peak, est.)	H: 8°–105° @ >1 kHz	180-200 $\mu$ sec
<b>Subbottom Profilers (general)</b>						
Edgetech X-Star full spectrum digital subbottom profiler	0.4–24 kHz	300–6,000 m maximum	3-4 knots, optional at 6 knots	212 (peak)	10°-30°	20–40 msec
Edgetech SB-424 chirp (subbottom profiler)	4–24 kHz sweep	Surface towed	Variable	198 (rms)	17-24° (frequency dependent)	5-50 msec
GeoAcoustics GeoPulse profiler	2–15 kHz, 4 transducers	Hull mount or over the side	12 knots max (towed)	214 (peak)	55° (3.5 kHz); 40° (5 kHz); 30° (7 kHz);	330 $\mu$ sec to 330 msec (adjustable)
<b>SIDE-SCAN SONARS</b>						
Edgetech Model 272 Series side-scan sonar towfish	100 kHz (105 $\pm$ 10 kHz); 500 kHz (390 $\pm$ 20 kHz)	Surface towed; <50–600 m	12.7 knots (max)	228 (100 kHz); 222 (500 kHz); peak values	H: 1.2° (100 kHz); H: 0.5° (500 kHz); V: 50°, tilted down 10° or 20°	10 $\mu$ sec (500 kHz); 100 $\mu$ sec (100 kHz)
Klein System 3000 side-scan sonar	100 kHz (125 $\pm$ 1%); 500 kHz (445 $\pm$ 1%)	1.5, 3, 6 km (max); Maximum <sup>1</sup> : 600 m (105 kHz); 150 m (500 kHz);	Variable	220 (estimated)	H: 1° (100 kHz); H: 0.2° (500 kHz); V: 40°	25–400 $\mu$ sec

**Table 1. Characteristics of Equipment Used During Permitted Low Energy Geophysical Surveys**

Type and Representative Equipment	Dominant Frequency or Frequencies	Deployment Depth	Tow Speed	Maximum Output (dB re 1 $\mu$ Pa at 1 m)	Beam Width	Signal Duration
<b>ECHOSOUNDERS</b>						
<b>Single Beam Echosounders</b>						
Teledyne Odom CV-100 digital single beam echosounder	Low: 10–50 kHz; High: 100–750 kHz; 1 kHz adjustable steps	Hull mounted or over the side; 0-15 m	Variable	230 (rms)	5°	0.1 msec
<b>Multibeam Echosounders</b>						
R2Sonic 2024 multibeam echosounder	200–400 kHz, or 700 kHz	Hull mounted	Variable	221 (p-p) 193 (rms)	0.3° x 0.6° (700 kHz); 0.5° x 1° (400 kHz); 1° x 2° (200 kHz)	15–500 $\mu$ sec
SeaBat 8101 multibeam echosounder	240 kHz	Hull mounted	Variable	210-220 (peak)	Along track: 1.5° V: 1.5° Cross track: 150°	21–225 $\mu$ sec
<b>MULTI-COMPONENT SYSTEMS</b>						
Kongsberg GeoSwath Plus/GeoAcoustics wide swath bathymetry shallow water multibeam and side-scan system	125 kHz; 250 kHz; 500 kHz	Maximum <sup>1</sup> : 200 m (125 kHz); 100 m (250 kHz); 50 m (500 kHz) Hull mounted or over the side	Variable	212-218 (estimated)	H: 0.85° (125 kHz); H: 0.75° (250 kHz); H: 0.5° (500 kHz)	128–896 $\mu$ sec; 64–448 $\mu$ sec; 32–224 $\mu$ sec
<sup>1</sup> Maximum = maximum water depth below transducers. Abbreviations: dB = decibel(s); H = horizontal; Hz = Hertz (cycles per second); kHz = kilohertz; m = meter(s); msec = millisecond(s); p-p = peak-to-peak; rms = root mean square; V = vertical; $\mu$ Pa = microPascal(s); $\mu$ sec = microsecond(s).						

### 3.0 PERMIT PROGRAM REVIEW AND RECOMMENDATIONS

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This section identifies issues regarding the administration and implementation of the CSLC OGPP. Biological resource and environmental protection issues, as noted in Section 1.0, are the subject of the MND (SCH No. 2013072021) that is being prepared concurrently with this Report. The discussion below evaluates the current OGPP, identifies potential limitations or challenges with procedures and/or provisions, and offers recommendations, as appropriate, for improvement.

