# APPENDIX C:

# FINAL ENVIRONMENTAL ASSESSMENT SANTA CLARA UNIT (PLATFORMS GRACE AND GAIL) CONDUCTOR REMOVAL PROGRAM

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OCS EIS/EA
BOEM 2021-040

# Final Environmental Assessment
# Santa Clara Unit (Platforms Grace and Gail)
# Conductor Removal Program

BOEM Bureau of Ocean Energy Management

# Santa Clara Unit (Platforms Grace and Gail) Conductor Removal Program Environmental Assessment

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|---|---|
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# Abbreviations and Acronyms

| | |
|---|---|
| APM | Application for Permit to Modify |
| BOEM | Bureau of Ocean Energy Management |
| BSEE | Bureau of Safety and Environmental Enforcement |
| CAMP | California Monitoring Program |
| CARB | California Air Resources Board |
| CFR | Code of Federal Regulations |
| $CH_4$ | methane |
| cm | centimeter(s) |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| COA | corresponding onshore area |
| dB re 1 µPa | decibel(s) referenced 1 microPascal |
| DPM | diesel particulate matter |
| DPS | distinct population segment |
| DWT | deadweight tonne(s) |
| EA | environmental assessment |
| EFH | essential fish habitat |
| EPA | Environmental Protection Agency |
| ESA | Endangered Species Act |
| ft | foot (feet) |
| GHG | greenhouse gas |
| hr | hour |
| HDVIP | Heavy Duty Vehicle Inspection Program |
| Hz | hertz |
| IHA | Incidental Harassment Authorization |
| in | inch(es) |
| JOFLO | Joint Oil Fisheries Liaison Office |
| kg | kilogram(s) |
| km | kilometer(s) |
| kn | knot(s) |
| L | liter(s) |
| lb | pound(s) |
| m | meter(s) |
| mi | mile(s) |
| ml | milliliter(s) |
| MMPA | Marine Mammal Protection Act |
| $MMTCO_2e$ | million metric tons of carbon dioxide equivalent |
| MPA | marine protected area |

| | |
|---|---|
| $MTCO_2e/yr$ | metric tons of carbon dioxide equivalent per year |
| NEPA | National Environmental Policy Act |
| NIS | Non-Indigenous Species |
| NMFS | National Marine Fisheries Service |
| nm | nautical mile(s) |
| $N_2O$ | nitrous oxide |
| $NO_x$ | nitrogen oxide(s) |
| NPDES | National Pollutant Discharge Elimination System |
| $O_3$ | ozone |
| OCS | Outer Continental Shelf |
| OSRO | on-site spill response organization |
| OSV | offshore support vessel |
| PFMC | Pacific Fishery Management Council |
| $PM_{10}$ | coarse particulate matter |
| $PM_{2.5}$ | fine particulate matter |
| POCSR | Pacific Outer Continental Shelf Region |
| POLB | Port of Long Beach |
| PTO | Permit to Operate |
| ROG | reactive organic gases |
| SBC | Santa Barbara Channel |
| SBCAPCD | Santa Barbara County Air Pollution Control District |
| SCB | Southern California Bight |
| SCAQMD | South Coast Air Quality Management District |
| SCCAB | South Central Coast Air Basin |
| $SO_x$ | sulfur oxides |
| TA | Temporary Abandonment |
| TAC | toxic air contaminant |
| TEU | twenty-foot equivalent unit |
| TSS | Traffic Separation Scheme |
| USCG | U.S. Coast Guard |
| VCAPCD | Ventura County Air Pollution Control District |

# 1 Introduction

## 1.1 BACKGROUND

The Bureau of Safety and Environmental Enforcement's (BSEE's) Pacific Outer Continental Shelf Region (POCSR) received technical and environmental information from Chevron in support of Applications for Permit to Modify (APMs) (30 CFR Part 250.1723) to initiate the removal of well conductors from Santa Clara Unit Platforms Grace and Gail (Project). Platforms Grace and Gail are located on the Outer Continental Shelf (OCS) of the Santa Barbara Channel (SBC) in the Southern California Planning Area (**Figure 1-1**).

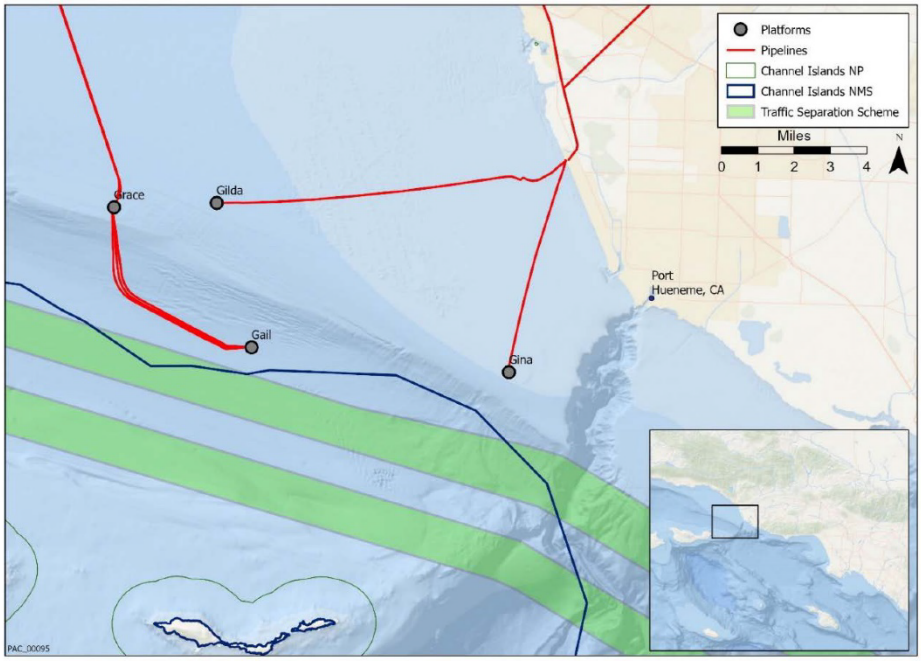


**Figure 1-1. Study area: eastern Santa Barbara Channel, Santa Clara Unit (Platforms Grace, Gail, Gilda, and Gina)**

## 1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The need for the proposed action is to provide for the regulatory review and approval of structure removal of Platforms Grace and Gail, which are now at the end of their economic life.

The purpose for proposed action is to enable the safe and environmentally sound removal of the conductors, which is a precursor to the permanent decommissioning of the facilities.

## 1.3 REGULATORY FRAMEWORK

The decommissioning and removal of the facilities would follow requirements in the Outer Continental Shelf Lands Act (OCS Lands Act), National Environmental Policy Act (NEPA), and regulatory requirements pursuant to BSEE under 30 CFR Part 250.1703. This document does not include permitting outside of Bureau of Ocean Energy Management (BOEM) or BSEE authority.

BSEE will decide whether the Project is technically and environmentally sound, including mitigation measures submitted by Chevron as part of their Project commitments, and any additional environmental mitigations recommended by BOEM during the NEPA analysis conducted for this Project. Upon the findings provided by the environmental analysis of the proposed activities, BSEE will decide on the approval of the APMs for removal of the well conductors on the Santa Clara Unit facilities.

## 1.4 STUDY AREA: PROJECTS AND ACTIVITIES

This section describes the reasonably foreseeable projects and activities within the proposed action area that may co-occur, in space or time, with the proposed action. Two types of projects and activities are described: (1) approved and pending energy projects, and (2) other non-energy projects and activities that are occurring or may occur in the vicinity of the Santa Clara Unit well conductor removal Project and may interface with the same biological, economic, or cultural resources. We use the term *impact-producing factors* to define the particular way in which an action (project or activity) affects a given resource (**Section 2.2.1**). Projects and activities may generate impact-producing factors, which may affect a biological, economic, or cultural resource directly or indirectly. All projects and activities described are located in the SBC offshore Ventura County.

### Offshore Energy Projects

Future oil and gas activities on existing Federal OCS leases are described below; this discussion is limited to activities occurring on existing platforms. No new offshore energy projects are reasonably foreseeable at this time.

