3.5 RECREATIONAL RESOURCES

3.5.1 Affected Environment

The proposed Project is located within an area that is utilized for both recreational and commercial purposes. Given the proximity of the Project site to the Port of Los Angeles (POLA) and the Port of Long Beach (POLB) as well as the proximity to the offshore vessel traffic lanes, Section 3.7 (Transportation) provides a detailed summary and potential impact assessment of existing offshore commercial/recreational vessel activity. Baseline information and potential for impacts to commercial and recreational fisheries has been provided in Section 3.8 (Commercial and Recreational Fishing) and Appendix E (Fisheries Management Plan). As such, the following section provides the remaining pertinent information regarding recreational activities and areas associated with the offshore Project area; including existing marine protected areas (MPAs), recreational fishing, diving, and boating.

3.5.1.1 Recreational Opportunities

California's coastal ocean waters are among the most biologically productive in the world. California's marine resources are vital to the State's coastal economy and provide numerous intrinsic benefits and recreational opportunities. Recreational opportunities associated with the Project vicinity are primarily located within the nearshore environment and include surfing, diving, fishing, sunbathing, camping, wildlife viewing and hiking. Offshore, recreational activities generally require vessel transport and include boating, fishing, SCUBA diving and visiting the Channel Islands (including Santa Catalina Island).

The Project area is located approximately eight miles offshore Huntington Beach, California. The size of the survey area is approximately 18.885 square miles (48.91 square kilometers) in a NNW to SSE direction (Figure 1-2). A number of small boat facilities and charter boat operations are located within the Project region at Huntington Harbor, Anaheim and Alamitos Bay, and within the POLA/POLB. Nearshore areas off Huntington Beach and rocky areas around Catalina Island are considered popular recreational fishing locations. Due to location of the Beta Unit facilities offshore, recreational users commonly access and transit over the Project area in route to these destinations.

Water depths in the survey area range from 148 to 1,083 feet (45 to 330 meters). Recreational opportunities are therefore limited primarily to boating, fishing, and SCUBA diving. The Beta Unit Platforms are currently listed online (e.g. Channel Islands Dive Adventures) as prolific SCUBA dive sites. However, due to safety considerations at the platforms, as well as U.S. Coast Guard (USCG) required safety zones (see Section 3.5.2.1 - Existing Beta Unit Platform Safety Zones Title 33, Part 147 below) recreational and commercial fishing vessels are currently precluded from areas within 500 meters (1,640 feet) from the Platforms.

3.5.1.2 Marine Protected Areas (MPAs)

The Marine Life Protection Act (MLPA) of 1999 was designed to protect California's marine natural heritage through the establishment of a network of MPAs designed, created, and managed

with the intent to protect the diversity and integrity of marine ecosystems. The most recent MPA boundaries went into effect on January 1, 2012 from Point Conception (Santa Barbara County) to the California/Mexico border. Over 50 MPAs exist in southern California and represent approximately 356 square miles (922 square kilometers) of protected area or approximately 15 percent of State waters. Most MPAs are associated with the coastal shoreline on the mainland and Channel Islands (including Santa Catalina Island) and may extend up to three miles offshore to the boundary between State and Federal waters. The northwest corner of the Project survey area is located approximately 5.9 miles (9.5 kilometers) from the closest MPA at Bolsa Bay (Bolsa Chica Basin)

3.5.2 Regulatory Setting

The primary statutes, regulations, plans, and policies relevant to the Project that address recreational resources is provided in Table 3.5-1 below.