#### 3.1 QUALIFYING SURVEYS AND PROGRAM RESTRICTIONS

As described above, the CSLC previously relied on an equipment energy threshold of 2 kJ to distinguish between surveys that could be administered under the OGPP and those that needed to develop a project-specific environmental analysis. Since that time, it has become evident that factors such as the frequency and amplitude (i.e., loudness, or strength of a signal) of the sound are important in evaluating and understanding the potential effects of anthropogenic sound on the marine environment than just energy levels (i.e., kJ) alone. Consequently, the MND for the OGPP Update does not use kJ as a basis for the environmental analysis; rather, it evaluates potential impacts based on sound propagation distances for different equipment types in combination with behavioral disturbance and injury thresholds for marine species (based on received decibel (dB) levels). The result of shifting to a modeled noise level system rather than an energy (kJ) system is a more functional and precise set of criteria on which to base permit conditions (e.g., safety zones) and potential exclusions (e.g., what equipment or methods are not allowed).

**Summary:** The current OGPP uses a 2 kJ energy threshold to distinguish between surveys that can be covered under the OGPP's General Permits and which require survey-specific environmental evaluation. The proposed OGPP Update discards the kJ metric in favor of a more scientifically rigorous and widely used noise modeling measurement.

**Issue:** Using kJ is not a meaningful measure to use for protecting marine species.

**Recommendation:** Ensure the OGPP Update incorporates the results of the noise modeling scenarios and necessary safety zones to establish clear permit terms and conditions that will govern the use of equipment in a manner that will prevent significant impact on the environment.

## 3.2 PRE-SURVEY NOTICE TO CSLC

The issue of notification time is relevant to both CSLC staff and geophysical permit holders. The permit requires notification by permit holders at least 15 days (but no more than 21 days) in advance of scheduled survey activity, and at least 14 days before initiating nighttime operations. The notification must include those measures that will be implemented to ensure avoidance of impacts to marine mammals and reptiles as well as a summary listing of all survey equipment to be used (equipment make and model, source level(s) (dB re 1  $\mu$ Pa @ 1 m) and operating frequencies (Hz, kHz), and the length of time the equipment will operate). The current requirement for the MWCP, however, is that it be submitted two weeks before the survey and that CSLC approval of the marine wildlife monitors be obtained prior to operations.

Results of interviews with geophysical industry representatives indicate that the 14- or 15-day notification requirement is a reasonable requirement for industry. The 14- or 15-day notification period is also consistent with notification procedures for the U.S. Coast Guard via a Local Notice to Mariners (LNM).<sup>3</sup> However, CSLC staff believes that to properly and thoroughly analyze the pre-survey information provided by each permittee, notice of each survey should be provided to the CSLC Geophysical Coordinator at least 21 days before each survey.

**Summary:** Current low energy geophysical permits require notification to the CSLC, by permit holders, at least 14 or 15 days (but not more than 21 days) in advance of scheduled survey activity for both nighttime operations and listing of proposed geophysical survey equipment, respectively. It also requires submittal of a MWCP two weeks prior to surveys and CSLC approval of marine wildlife monitors.

**Issues:** Notification requirements may be confusing because of the different deadlines for each submittal. In addition, two weeks may not be sufficient time for CSLC staff to review and approve the geophysical survey equipment or MWCP.

**Recommendations:** The OGPP Update should standardize notification into a single notice from the permittee to CSLC staff that contains all required pre-survey items; this notice should be provided 21 calendar days prior to the proposed survey date to ensure adequate review and approval time by CSLC staff. CSLC staff should develop a checklist or form for use by permittees to facilitate compliance and review.

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<sup>3</sup> The LNM is the primary means for disseminating information concerning aids to navigation, hazards to navigation, and other items of marine information of interest to mariners on the waters of the United States, its territories, and possessions. These notices are essential to all navigators for the purpose of keeping their charts. Light Lists, Coast Pilots and other nautical publications up-to-date. These notices are published weekly and are available on the Internet. (For more information, see: [www.navcen.uscg.gov/?pageName=lnmFAQ](http://www.navcen.uscg.gov/?pageName=lnmFAQ)).

### 3.3 PUBLIC NOTIFICATION

#### 3.3.1 Notification Requirements

##### **Permit Issuance:**

Notification of permit applications is coordinated through the Statewide Geophysical Coordinator and announced via the CSLC's public meeting processes. Based on information developed from a current or proposed permit holder's application, once CSLC staff have determined that the application includes all of the information necessary to recommend approval or denial of a permit, staff prepares a staff report to include with the agenda for the CSLC's next meeting. The agenda and staff reports are posted on the CSLC website and provided to those who request them.

##### **Survey Notification:**

Because low energy surveys result in the presence of survey vessels and associated equipment (which usually involves receivers [e.g., hydrophones] streaming behind the vessel) that may feasibly interrupt or affect other ocean users in the survey area, it is important to ensure interested and affected parties are aware that a survey will be taking place.