**Activities Occurring on Existing Platforms.** There are 23 oil and gas platforms located on the Federal OCS. Nineteen platforms (including the two analyzed in this environmental assessment [EA]) are located off the coasts of Santa Barbara and Ventura Counties. Activities that could overlap with Project activities are limited to routine operations at adjacent facilities such as Platforms Gilda and Gina, and accidental oil spills from these platforms could also overlap with Project activities. Routine operations involve air emissions, discharges of permitted effluents, and transportation of personnel and supplies by crew and supply boats and helicopters. Transportation of personnel and supplies by crew and supply vessels would follow currently used routes between the ports and the platforms, and Project vessels would operate within the established vessel traffic lanes.

**State Offshore Energy Projects.** There are no state offshore projects presently operating that are expected to overlap spatially with the Project; therefore, state offshore energy projects are not considered further in this analysis.

### Offshore Activities

**Shipping Activity.** The U.S. Coast Guard (USCG) evaluated current vessel routing in the approaches to the Port of Los Angeles, Port of Long Beach (POLB), and SBC (USCG 2011). The majority of the commercial vessels in the SBC use the vessel Traffic Separation Scheme (TSS), an internationally sanctioned set of traffic lanes established for marine safety providing predictability and safer navigation (USCG 2011). The lanes in the SBC are 1 nautical mile (nm; 1.8 km) wide, and each separation zone is 1 nm (1.8 km) wide (**Figure 1-1**). The estimated annual traffic through SBC TSS is 6,000 vessel movements. SBC is also extensively used by smaller commercial, fishing, and recreational vessels. Accidents and the subsequent spillage of fuel oil is a possibility for vessels transiting SBC, but no significant spillage has occurred since the TSS was established. Designated commercial shipping lanes exist within the San Pedro Bay for ships to enter and leave the Port of Los Angeles and POLB. Oil tankers, container ships, and other large commercial vessels use these shipping lanes when entering and leaving port.

**Greenhouse Gas Emissions (GHGs).** Industrial, commercial, and residential projects in the Project area contribute to the release of GHGs.

**Commercial Fishing.** The productive habitats within the SBC support important fishing grounds. Fishers ply these waters and land over 120 species for market using trawl, pot/trap, purse seine, gill net, long-line, hand rake, and hook-and-line gear. The region benefits from both high-volume (coastal pelagic fishes, market squid, and sea urchin) and high-priced (California spiny lobster, sablefish, and spot prawn) fisheries. Total landings from the SBC port complex consistently rank the highest in value within the State of California. During the year, fishers many vary their time spent among different fisheries depending on market demand, harvest regulations, weather conditions, and species abundance.

**Marine Protected Areas (MPAs).** The 1999 Marine Life Protection Act directed the State of California to design and manage a network of MPAs in order to protect marine life and habitats, marine ecosystems, and marine natural heritage, as well as improve recreational, educational, and study opportunities provided by marine ecosystems. MPAs include state marine reserves, state marine parks, and state marine conservation areas, which confer different levels of restrictions on recreational and commercial fishing in state waters out to 3 nm (California Department of Fish and Wildlife 2021). Channel Islands National Park and Channel Islands National Marine Sanctuary also provide additional protections within the SBC.

**Point Source Discharges.** The nearest point source discharge to the Project area is from the Oxnard wastewater treatment plant. The plant discharges 21 million gallons per day of wastewater at a secondary level of treatment (Steinberger and Schiff 2003).

**Nonpoint Source Discharges.** The nearest potential sources of nonpoint source pollution are the numerous small and intermittently flowing streams running out of the coastal range along the mainland side of the SBC. River runoff is difficult to quantify and is seasonally variable. Pollutants carried by a river runoff plume would be well diluted but perhaps still detectable by the time of arrival in the Project area.

# 2 Description of the Proposed Action and Alternatives

## 2.1 BACKGROUND INFORMATION AND DESCRIPTION OF EXISTING FACILITIES

The Santa Clara Unit Platforms Grace and Gail are located about 10 mi (16 km) offshore Ventura County in the eastern SBC (**Figure 1-1**). Chevron is permanently plugging and abandoning all wells on both platforms. The next step would be to remove all well conductors on both platforms.

## 2.2 ALTERNATIVE A: PROPOSED ACTION

### Introduction

In September 2020, Chevron submitted an APM to BSEE to begin the removal of well conductors and associated casings on Platforms Grace and Gail as part of the permanent abandonment of the Santa Clara Unit wells (Padre Associates Inc. 2020). In December 2020, Chevron submitted supplemental information (Chevron 2020). To view these documents, visit https://www.boem.gov/santa-clara-unit-well-conductor-removal.

Platform Grace was installed first and became operational in 1980, and Platform Gail became operational in 1988. Chevron is responsible for the decommissioning of the platforms, which are currently operated by Beacon West. When these platforms were active, produced oil and gas were transported from Platform Gail to Platform Grace by subsea pipelines and then transported to the onshore separation and treatment facilities in Carpinteria, Santa Barbara County. The platforms were shut-in in November 2017 following bankruptcy of the previous operator (Venoco).

### Conductors

#### *Platform Grace*

Platform Grace has 48 well slots. Of those well slots, twenty-eight 24-in (61-cm) conductors were installed and used to support production well drilling operations (**Table 2-1**). An additional ten 24-in (61-cm) conductors were installed; however, no wells were subsequently drilled. Ten well slots remain empty. The total surface area of the conductors as part of the entire platform jacket structure is approximately 90,108 $ft^2$ (8,371 $m^2$). As part of the well plug and abandonment program, the wellheads would be removed, and each well would be plugged in accordance with BSEE regulations. Temporary Abandonment (TA) of the wells is currently ongoing and scheduled to be completed by April 2021.

#### *Platform Gail*

Platform Gail has 36 well slots. Of those well slots, twenty-eight 24-in (61-cm) conductors were installed and used to support production well drilling operations (**Table 2-1**). Eight well slots remain empty. The total surface area of the conductors as part of the entire platform jacket structure is approximately 138,808 $ft^2$ (12,896 $m^2$). Well TA is anticipated to be completed at Platform Gail by the end of the first quarter of 2023.

**Table 2-1. Summary of well conductors proposed for removal**

| Platform | Conductors to be Removed | Conductor Length (ft) | Total Conductor Length (ft) | Water Depth (ft) | Diameter (in) | Total Weight (tons) |
|---|---|---|---|---|---|---|
| Grace | 38 | 398 | 14,328 | 318 | 24 | 130.11 |
| Gail | 28 | 789 | 22,113 | 719 | 24 | 261.62 |

### Location

The Santa Clara Unit facilities are located on the Federal OCS of the SBC offshore Ventura County in the Southern California Planning Area (**Figure 1-1**).

### Project Timing

The proposed activities, including mobilization and demobilization, are expected to take approximately 360 operational days to complete. Work at Platform Grace would take approximately 120 days (4 months), and removal at Platform Gail would take approximately 240 days (8 months). The conductor cutting and removal is targeted for Platform Grace in the third quarter of 2021, following completion of well TA (anticipated to be completed by the first quarter of 2021) and all required environmental reviews and permitting. Conductor cutting and removal is targeted at Platform Gail in the second or third quarter of 2023, following completion of well TA and all required environmental reviews and permitting.

### Methodology

The current plan is to complete conductor removal in one phase (at each platform) using abrasive and mechanical cutting methods. Prior to removal operations, the conductors would be cleaned of marine growth using divers with water jetting tools. Diver operations would be focused on the upper 60 ft (18 m) of the conductor, where the majority of the marine growth is accumulated; however, diver operations may continue deeper if conditions warrant. In addition to diver operations, a water jetting ring would be attached to each conductor below the water line prior to pulling up the conductor pipe to continue removal of any attached marine growth on the lower sections of the conductor.

The initial cut(s) will be made at a location at least 15 ft (4.5 m) below the mudline (or other depth as approved by BSEE) using an Internal Multi-String Cutting Tool. Abrasive material would be utilized to make the initial cut from inside the conductor and through the outer casing(s) at Platform Grace. The abrasive material would be made up of Sharpshot© Iron Silicate Abrasives (Padre Associates Inc. 2020).