Table 3.5-1. Regulations Considered for Proposed Project Area

Agency or Regulation	
California Marine Life Protection Act (MLPA) (1999)	California Coastal Act Chapter 3 • Section 30220 - Protection of Certain Water Oriented Activities. • Section 30230 - Marine Resources and Special Protection. • Section 30231 - Coastal Waters, Marine Organisms and Human Health. • Section 30234 - Commercial Fishing and Recreational Boating Activities. • Section 30234.5 - Economic and Recreational Importance of Fishing. • Section 30240 - Environmentally Sensitive Habitat Areas.
Code of Federal Regulations Title 33 Navigation and Navigable Waters - Part 147 (Safety Zones) around Platforms Edith, Ellen and Elly, and Eureka	
Port of Los Angeles - Port Master Plan (2014)	
Port of Long Beach - Master Plan (1990, amended 2005)	

3.5.2.1 Existing Beta Unit Platform Safety Zones

The USCG requires a Safety Zone around Platforms Edith, Ellen and Elly, and Eureka within Title 33 (Navigation and Navigable Waters), Part 147 (Safety Zones).

§ 147.1108. Platform EDITH safety zone: (a) Description: The area within a line 500 meters [1,640 feet] from each point on the structure's outer edge. The position of the center of the structure is 33°-35'-45" N. 118°-08'-27" W. (b) Regulations: No vessel may enter or remain in this safety zone except for the following: (1) An attending vessel, (2) a vessel under 100 feet [30.5 meters] in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§ 147.1104. Platform ELLEN & ELLY safety zone: (a) Description: The areas within a line 500 meters [1,640 feet] from each point on the outer edge of each structure. The structures are approximately 120 meters [394 feet] apart. The position of the center of each structure is:

Platform Ellen, 33°-34'-57" N, 118°-07'-42" W; and Platform Elly, 33°-35'-00" N, 118°-07'-40" W. (b) Regulations: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel serving either structure, (2) a vessel under 100 feet [30.5 meters] in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§ 147.1111. Platform EUREKA safety zone: (a) Description: The area within a line 500 meters [1,640 feet] from each point on the structure's outer edge. The position of the center of the structure is 33-33-50 N, 118-07-00 W. (b) Regulations: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel, (2) a vessel under 100 feet [30.5 meters] in length overall not engaged in towing or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

3.5.3 Impact Assessment

As discussed above, the geophysical survey area is located approximately eight miles offshore Huntington Beach, California. It is anticipated that Project vessels would originate from the POLA/POLB or other commercial-use harbors in the immediate Project vicinity. Staging and loading/unloading of Project vessels would be limited to these commercial areas and would not interfere with any recreational activities within the area.

The geophysical survey area is in water depths ranging from approximately 148 to 1,083 feet (45 to 330 meters). As such, potential impacts to recreational resources are primarily limited to recreational fishing, diving, and boating. As discussed above, the USCG currently requires a 500 meter (1,640 feet) Safety Zone surrounding each of the Beta Unit Platforms. Due to this existing safety zone, Project activities occurring within 500 meters (1,640 feet) of the platforms would not affect recreational resources.

3.5.3.1 Node Deployment and Recovery Activities

During node deployment/recovery activities, recreational vessels would be precluded from the immediate work vessel. Deployment of the nodes by the M/V *Clean Ocean* is anticipated to take approximately seven operational days (one week). At the end of the survey, the M/V *Clean Ocean* would retrieve each line of temporary nodes, which would also take approximately seven operational days (one week). Temporary preclusion of offshore areas and placement of the seafloor nodes has the potential to interfere with recreational fishing activities, especially those that use drag lines or nets. However, since the Project is temporary and transitory in nature, and will be conducted during the fall months when offshore recreational activities are less active than the summer months, impacts to recreational resources during deployment/recovery would be minimal.

3.5.3.2 Geophysical Survey

During Project geophysical survey activities, the M/V *Silver Arrow* will tow the source array along predetermined survey transects (Figure 1-2). Due to the Project's proximity to the POLA/POLB and the coastwise shipping lanes, a nodal survey has been proposed to avoid the

larger operational preclusion area that is typically required during surveys utilizing streamer acquisition technologies. When the M/V *Silver Arrow* is towing the source array, the vessel would "fly" the appropriate United States Coast Guard (USCG)-approved day shapes (mast head signals used to communicate with other vessels) and display the appropriate lighting to designate the vessel has limited maneuverability.