Public notification requirements in the current permit include an extensive 19-page, region-specific address list. Each permittee is required to send a notice of its proposed survey location and date to the individuals and entities on the region-specific list. This is both inefficient and time consuming, and CSLC staff has recently received input from local interested parties that the list is not current and that there is no clear information on how to be added to the list.

**Summary:** The notification process, involving multiple government offices, universities, harbor masters, businesses, and commercial fishermen and fishing organizations, is inefficient and out of date.

**Issue:** The current requirement and notification list is inefficient and places an unnecessary burden on permit holders that does not accomplish the goal of the notifying interested parties about pending survey activity.

**Recommendation:** The notification list in the general permit should be eliminated and replaced with a web-based notification system or Listserv administered by CSLC staff. The system should be designed to allow interested parties to subscribe or unsubscribe via the CSLC website and should keep personal or identifying information hidden from other subscribers. This would greatly increase both the efficiency of process and effectiveness of the notification, because the list would be "living" and kept up to date with minimal administrative effort. CSLC staff is currently exploring options for implementing this recommendation.



### 3.3.2 CSLC Website

The CSLC website currently provides information and links on two separate webpages covering: (1) Notice to Permittees; and (2) Review of the CSLC Geophysical Permit Program.

The Notice to Permittees webpage, which is located within the Mineral Resources Management Division (MRMD) tab, provides email and physical addresses for the Statewide Geophysical Coordinator, as well as an electronic copy of a generic geophysical permit, and summarizes the more significant aspects of the Commission's current Geophysical Permit Program, including that:

- 1) Public Resources Code section 6826 gives the Commission authority to require permits to conduct general geophysical surveys;
- 2) Permits are required for all geophysical surveys conducted by individuals, private companies, and government agencies in State waters from the mean high tide line to 3 nm offshore;
- 3) All ocean floor surface mapping (including bathymetric surveys using multibeam echosounders) and subsurface mapping and testing are activities that are covered by the permit;
- 4) The Commission requires compliance with all provisions of the permit including, but not limited to, provisions relating to notice of this agency at least 15 days in advance of any survey activity and the requirement that a National Oceanic and Atmospheric Administration (NOAA)-approved Marine Wildlife Monitor be present during all survey operations (including transit to and from port); and
- 5) Night surveys must be reported to the Commission at least 14 calendar days in advance. Notification shall include those measures that will be implemented to ensure avoidance of impacts to marine mammals and reptiles.

The webpage covering the Review of the CSLC Geophysical Permit Program provides a brief summary of the permit program authority and purpose (e.g., scientific and safety related research), as well as the CEQA documentation being prepared for the Update of the Program. The webpage also contains links to current and recent survey notices.

Permit-related information that is currently not posted to the CSLC website includes:

- 1) A list of permit holders, including permit approval and expiration dates for both statewide and project-specific permits;
- 2) Copies of MWCPs and OSCP; and
- 3) Copies of survey reports and data collected, potentially including records of wildlife observations and collision reports.

**Summary:** CSLC web-based information pertinent to the OGPP is limited to brief guidance for current or future permit holders related to applications, a summary of the CSLC's efforts to update the OGPP, and posting of upcoming or recent surveys for which we have been notified by a permittee.

**Issues:** The webpage under the MRMD tab containing information/guidance for permit applicants is difficult to locate and is not cross-referenced to the main OGPP update page. Additionally, data regarding current or past permit holders, MWCPs and OSCP, compliance, and post-survey reports (including permit-required records of observations and collision reports) are not currently items that are posted. Posting of this program-related information and data would improve transparency and public accountability.

**Recommendation:** The CSLC website should contain a single, easy to locate, main OGPP page. This page would contain subsections and links to various categories of interest under the program, such as notices and maps, data reports (e.g., information on permit-specific MWCPs and OSCP, and post-survey reports, including permit-required records of observations and/or incidents), permit holders and expiration dates, and other guidance or topics as necessary.

### 3.4 ENFORCEMENT

As noted previously, the CSLC's authorities related to low energy geophysical permits are outlined under Public Resources Code section 6826 and California Code of Regulations, Title 2, Article 2.9, section 2100. These statutes, originally construed for purposes of oil and gas (hydrocarbon) exploration, do not contain enforcement procedures or provisions, such as vessel impoundment or fines. This lack of explicit enforcement authority constrains the CSLC's options when it finds vessels operating without a permit or when a permitted entity is out of compliance.

Without explicit authority to develop and implement an enforcement program, the CSLC currently must rely on word of mouth or tips from other ocean users (generally other surveyors) to learn of activities being conducted without a valid CSLC permit in place. When called to the attention of the CSLC, a contractor conducting geophysical survey work without a permit is officially notified and asked to submit an application and pay the necessary permit application fees.