Approximately 500 lb (227 kg) of material would be required per hour of use. The average conductor cut requires approximately 7 hours, or approximately 3,500 lb (1,588 kg) of material. After the initial cut is completed and confirmed, the cut conductor pipe would be pulled up to the platform deck using a casing jack or hydraulic hoist and then cut into approximately 40-ft (12-m) segments utilizing a mechanical cutting tool. Topside cuts will take approximately 3 hours each to complete. Based on an average conductor length at Platform Grace of 398 ft (121 m), an additional 9 topside cuts (equivalent to approximately 27 hours of cutting time) would be required following the initial cut below the mudline for removal of each conductor (38 total).

Due to water depths at Platform Gail, mechanical cutting methods may be used to complete the initial conductor cuts (Padre Associates Inc. 2020). Internal cuts typically are completed using a hydraulically actuated cutter head, which is rotated inside the conductor. It is estimated that internal mechanical cut(s) would take approximately 12 to 24 hours depending on the number of internal strings of pipe that need to be cut. As described above, after the initial cut is completed and confirmed, the cut conductor pipe would be pulled up to the platform deck using a casing jack or hydraulic hoist and then cut into approximately 40-ft (12-m) segments utilizing a mechanical cutting tool.

Again, topside cuts will take approximately 3 hours each to complete. Based on an average conductor length at Platform Gail of 789 ft (240 m), an additional 19 topside cuts (equivalent to approximately 60 hours of cutting time) would be required following the initial cut below the mudline for removal of each conductor (28 total).

The cut pipe would then be stacked on each platform deck and transferred to the offshore support vessel (OSV) *Adele Elise* or similar vessel. The OSV *Adele Elise* is a 225-ft (68.6-m) vessel powered by two main diesel engines. Each segment would take approximately 10 minutes to load onto the vessel utilizing the existing platform crane(s). Batch sizes would be selected to optimize deck space and minimize vessel runs. The vessel would then transport the segments, over approximately 48 trips, to either the POLB or Port Hueneme utilizing the TSS. For the POLB recycling option, the vessel would offload the conductors at SA Recycling within the POLB. For the Port Hueneme recycling option, the vessel would offload the conductors, which would then be trucked to Standard Industries in Saticoy, Ventura County (Padre Associates Inc. 2020). Details on project activities that occur in state waters or at port are provided in this analysis for informational purposes, but these activities outside of Federal waters are beyond BSEE's jurisdiction and will not be subject to regulatory review.

In addition to the OSV *Adele Elise*, the Project would utilize the crew boat M/V *Jackie C.* to routinely transport crew and equipment from Carpinteria Pier to the platforms using the established Joint Oil Fisheries Liaison Office (JOFLO) corridors. M/V *Jackie C.* is a 120-ft (36.5-m) vessel powered by four MTU Series 60 Engines (Padre Associates Inc. 2020).

After all well conductors on Platform Grace are completed in 2021, the platform equipment and support vessels would be demobilized and would return to complete well conductor removal activities on Platform Gail in 2023.

A complete list of equipment, vessels, and detailed methodology used for the Project is included within the full Project application (Padre Associates Inc. 2020).

### 2.2.1 Environmental Resources Considered

**Environmental Resources Included in the EA.** BOEM followed a multi-step process in conducting the environmental analysis presented in this EA. First, BOEM conducted an initial screening analysis to determine the impact-producing factors and biological, economic, or cultural resources in the Project area that could potentially be impacted by the proposed Project. The impact-producing factors identified for this Federal action are air emissions; noise; discharges; turbidity; and marine vessel strikes,

displacement, and traffic. Based on this examination and review of the proposed Project, BOEM determined that the following environmental resources and socioeconomic considerations could be potentially impacted by the proposed Project and the relevant impact-producing factors (**Table 2-2**).

**Table 2-2. Environmental resources potentially impacted by the proposed Project**

| Resource | Potential Impact(s) from Proposed Activity | Relevant Impact-Producing Factor(s) |
|---|---|---|
| Air Quality | Emissions from vessels and associated equipment | Air emissions |
| Water Quality | Disturbance of sediments and discharges of wastes | Discharges<br>Turbidity |
| Benthic Resources | Disturbance of seafloor habitats and habitat removal | Discharges<br>Turbidity<br>Habitat removal |
| Fishes and Essential Fish Habitat | Disturbance of sediments, noise, and habitat removal | Turbidity<br>Noise<br>Habitat removal |
| Marine Mammals and Sea Turtles | Disturbance due to noise or injuries due to marine vessel traffic | Vessel strikes<br>Noise |
| Threatened and Endangered Species | Species are covered under the applicable resource category | Noise<br>Vessel strikes |
| Commercial Fishing | Potential impacts due to space-use conflicts and damage to commercially important fish populations | Vessel traffic |
| Socioeconomic | Effects on general economic activity, transportation, employment, and tourism | Vessel traffic |
| Environmental Justice and Tribes | Effects on minority, low-income populations, and tribes | Vessel traffic |

**Environmental Resources Not Included in the EA.** The following resources were not included for analysis in this EA because BOEM determined that they are not in the Project area and/or would not be affected by the activities:

- **Intertidal, Wetland, and Shallow Subtidal Resources.** These resources would not be affected by the proposed Project. The Project would occur about 10 mi (16 km) offshore Ventura County in water depths between 318–739 ft (97–225 m) and would be outside of the scope of potential impacts from Project activities.
- **MPAs, Sanctuaries, and Preserves.** These resources would not be affected by the proposed Project. The Project would occur about 10 mi (16 km) offshore Ventura County in water depths between 318–739 feet (97–225 m). Although the proposed activities are located near the Channel Islands National Marine Sanctuary, all oil and gas wells would be plugged and abandoned prior to conductor removal, and if oil or other discharges were released from any Project vessel, they would not be of a quantity large enough to reach and impact these resources. Sediment plumes generated from projected activities are not expected to enter sanctuary waters.
- **Cultural/Archaeological Resources.** Archaeological and cultural resources are protected by State of California and Federal laws and are known to be present in the SBC. The proposed action would occur from existing drilling platforms that were installed in 1980 and 1987. Previous archaeological surveys in the Project area did not identify any potential archaeological

or cultural resources near the proposed area. No anchoring is proposed for this Project, and only minor seafloor sediment disturbances are expected within each platform footprint. The proposed action, therefore, has no potential to cause effects to historic properties as defined under Section 106 of the National Historic Preservation Act, and no further review under Section 106 is required.

- **Marine and Coastal Birds.** These resources would not be affected by the proposed Project. Platforms Grace and Gail are located approximately 10–10.5 mi (16–17 km) offshore Ventura County in the eastern portion of the SBC. Birds in the ocean environment have a dynamic distribution that is affected by ocean temperatures, currents, prey distribution, and season. Their distribution and abundance in the Project area would largely be affected by these factors. Effects that were considered include those related to Project-generated noise and lighting, vessel traffic, and accidental oil spills. It is unlikely that any marine or coastal bird species would be attracted to the Project area as a result of the proposed activities or adversely affected due to the anticipated low levels of vessel traffic, lack of significant addition of artificial lighting for nighttime operations, and low risk of an oil spill (**Section 2.2.2**).
- **Recreational Fishing.** Although some fishing activity occurs in the Project area, Project vessels are not expected to exclude recreational fishers from the area, so access would not be reduced.

### 2.2.2 Oil Spills

The first phase of the proposed Project would not begin until after all wells on a platform have been temporarily abandoned per BSEE regulations, which includes an assessment of the wellhead and well bore to ensure there is no pressure in the well. All process tanks and vessels would be flushed and purged. Therefore, oil could not be spilled from either of the two Santa Clara Unit platforms as a result of this proposed Project.

The operation of the primary work vessel supporting the conductor removal activity would involve the use of petroleum hydrocarbons, including small volumes of lubricating oils, hydraulic fluids, and waste oils. Spillage of these materials on any vessel could result in their release to the marine environment. The work vessel maintains an oil spill response plan and would have spill containment and cleanup equipment on board in the event of local deck spills. If an oil spill were to occur from the vessel to the ocean, Chevron would respond and assist the vessel in accordance with its agency-approved Oil Spill Response Plan for Pacific OCS Operations. Incident response procedures include mobilization of an Onsite Response Team at the platforms, and, if necessary, deployment of vessels from the on-site spill response organization (OSRO).