During geophysical survey activities, recreational vessels and divers would be precluded from the immediate work area. Note that only a small portion of the total survey area would be precluded at any given time as the survey vessel passes along each track line. Specifically, a vessel Exclusion Zone will be enforced within a 1,640 feet (500 meter) area of the survey vessel. The vessel Exclusion Zone will be used to keep commercial and recreational boaters outside of the work areas. If commercial or recreational vessels are about to enter the vessel Exclusion Zone, the source array would immediately be powered down (or shut down if necessary) until communication with the vessels is established and vessels have exited the work area.

During geophysical survey activities, the M/V *Jab* or equivalent will provide support to the M/V *Silver Arrow* including radio assistance to communicate Exclusion Zone requirements with vessels near or entering the area.

Recreational Diving and Underwater Noise. The potential effects of noise on marine wildlife are evaluated in Section 3.3 (Marine Biological Resources). The potential impacts to humans from underwater noise generated by the Project's geophysical survey activities are discussed below.

Studies have shown that high levels of underwater noise can cause dizziness, hearing damage, or other sensitive organ damage to divers and swimmers and may elicit startle responses (TNO 2008). Table 3.5-2 presents noise thresholds identified for unprotected recreational divers.

Table 3.5-2 Published Thresholds for Human Divers Exposed to Underwater Sound Summarized

Source	Frequency Range (Hz)	Maximum Value (dB re 1 µPa)
NATO Undersea Research Center	600 to 2,500	154
Diving Medical Advisory Committee	Unspecified; believed to be 1,500	201
Parvin	500 to 2,500	155

Source: TNO, 2008

Based on the studies summarized above, which considered different noise sources (that may not be directly transferable to the proposed Project), underwater noise levels in excess of 154 dB re 1 µPa could be considered potentially harmful to recreational divers and swimmers in the Project area. However, offshore geophysical survey activities would occur more than five miles from any MPAs and onshore beach areas. Furthermore, a 1,640 feet (500 meter) vessel Exclusion Zone will be enforced during any noise-inducing Project activities. The vessel

Exclusion Zone will be used to keep commercial and recreational dive vessels outside of the areas where noise impacts would be greatest.

No permanent activities or facilities are proposed. Offshore Project activities would be temporary in nature and are anticipated to begin in September 2018 and require approximately 42 operational days (six weeks) to complete. Although some preclusion of offshore recreational vessel traffic would be required within the immediate work area, access to other areas for water recreation within the Pacific Ocean would not be hindered. Impacts to recreational resources within the offshore Project area would be minor. Preclusion of the offshore work areas would be conducted in accordance with routine offshore geophysical survey precautions including the following:

Project Incorporated Measures to Reduce Potential Impacts:

- **Notice to Mariners.** At least 10 days prior to in-water activities, Beta's contractor will submit a Notice to Mariners to the 11th District, U.S. Coast Guard and, as required, to the Captain of the Port. This notification will specify vessel and personnel contact information, scope of the proposed actions, location, and the anticipated duration of the activities.
- **Posting of Notices.** A document that shows and describes the proposed activities will be posted at the Harbor Master's office at the Port of Los Angeles (POLA), Port of Long Beach (POLB), Long Beach Marina area, Anaheim Bay/Huntington Harbor, and Newport Bay. That document will provide information on the proposed activities, contact information for all Project vessels and personnel, and will have a map depicting the ocean area affected.
- **U.S. Coast Guard-Approved Day Shapes.** Appropriate USCG-approved day shapes and other standard navigational aids (including mast head signals) will be used to communicate with other vessels and when appropriate.
- **Vessel Exclusion Zone.** A vessel exclusion zone will extend radially from the source array out to 500-meter (0.31 mile) during any noise-inducing Project activities.

3.5.4 References

California Department of Fish and Wildlife (CDFW). 2014. Marine Region GIS Lab Southern California South Coast MPAs Map

Port of Los Angeles. 2014. Port of Los Angeles Master Plan

Port of Long Beach. 1990. Port Master Plan

TNO. 2008. Review of Published Safety Thresholds for Human Divers Exposed to Underwater Sound. Written by Dr. M.A. Ainslie