With regard to violation of permit terms and conditions by a surveyor who does have a permit, the CSLC's only option is to revoke the permit. If such a violation of permit conditions violated other laws (e.g., the Marine Mammal Protection Act, Clean Water Act, etc.), the applicable jurisdictional agency could pursue action.

**Summary:** There is currently no mechanism in the Public Resources Code relating to the CSLC's geophysical permit authorities to establish or implement enforcement or penalties for non-compliance. As a result, there is an obvious financial advantage, in terms of compliance costs, to a contractor if they are working without a permit. For permittee contractors who violate the terms and conditions of a geophysical permit, the Commission's only clear remedial action is to revoke the permit.

**Issue:** The CSLC cannot enforce the requirement that a permit be obtained beyond requesting from a contractor that an application be submitted, nor can the Commission enforce compliance with permit conditions, except to revoke the permit. This potentially puts those entities who are trying to comply at a disadvantage because they absorb additional costs and requirements that are avoided by entities that operate without a permit. This may create an atmosphere of distrust among surveyors because the CLSC only discovers these non-permitted contractors through word-of-mouth. The lack of enforcement also prevents the CSLC from having a complete data set related to the number, type, and location of surveys for tracking and monitoring purposes because not all surveys are permitted and provide such notice.

**Recommendations:** The primary tool needed for improving enforcement and compliance is new legislation and subsequent rulemaking to institute clear authority and regulatory guidance for the CSLC to enforce penalties against entities operating without a permit. This would decrease the incentive to avoid operating without a permit and would increase the equity among operators. Short of that, CSLC staff could take several steps within the current regulatory and statutory framework to improve compliance.

First, CSLC staff should develop an outreach and information campaign to increase awareness of the requirement to obtain a geophysical permit. Efforts could include forming cooperative relationships with other agencies and entities—including the California Coastal Commission, California Department of Fish and Wildlife, and coastal ports and harbors—in order to both spread information and inform CSLC if unpermitted surveyors are conducting activities.

CSLC staff should also improve its tracking and monitoring procedures (see **Section 3.5**, below) to facilitate prompt attention to any incidents of non-compliance by permitted entities, and should develop an informational document describing the consequences of non-compliance and the steps for permit revocation.

### 3.5 PERMIT ACTIVITY AND COMPLIANCE TRACKING

Currently, the Statewide Geophysical Coordinator is responsible for keeping all permits and permit-related reports on file, and for receiving and processing permit applications. In addition, all pre-survey notifications by permittees are sent to the Statewide Geophysical Coordinator. The Commission's Division of Environmental Planning and Management staff may review applications for adequacy of MWCPs and OSCP, but the Commission does not have a tracking or monitoring role for permit administration generally. There is no centralized tracking system or database to track permit holders, compliance with permit provisions, permit expiration dates, or dates, locations, and annual number of surveys conducted.

**Summary:** Permits and reports are kept on file by the Statewide Geophysical Coordinator in separate files in a way that information cannot be aggregated and analyzed in a quick or efficient manner.

**Issue:** Information related to survey activity (e.g., number of surveys, survey durations and locations based on Global Positioning System [GPS] data), compliance with permit provisions, and permittee performance history is not recorded in a log or database that would facilitate compliance monitoring, permittee review, and analysis of the OGPP that could be used for future program improvements. Compiling desired or needed information from the current file system is resource intensive, inefficient, and not timely.

**Recommendations:** Develop and maintain a tracking system/database to better track information on permittees, the numbers and locations of surveys, and document compliance with permit provisions. Periodically issue an OGPP performance report using information from the database to ensure accountability and transparency. Additionally, develop and implement geospatial record-keeping; require operators to provide the CSLC with the latitude/longitude of the proposed track line(s) prior to commencing surveys as well as an after-survey GPS record of the survey.

## 4.0 REFERENCES CITED

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California State Lands Commission (CSLC). 1984. Geological/Geophysical Surveys Permit Program. Initial Study and Negative Declaration. February, 1984. State Clearinghouse No. 84020113. CSLC ND No. 358.

California State Lands Commission (CSLC). 2012. Central Coastal California Seismic Imaging Project. Final Environmental Impact Report. July 2012. State Clearinghouse No. 201106105. CSLC EIR No. 758. 2 vols.

JASCO. 2012. Acoustic Modeling Report. Appendix D. Atlantic OCS Proposed Geological and Geophysical Activities, Mid-Atlantic and South Atlantic Planning Areas, Draft Programmatic Environmental Impact Statement. OCS EIS/EA BOEM 2012-005. March 2012. 2 vols.