Incidental spillage of lubricating oil, hydraulic fluids, and waste oil is expected to result in a minor impact to the marine environment due to the small volume of such spills, the onsite oil spill response capability, and other spill response resources in the immediate area. Due to the short Project timeframe, lack of a source for a large oil spill, and capability of an OSRO response to a spill of any size, no impacts from oil spills are expected, and oil spills are not further analyzed in this document.

### 2.2.3 Mitigations Included in the Analysis

**Table 2-3** lists the environmental protection measure that would be implemented for the proposed Project to avoid or minimize impacts.

**Table 2-3. Environmental protection measures**

| Description of Potential Impacts | Impact-Producing Factors | Environmental Protection Measures to Avoid or Minimize Impacts from the Proposed Project |
|---|---|---|
| **General Compliance** | | • At least 30 workdays prior to commencement of well conductor removal activities, Chevron will submit to BSEE for approval an environmental compliance monitoring plan to monitor and track compliance with all environmental protection mitigation measures incorporated into this Project. Mitigation measures include those described in this analysis and any other conditions of the Project. Chevron's plan will specify submittal dates to report progress to BSEE in ensuring operations were conducted in accordance with the approved plan and supporting information, noting any deviations from the approved APM or supporting information.<br>• If Chevron needs to make a change outside of the Project scope or if there is an emergency impact to biological resources, Chevron must contact BSEE immediately. |
| **Air Quality**<br>Impacts to onshore air quality | Air emissions | • Project-related vessels will comply with all requirements of Chevron's approved Boat Monitoring and Reporting Plan.<br>• Chevron will maintain the reduced cruising speeds (10 knots) specified in the Boat Monitoring and Reporting Plan approved by the Ventura County Air Pollution Control District (VCAPCD) for the entire trip from the Santa Clara Unit facilities to and from Port Hueneme and POLB.<br>• Chevron will utilize the USCG TSS during vessel transit to and from the Port of Hueneme and POLB.<br>• Crews will minimize idling time of heavy-duty trucks at the staging area within Port of Hueneme and POLB. |
| **Water Quality**<br>Impacts to water quality from Project discharges | Discharges<br>Turbidity | • Chevron will operate under a BSEE-approved Oil Spill Response Plan.<br>• Chevron's NPDES permit will include limits on discharges into water column. |
| **Benthic Resources**<br>Impacts to benthic organisms from Project discharges, and habitat removal | Discharges<br>Turbidity<br>Habitat removal | • Chevron will keep a log for all materials lost overboard and report them to BSEE per regulations.<br>• As a precaution for the presence of *Watersipora*, a non-native species (NIS), BOEM recommends Chevron cleans the conductors, shortly after the reproductive period, during the months of September to November. |

| Description of Potential Impacts | Impact-Producing Factors | Environmental Protection Measures to Avoid or Minimize Impacts from the Proposed Project |
|---|---|---|
| **Fishes and EFH**<br>Removal of fish habitat, disturbance of seabed, and noise from abrasive cutting and marine vessel traffic | Turbidity<br>Noise<br>Habitat removal | • Chevron will avoid anchoring vessels during Project activities.<br>• The use of explosives is prohibited during Project activities. |
| **Marine Mammals and Sea Turtles**<br>Disturbance of marine mammals by vessel traffic and noise | Vessel strikes<br>Noise | • All crew will be provided with training regarding marine mammal species present in the Project area, and vessel captains will be familiar with reporting requirements.<br>• If daily whale presence is reported to be above a medium rating within the transit corridor on Whalesafe.com, the vessel will transit at a reduced speed of 10 knots or less.<br>• During daylight hours, trained crewmembers will conduct a 30-minute visual clearance of a 300-m clearance zone before and after each initial conductor cutting to ensure that no Endangered Species Act (ESA)-listed whales and sea turtles are present before cutting commences and after cutting is completed.<br>• If species are detected, initial cutting will be delayed until the ESA-listed whales or sea turtles are more than 300 m away from the cutting site (Ruvelas 2021). |
| **Commercial Fishing**<br>Project activities may interfere with fishing, and damage to commercially important fish populations from habitat loss and turbidity/noise | Vessel traffic | • Chevron will consult with JOFLO to minimize space-use conflicts associated with marine vessel traffic.<br>• Notice to Mariners: Chevron will file a timely advisory with the local USCG District office, with a copy to the Long Beach Office of the State Lands Commission, for publication in the Local Notice to Mariners and will place a similar notification in all SBC ports that support commercial fishing vessels prior to the commencement of Project activities.<br>• See also *Fishes and EFH*. |

## 2.3 ALTERNATIVE B: NO ACTION

This EA contrasts the impacts of the proposed action with the current and expected future conditions of the affected environment in the absence of the action, which constitutes consideration of a no action alternative (40 CFR Part 1501.4, 1502.14). Under this alternative, Chevron would not remove the well conductors and casings and therefore would not be able to conduct permanent well abandonment operations on Platforms Grace and Gail per BSEE regulatory requirements to remove the facilities at the end of their economic life. None of the impacts expected to result from the well conductor removal activities would occur. The purpose and need for the proposed action would not be achieved. Without the ability to remove the well conductors and casings, Chevron would not be able to fully decommission their facilities as is required under the OCS Lands Act. Thus, the removal of the well conductors and casings from Platforms Grace and Gail is a critical step to the full removal of the structure from the Federal OCS and decommissioning of the facilities at the end of their economic life.

No other alternatives were considered for this EA.

# 3 Description of Affected Environment and Environmental Considerations

## 3.1 AIR QUALITY

### 3.1.1 Affected Environment

Chevron's proposed Project would be conducted in the OCS offshore Ventura County, within the South Central Coast Air Basin (SCCAB). The climate, meteorology, air quality, and air quality trends of the Ventura County area have been described in detail in several planning and environmental documents and are best summarized in the *Final 2016 Ventura County Air Quality Management Plan* (VCAPCD 2017) and the *Environmental Setting of the Southern California OCS Planning Area* (Argonne National Laboratory 2019).

#### Criteria Pollutants

The Federal attainment status of Ventura County is found in 40 CFR 81.305. Currently, Ventura County is in attainment for all National Ambient Air Quality Standards except for the Federal 8-hour ozone ($O_3$) standard (VCAPCD 2017).

Section 328 of the 1990 Clean Air Act Amendments transferred authority for air quality on the OCS to the U.S. Environmental Protection Agency (EPA). On September 4, 1992, the EPA Administrator promulgated requirements (40 CFR Part 55) to control air pollution from OCS sources to attain and maintain Federal and state air quality standards. The promulgated regulations require OCS sources to comply with applicable onshore air quality rules in the corresponding onshore area (COA). EPA delegated authority to the Ventura County Air Pollution Control District (VCAPCD) on January 27, 1994, to implement and enforce the requirements of 40 CFR Part 55. The Santa Clara facilities are located offshore Ventura County and are currently permitted by and within the jurisdiction of the VCAPCD.

Project operations may extend to the POLB area and corresponding offshore areas between the combined Platforms Gail and Grace operational area and Long Beach, California. This portion of the South Coast Air Basin is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). EPA delegated authority to the SCAQMD on May 9, 1994, to implement and enforce the requirements of 40 CFR Part 55.

Currently, SCAQMD is in non-attainment status for the Federal 1-hour and 8-hour $O_3$ standards, and non-attainment for the Federal $PM_{2.5}$ standard (SCQAMD 2017).

In Ventura County, the wind is predominantly from the west (WRCC 2021b), meaning that the pollutants generated offshore and on the coast predominantly flow eastward toward populated land areas. In Long Beach, the wind is predominantly from the west-northwest and south in the daytime, with a drainage pattern exhibited from the north-northeast in the late evening and early morning hours (WRCC 2021a); again, pollutants generated offshore and along the coast predominantly flow toward populated land areas.

#### Greenhouse Gases

Due to the use of both stationary and mobile equipment that involve combustion processes, this Project could be a source of GHGs. GHGs are defined as any gas that absorbs infrared radiation in the atmosphere. The effects of GHGs are global, in contrast to the criteria pollutant impacts, which are localized to the county and multi-county levels. GHGs include water vapor, carbon dioxide ($CO_2$), methane ($CH_4$), and nitrous oxide ($N_2O$). These GHGs lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the greenhouse effect. The primary source of GHGs in the U.S. is energy-use related activities, which include fuel combustion, as well as energy production, transmission, storage, and distribution. These energy-related activities generated 85% of the total U.S. emissions on a carbon-equivalent basis in 1998 and 86% in 2004. Fossil fuel combustion represents the vast majority of the energy-related GHG emissions, with $CO_2$ being the primary GHG (USEPA 2020b).

#### Toxic Air Contaminants

Areas under the jurisdiction of VCAPCD, and to a greater extent, SCAQMD, are subject to emissions of toxic air contaminants (TAC), primarily diesel particulate matter (DPM). DPM is a combustion contaminant and is emitted by equipment using diesel fuel, such as heavy duty trucks, oceangoing vessels, harbor vessels, cranes, gantries, trains, and emergency and portable generators. In 1998, the California Air Resources Board (CARB) identified DPM as a TAC. Currently, CARB programs control DPM emissions by various means, including the regulation of commercial vehicle idling, conducting a Heavy Duty Vehicle Inspection Program (HDVIP), and retrofitting older trucks and buses. Since 2007, CARB has required commercial harbor vessel operators to use California ultralow sulfur diesel, install non-resettable hour meters, and phase out Tier 1 engines.

### 3.1.2 Impact Analysis

BOEM, its predecessor agencies, and other agencies have prepared several environmental documents associated with the offshore activities in the Santa Clara Unit; these documents provide background discussions of air quality impacts and mitigations associated with those multiple project activities. Various Authority to Construct (ATC) permits and Permits to Operate (PTOs) have been issued by the VCAPCD regarding Santa Clara Unit ongoing activities and operations and may be further referenced by contacting VCAPCD offices. Platform Grace operates under VCAPCD PTO #01493, and Platform Gail operates under PTO #01494. Both facilities are subject to Title V permitting and compliance requirements. These PTOs contain limits for allowable emissions associated with platform operations, including decommissioning activities. In its Project description (Padre Associates Inc. 2020), Chevron provided information regarding the equipment and proposed activities and estimated the potential criteria pollutant emissions associated with the proposed conductor removal activities (**Table 3-1**).

**Table 3-1. Chevron's estimated criteria pollutant emissions for the proposed Project**

| Disposal Option | *Ventura County* | | | | | *Los Angeles County* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $NO_X$ | ROG | $PM_{10}$ | $SO_X$ | CO | $NO_X$ | ROG | $PM_{10}$ | $SO_X$ | CO |
| ***Port of Long Beach (POLB) Recycling Scenario*** | | | | | | | | | | |
| Platform Grace (Peak Day, lb) | 265.11 | 43.18 | 27.31 | 0.33 | 151.92 | 359.24 | 45.33 | 43.62 | 0.21 | 158.24 |
| Platform Gail (Peak Day, lb) | 246.51 | 43.78 | 23.91 | 0.40 | 147.74 | 359.24 | 45.33 | 43.62 | 0.21 | 158.24 |
| **TOTAL** | **511.62** | **86.96** | **51.22** | **0.74** | **299.66** | **718.48** | **90.67** | **87.24** | **0.43** | **316.47** |
| Platform Grace (Total Tons, 2021) | 5.11 | 0.93 | 0.46 | 0.01 | 3.58 | 5.75 | 0.73 | 0.70 | 0.00 | 2.53 |
| Platform Gail (Total Tons, 2023) | 8.94 | 1.66 | 0.78 | 0.01 | 6.53 | 11.50 | 1.45 | 1.40 | 0.01 | 5.06 |
| **TOTAL** | **14.05** | **2.58** | **1.25** | **0.02** | **10.11** | **17.24** | **2.18** | **2.09** | **0.01** | **7.60** |
| ***Port Hueneme Recycling Scenario*** | | | | | | | | | | |
| Platform Grace (Peak Day, lb) | 206.56 | 35.64 | 20.03 | 0.30 | 125.61 | -- | -- | -- | -- | -- |
| Platform Gail (Peak Day, lb) | 189.86 | 36.55 | 16.95 | 0.38 | 122.53 | -- | -- | -- | -- | -- |
| **TOTAL** | **396.43** | **72.19** | **36.98** | **0.68** | **248.14** | -- | -- | -- | -- | -- |
| Platform Grace (Total Tons, 2021) | 4.16 | 0.80 | 0.35 | 0.01 | 3.16 | -- | -- | -- | -- | -- |
| Platform Gail (Total Tons, 2023) | 7.11 | 1.43 | 0.56 | 0.01 | 5.72 | -- | -- | -- | -- | -- |
| **TOTAL** | **11.27** | **2.23** | **0.91** | **0.02** | **8.88** | -- | -- | -- | -- | -- |

Notes: Only one recycling scenario would be chosen. Work at Platform Grace would occur in 2021, and work at Platform Gail would occur in 2023. Only the POLB recycling scenario requires vessel trips within SCAQMD. $NO_X$ = nitrogen oxides, ROG = reactive organic gases, $PM_{10}$ = coarse particulate matter, $SO_X$ = sulfur oxides, CO = carbon monoxide

In the POLB recycling scenario, projected emissions of $NO_X$ from Platform Grace are 5.11 tons in the VCAPCD and 5.75 tons in the SCAQMD; for Platform Gail, projected $NO_X$ emissions are 8.94 tons (VCAPCD) and 11.50 tons (SCAQMD). Other criteria pollutants are emitted in lessor amounts. For the Port Hueneme recycling scenario, Ventura County is the only jurisdiction impacted, and the $NO_X$ emissions are 4.16 tons for Platform Grace and 7.11 tons for Platform Gail. Other criteria pollutants are emitted in lessor amounts. No modifications to existing permits are anticipated for this Project. The projected emissions are short term and not expected to result in exceedances of any Federal, state, or local air quality standards.

Prior to removal operations, Chevron would clean the conductors of marine growth. This operation may minimize nuisance odors en route to and at the recycling facilities (VCAPCD Rule 51, SCAQMD Rule 402, and California H&S Code Section 41700). Initial cuts would be made with abrasive material (Sharpshot© Iron Silicate Abrasives) for Platform Grace and possibly with mechanical cutting methods for Platform Gail (due to its water depth) at least 15 ft (4.5 m) below the mudline; these cuts are expected to have little atmospheric impact (Padre Associates Inc. 2020).

After initial cuts are completed, the conductor pipe would be pulled to the platform deck and cut into 40-ft (12.1-m) sections using a mechanical cutting tool. Topside cuts are expected to take approximately 3 hours each to complete. In total, Platform Grace would require approximately 27 hours of topside cutting time, and Platform Gail would require 60 hours. This operation may create some smoke and particulate matter emission (subject to VCAPCD Rules 50 and 55, respectively) and is expected to have minimal atmospheric impact beyond the immediate cutting areas. The cut conductor sections would be

transferred by crane to the OSV *Adele Elise* (or similar vessel) that is powered by two main diesel engines for transport to either POLB or Port Hueneme (see **Section 2.2**). In addition, the crew boat M/V *Jackie C.* will continue its routine transportation from the Carpinteria Pier to the platforms.

The primary emissions associated with the proposed Project for both the POLB and Port Hueneme recycling scenarios would result from the vessel traffic between each platform. This vessel, together with the smaller crew boat that would be used, would be expected to comply with all applicable rules and regulations regarding fuel sulfur content, speed, and exhaust controls. Due to the short-term nature of the Project and the fact that DPM emissions would mostly occur offshore, TAC emissions are not expected to be significant.

The GHG emission sources associated with the proposed Project activities are expected to be primarily internal combustion engines associated with oceangoing vessels, and the predominant GHG emitted is expected to be $CO_2$. GHG emissions are calculated based on estimated fuel usage for those engines. Total projected emissions of GHGs for the Project are 1,751.81 metric tons of carbon dioxide equivalent per year ($MTCO_2e/yr$) in Ventura County and 1,036.41 $MTCO_2e/yr$ in Los Angeles County. In 2018, emissions from GHG-emitting activities statewide were 425 million metric tons of carbon dioxide equivalent ($MMTCO_2e$), which was 0.8 $MMTCO_2e$ higher than 2017 levels and 6 $MMTCO_2e$ below the 2020 GHG limit of 431 $MMTCO_2e$ (CARB 2020). The most recent 2019 POLB emission inventory estimated 394,186 metric tons per year from oceangoing vessels (Starcrest Consulting Group LLC 2020). Although Ventura County has not established a GHG threshold, it would be reasonable to reference the same thresholds established by SCAQMD and the Santa Barbara County Air Pollution Control District (SBCAPCD) of 10,000 $MTCO_2e/yr$. Therefore, the increase in GHG emitted by this Project are expected to be negligible.

### 3.1.3 Conclusion

Based on the projected emissions and the implementation of mitigation measures (**Section 2.2.3**), the potential impacts to onshore air quality from the sectioning and removal of the well conductors are expected to be temporary and minor. The potential impacts to onshore air quality resulting from the well conductor removal activities are expected to be within allowable emission levels currently permitted by the VCAPCD and SCAQMD.

## 3.2 WATER QUALITY

### 3.2.1 Affected Environment

Offshore water quality is determined by several factors, including natural seawater properties such as transparency and turbidity, oxygen, nutrients, and trace metals. The addition of anthropogenic pollutants can change these properties to the extent that the resulting water quality could affect the plankton, fish, and other biological entities living in marine waters. **Table 3-2** describes the water quality characteristics of the Southern California Bight (SCB). For a detailed description of the oceanography and water quality in the Southern California Planning Area see www.boem.gov/Environmental-Setting-of-Southern-California/.

**Table 3-2. Key water quality parameters for the Southern California Bight (SCB)**

| Parameter | Characteristics |
|---|---|
| Temperature | At surface, ranges from 14.5 °C in December–April to 19 °C in July–September (Dailey et al. 1993) |
| Salinity | 33.4–33.6 parts per thousand (Dailey et al. 1993) |
| Dissolved oxygen | 5.5–6 ml/L at the surface, decreasing with depth to 2 ml/L at 200 m (656 ft); below 350 m (1,150 ft), as low as 1 ml/L; upwelling can bring this oxygen-poor water to the surface waters, especially from April to July (Dailey et al. 1993; Lynne et al. 1982) |
| pH | Range from about 7.869 to 8.266 at Point Conception (Hofmann et al. 2011) |
| Nutrients | Important for primary production; include nitrogen, phosphorus, and silicon; depleted near the surface but increasing with depth (Eganhouse and Venkatesan 1993; SCCWRP 1973) |
| Surface light transmittance | Visual transparency along the coast for all seasons varies from less than 6 m to more than 15 m (SCCWRP 1973) |
| Trace metals | Levels of metals in the waters of the SCB are within ranges reported for seawater in various areas around the world (SCCWRP 1973) |
| Organics | May enter the marine environment from municipal and industrial wastewater discharges, runoff, natural oil seeps, and offshore oil and gas operations |

The rainy season accounts for more than 95% of the total annual runoff to the SCB (Schiff et al. 2000). Stormwater plumes are correlated with the size of storm events. Even small amounts of precipitation can cause a plume to develop, and plumes can vary greatly in size depending on the amount of precipitation (Nezlin and DiGiacomo 2005; Warrick et al. 2007). Immediately during and after storms, plumes tend to emerge from the river mouth and turn to the left, contrary to the Coriolis influence (Warrick et al. 2007). Strong northerly or northwesterly winds push the plumes south, usually remaining within 6 mi (10 km) of the coast (Warrick et al. 2007). When these strong, post-storm winds relax, the river plumes move further from the coast and can travel as much as 15 mi (24 km) from shore and thus into the Project area (Nezlin and DiGiacomo 2005).

The paradox of these plumes is that the higher the flow, the greater the dilution. Additionally, the only time the plumes would reach the vicinity of the Santa Clara Unit would be during times of high flow. Thus, pollutants carried by these plumes would be well diluted by the time they reach the Project area.

As a comparison, the comprehensive California Monitoring Program (CAMP) Phases II and III, which lasted from 1986 to 1995, studied the effects of water-based drilling mud and drill cuttings discharged as a result of 39 development wells drilled from the Point Arguello Field platforms between 1986 and 1989. They observed high particulate flux, and the prevailing currents alone transported the majority of drilling fluids away from the platforms as supported by sediment-trap observations (Coats 1994). The heavier rock cuttings are usually transported less than 600 ft (183 m) (de Margerie 1989) and decreases species abundances within an approximately 300-ft (91-m) distance (Jones et al. 2007) beyond the discharge point. Approximately 80–90% of the particulates are removed by these near-field depositional processes (Neff 2005). Mud depositions traveled 3.7 mi (6.0 km) away from the platform (Battelle Ocean Sciences 1991) but were minor compared to natural sediment fluctuations in the region (SAIC and MEC Analytical Systems 1995).

### 3.2.2 Impact Analysis

Discharges of ungrouted abrasive fluid (seawater, abrasive materials, steel cuttings) are expected to occur intermittently for both platforms throughout the duration of the Project (120 days for Platform Grace, 240 days for Platform Gail). Discharges from both platforms of ungrouted abrasive fluid (seawater, abrasive materials, steel cuttings) are expected to total 1,636 lb (742 kg) per conductor, for a total of 107,976 lb (48,977 kg, approximately 428 bbl) of discharged abrasive fluid for all 66 removed conductors.

Abrasive fluid from the Project would be discharged in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Offshore Oil and Gas Exploration, Development, and Production Operations for Southern California (Permit No. CAG280000) (**Table 3-3**), which expired February 28, 2019, but conditions of the permit continue in force until a new permit is issued (40 CFR 122.6).

**Table 3-3. Maximum annual allowable produced water discharges**

| Facility | Maximum Annual Allowable Produced Water Discharged (bbl) |
|---|---|
| Platform Grace | 2,190,000 |
| Platform Gail | 4,380,000 |

Note: Permit No. CAG280000

The conductor would be cut below the mudline and create some turbidity in the water column while being cut and pulled toward the surface.

Marine growth attached to the conductors would be removed and fall to the seafloor. This action may create turbidity in the water column from the biomass traveling to the seafloor and from the benthic sediments being disturbed by the deposition. These impacts are expected to be of short duration. Grant et al. (1995) examined impacts of shellfish aquaculture on benthic communities and found that sediment oxygen demand was similar between sites, and deposition did not create a hypoxic environment. The biomass deposition on the seafloor from the cleaning of the conductors is unlikely to create a hypoxic or oxygen minimum zone.

### 3.2.3 Conclusion

These activities would cause a small increase in turbidity and impacts to water quality are expected to be short term and localized.

## 3.3 BENTHIC RESOURCES

### 3.3.1 Affected Environment

The affected environment for benthic resources regarding this Project includes the seafloor geology and invertebrate species (i.e., habitats) on and surrounding the Santa Clara Platforms Grace and Gail, as described in Argonne National Laboratory (2019) and Chevron (2020) (3.2.2 Marine Biological

Resources). The three overall types of benthic habitats are 1) soft or unconsolidated substratum; 2) hard-bottom substrate, such as carbonate or rock outcrops (e.g., rocky reef); and 3) platform structures and habitats created in the immediate area by the presence of a platform. The most recent survey of the SCB found sediment in the SBC near Platform A (the location of the 1969 Santa Babara Oil Spill) to be nontoxic (Parks et al. 2020).

A feature at the bottom of platforms, known as shell mounds, forms from sediment typical of the regional area, residual drilling muds, and shells from marine growth removed from subsurface platform structures (Bomkamp et al. 2004; Page et al. 1999). Mussels (largely *Mytilus spp.*), scallops, and other shell-forming invertebrates likely live for some time but eventually die, and their shells can accumulate (**Section 3.4**). The size of a shell mound is dependent on the marine growth removal history of a particular platform, as described in Chevron (2020). Platform Grace shell mound habitat measures approximately 78,000 $ft^2$ (7,246 $m^2$) in area and 13 ft (4.0 m) tall (see 3.2.2.1 Marine Biological Resources in Chevron (2020)). Platform Gail has a smaller shell mound area than Platform Grace, with four identifiable areas that are each approximately 40 ft x 60 ft (12.2 m x 18.3 m) wide at the base and 2–3 ft (0.6 m–0.9 m) tall (see 3.2.2.2 Marine Biological Resources in Chevron (2020)).

### 3.3.2 Impact Analysis

Increased turbidity from the conductor removal and discharges may potentially impact benthic organisms by burial, exposure to chemicals, or increased water turbidity or chemicals (Schaanning et al. 2008; Trannum et al. 2010). These depositions can change a soft bottom habitat by increasing organic content, sand percentage, and grain size (Peterson et al. 1996). Depositions may also clog feeding structures of some filter feeding organism.

The effects of water-based drilling mud and drill cuttings discharged on soft bottom and neighboring hard-bottom epifauna were studied in detail at the Point Arguello platforms during the comprehensive CAMP Phases II and III. Researchers concluded that any minor biological effects due to the drilling muds were related to physical effects of the increased particle loading and not from chemical toxicity (Battelle Ocean Sciences 1991; SAIC and MEC Analytical Systems 1995). Negative impacts occurred to some hard-bottom species within approximately 0.6 mi (1 km) of the discharge source (Diener et al. 1995). Bioassay results were variable but suggest that discharges may affect the viability of some hard-bottom organisms near to the platform (SAIC and MEC Analytical Systems 1995). Discharge volumes released during these studies were larger than the predicted volumes for this Project, and results were based on intense sampling efforts. Therefore, impacts from increased turbidity and discharged materials for the proposed Project, similar to those used in drilling, would be minimal and of short duration.

Biomass accumulating on the seafloor from cleaning platforms has the theoretical potential to cause and anoxic plume as described in **Section 3.2**. A detrimental water quality event is unlikely, because such events have not occurred observationally from any platform, and most platforms are cleaned regularly. Furthermore, a study examining the seafloor habitat under an aquaculture facility, which was of a much larger volume, found no difference in the benthic community structure after over 20 years (Callier et al. 2007). The potential effects of noise and habitat loss are considered in **Section 3.4**. Removal of conductor pipes would reduce the amount (surface area) of artificial hard substrate by an

estimated 26% for Platform Grace and 17% for Platform Gail (Padre Associates Inc. 2020). The accumulation on the seafloor of shell debris, discharges, and abrasive grains (**Section 3.4**) would add to the general hardening of soft sediments and mix in with the existing shell debris and natural reefs near the platforms.

Non-Indigenous Species (NIS) on the platforms were described in Chevron (2020) in 3.2.2.3 Marine Biological Resources. Platform invertebrate assesmbalges were surveyed in 2013–2014 at depths of 20 ft (6 m), 40 ft (12 m), and 60 ft (18 m), and the primary NIS documented on the platforms was Watersipora (Page et al. 2017). The larvae of this non-native bryozoan can be released into the water column and, due to ocean currents, may be able to colonize a group of platforms that are in close proximity (e.g., Grace, Gilda, Gina, Gail). As a precaution for the presence on this NIS, BOEM recommends Chevron cleans the conductors during the months of September to November, shortly after the reproductive period (Viola et al. 2017).

### 3.3.3 Conclusion

Prior studies indicate that the well conductor removal activities would result in temporary sediment suspension, which would rapidly settle out of the water column within the general area of its origin. The reduction of ~17% of total surface area at Platform Gail and ~26% of total surface area at Platform Grace may slightly reduce habitat for recruiting fishes and invertebrates. Impacts from the proposed Project are expected to be undetectable, temporary in duration, and confined to the area near the platforms, particularly as the total quantities to be discharged are substantially less than the annual NPDES permitted discharge amounts.

## 3.4 FISHES AND ESSENTIAL FISH HABITAT

### 3.4.1 Affected Environment

Platforms Grace and Gail are located at depths of 318 ft (97 m) and 719 ft (219 m), respectively, in the eastern portion of the SBC, Ventura County, California. Point Conception. The SBC is a highly productive transition zone between the Oregonian and Californian (or San Diegan) biogeographic provinces for many marine species, including fishes (Burton 1998), and is characterized by rich biodiversity. The natural habitats potentially affected by the proposed Project are the water column and nearby soft sediments (e.g., sand and mud), which the Pacific Fishery Management Council (PFMC) classifies as essential fish habitat (EFH) for one or more federally managed fisheries (PFMC 2016; 2018; 2019; 2020). The anthropogenic habitats (platform jacket, marine debris, and associated shell mound) associated with the proposed Project host substantial biomass and marine biodiversity within the Project area. Allen and Horn (2006) describe fish communities associated with soft sediment and water column habitats within the SCB. Resident fish populations that live on or near these platforms are dominated by blacksmith (*Chromis punctipinnis*), halfmoon (*Medialuna californiensis*), Pacific sardine (*Sardinops sagax caerulea*), and rockfish (*Sebastes* spp.) in the shallow portions of the platforms and by rockfishes in deeper waters (Love et al. 2019; Meyer-Gutbrod et al. 2019; Meyer-Gutbrod et al. 2020). These citations are incorporated by reference for this analysis.

The following fish species are listed as either threatened or endangered under the ESA, but are unlikely to be found within the local area for the Project duration (Padre Associates Inc. 2020) so are not further discussed: oceanic whitetip shark (*Carcharhinus longimanus*); scalloped hammerhead shark, Eastern Pacific distinct population segment (DPS) (*Sphyrna lewini*); green sturgeon, Southern DPS (*Acipenser medirostris*); steelhead, Southern California Coast DPS (*Oncorhynchus mykiss*); Gulf grouper (*Mycteroperca jordani*); and tidewater goby (*Eucyclogobius newberry*).

### 3.4.2 Impact Analysis

Chevron plans to remove 66 conductors from Platforms Grace (38 conductors, 398 ft [121 m] length x 2 ft [0.6 m] diameter) and Platform Gail (28 conductors, 789 ft [241 m] length x 2 ft [0.6 m] diameter). Removal of conductor pipes would reduce the amount (surface area) of artificial hard substrate by an estimated 26% for Platform Grace and 17% for Platform Gail (Padre Associates Inc. 2020). The removal of conductor pipe infrastructure may temporarily disturb resident reef fishes. However, the reduction in habitat is not expected to alter the distribution and abundance of existing platform fish communities in the short term, because each platform's jacket would remain in place until decommissioning and because there are no nearby rock outcrops (Dartnell et al. 2005) that reef fishes could easily swim towards if they exhibit a startle response when a conductor pipe is pulled. Lowe et al. (2009) and Anthony et al. (2012) showed that reef fishes tagged at Platforms Grace and Gail demonstrated fidelity to these structures, and when fish were translocated to distant (≥ 6.9 mi [11 km]) reefs, they often displayed homing behavior and returned back to the source platforms. The submerged portions of conductor pipes often provide shelter to juvenile fishes at Platforms Grace and Gail (Schroeder, personal observation). Water mass movement plays a role in determining the timing of juvenile fish recruitment to Platform Gail (Nishimoto et al. 2019), but the functional relationship (e.g., linear, positive-concave, threshold) between platform habitat complexity (which conductor pipes enhance) and fish recruitment abundance remains unknown. Much like what has been demonstrated in other artificial reef studies (e.g., Danner et al. (1994)), it is reasonable to assume that habitat complexity enhances juvenile fish recruitment and/or survivorship at platforms; therefore, removal of conductor pipes may ultimately alter resident fish communities in the future by reducing biomass and biodiversity.

Padre Associates Inc. (2020) estimates that clearing the conductor pipes of marine growth would add 252 $yd^3$ (193 $m^3$) and 185 $yd^3$ (141 $m^3$) of biomass onto the existing shell mounds beneath Platforms Grace and Gail, respectively. For the duration of past offshore production operations, BSEE regulations required operators of offshore platforms to clear marine growth (primarily mussels, *Mytlilus* spp.) from shallow, submerged portions of the platform on a regular basis to reduce structure fatigue. The removed growth was added to the seabed beneath the platform, and, when combined with natural deposition of mussels resulting from wave action or overgrowth and drill cuttings from initial development, the material formed a shell mound on the sediment habitat beneath each platform (MEC Analytical Systems Inc and Sea Surveyor Inc 2003). Past biological surveys have demonstrated that this shell mound habitat is a favored substrate for many juvenile fishes (Meyer-Gutbrod et al. 2019; Meyer-Gutbrod et al. 2020). For the proposed Project, the addition of marine growth removed from conductor pipes to existing shell mound habitat is estimated to be less than what is deposited during these regular cleaning events and is not anticipated to enlarge the existing shell mound footprint (Padre Associates

Inc. 2020). Likewise, any changes to water quality would be less than what occurred in past cleaning activities, with the exception of local turbidity levels, which may be slightly higher when the conductor pipes are removed from the seabed due to the small amounts of mud that may cling to the pipes and be resuspended into the water column (see further discussion in **Section 3.2**). The increase in turbidity levels (if any) would be minimal, be of short duration, and not be expected to extend into the waters of the Channel Islands National Marine Sanctuary (Padre Associates Inc. 2020). The Project does not include any anchoring activities.

Chevron proposes to remove conductor pipes using abrasive water jet and/or mechanical cutting techniques. McCauley (2004) measured and modeled the noise generated by jet cutting of a wellhead below the seabed in 262 ft (80 m) of water on the north-west shelf of Australia. He concluded that the source levels of wellhead cutting were sufficient to cause physiological impacts to fish hearing systems, but only at ranges of a few meters from the source (see further discussion of expected noise levels in **Section 3.5**). If similar noise levels occur during conductor pipe removal at Platforms Grace and Gail, no fishes would be expected to experience physiological harm because cutting would occur 4.6 m (15 ft) below the mudline, per BSEE regulations (Padre Associates Inc. 2020). Furthermore, the analysis of McCauley (2004) considered sound pressure waves but not particle motion, the latter being more important when considering potential impacts to fishes (Popper and Hawkins 2018; 2019). For this Project, particle motion generated by cutting of conductor pipes is not expected to propagate strongly through sediments; therefore, noise impacts to fishes and EFH are expected to be minimally adverse and likely to generate short-term behavioral responses, where fishes may move away from the sound source and inhabit other areas of the platform. The proposed activities do not include the use of explosives for conductor pipe removal. The noise level from additional marine vessel trips (Padre Associates Inc. 2020) is not expected to generate detectable effects to regional fish populations.

Other potential impact-producing factors, such as those that might originate from marine vessel oil spills or artificial light at night, are not expected to be above the baseline levels that exist during offshore production operations. Discharges associated with the Project (e.g., the abrasive particles) would be under an NPDES permit, described elsewhere in this analysis, and are not regulated by either BSEE or BOEM.

### 3.4.3 Conclusion

The impact analysis for noise and turbidity considered ongoing and proposed oil and gas activities in Federal and state waters, marine shipping, commercial fishing vessels, as well as the impact-producing factors associated with the proposed action. Potential effects to fishes and EFH from the Project are primarily expected to be either undetectable or temporary in duration, and within the local vicinity of the platforms. The permanent reduction in platform substrate may alter resident platform fish communities in the long term, but this is not expected to affect the viability of regional populations, and platform structure to be removed is not specifically designated as EFH or Habitat Areas of Particular Concern (a subset of EFH) by either NOAA (Helvey 2002) or the PFMC (PFMC 2016; 2018; 2019; 2020). Chevron has planned the Project to minimize adverse effects by avoiding anchoring activities and the use of explosives.

## 3.5 MARINE MAMMALS AND SEA TURTLES

### 3.5.1 Affected Environment

There are approximately 32 species of marine mammal species known to occur in Southern California waters surrounding the Project area, including 7 baleen whale, 19 toothed whale and dolphin, and 5 seal and sea lion species, and the southern sea otter (**Table 3-4**). In addition, leatherback and loggerhead sea turtles are also listed species that may occur in the Project area. However, the National Marine Fisheries Service (NMFS) concurred that only eight of the species shown in **Table 3-4** are ESA-listed species that are likely to occur in the Project area (Coleman 2020). Detailed species descriptions—including status, habitat ranges, population trends, predator/prey interactions, and species-specific threats—are described by Argonne National Laboratory (2019), Ruvelas (2020), and Appendix D (Biological Assessment) of Padre Associates Inc. (2020). BOEM therefore incorporates these documents by reference and summarizes relevant information and conclusions for marine mammals and sea turtles below.

**Table 3-4** shows the species that are listed under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA) and expected to occur in the Project area.

**Table 3-4. Protected marine mammal and sea turtle species likely to occur in the Project area**

| Common Name | Scientific Name | ESA/MMPA Status |
|---|---|---|
| **Baleen whales** | | |
| Blue whale* | *Balaenoptera musculus* | Endangered/Depleted |
| Fin whale* | *Balaenoptera physalus* | Endangered/Depleted |
| North Pacific gray whale* | *Eschrichtius robustus* | - |
| Humpback whale* | *Megaptera novaeangliae* | Endangered/Depleted |
| Minke whale* | *Balaenoptera acutorostrata* | - |
| Sei whale* | *Balaenoptera borealis* | Endangered/Depleted |
| **Toothed and beaked whales** | | |
| Sperm whale* | *Physeter macrocephalus* | Endangered/Depleted |
| Killer whale | *Orcinus orca* | - |
| Risso's dolphin | *Grampus griseus* | - |
| Northern right whale dolphin | *Lissodelphis borealis* | - |
| Bottlenose dolphin | *Tursiops truncatus* | - |
| Long-beaked common dolphin | *Delphinus capensis* | - |
| Short-beaked common dolphin | *Delphinus delphis* | - |
| Pacific white-sided dolphin | *Lagenorhynchus obliquidens* | - |
| Dall's porpoise | *Phocoenoides dalli* | - |
| **Sea lions and seals** | | |
| Harbor seal | *Phoca vitulina* | - |
| Northern elephant seal | *Mirounga angustirostris* | - |

| Common Name | Scientific Name | ESA/MMPA Status |
|---|---|---|
| Guadalupe fur seal* | *Arctocephalus townsendi* | Threatened/Depleted |
| Northern fur seal | *Callorhinus ursinus* | - |
| **Sea turtles** | | |
| Leatherback sea turtle | *Dermochelys coriacea* | Endangered |
| Loggerhead sea turtle* | *Caretta caretta* | Endangered |

*Critical habitat has not been designated for these species.

### 3.5.2 Impact Analysis

For conductor removal, because the cutting would take place 15 ft (4.6 m) below the sediment line, the continuous noise that the abrasive cutting tool may generate would be at an equivalent in-water source level of 147–189 dB re 1 µPa @ 1 m (BOEM 2020; Kent et al. 2016; McCauley 2004).

For conductor removal, the abrasive cutting tool may generate continuous noise at an equivalent in-water source level of 147–189 dB re 1 µPa @ 1 m (BOEM 2020; Kent et al. 2016; McCauley 2004). In general, mechanical cutting noise falls within the 500–8,000 hertz (Hz) frequency bands, with most of the energy at 1,000 Hz (Occupational Safety and Health Administration 2013; Pappachan et al. 2017); this range is detectable by ESA-listed whale species. However, broadband source levels are unlikely to cause physiological impacts to marine mammals (McCauley 2004). Also, Pangerc et al. (2016) collected underwater sound measurement data during diamond wire cutting operations and found that the sound radiating from the operation was not easily discernible above the background noise. Finally, because the cutting would be conducted 15 ft (4.6 m) below the sediment line, the higher frequencies (5–20 kHz) would likely be quickly attenuated into the sediment, further reducing the amount of sound radiated into the water.

When marine mammals are exposed to continuous noise, the sound threshold at which they are thought to exhibit changes in behavior (including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering) is 120 dB re 1µPa @ 1 m (70 FR 1871, Marine Mammal Hearing). From the location of the cutting tool, taking into consideration the water depth and the bathymetry of the location, as well as the physics of how sound travels in water, the behavioral threshold is expected to be limited to within approximately 56.8–328 ft (17.3–100 m) of the cutting activity and above the ocean's floor. Although the sound generated by the well conductor cutting is likely to be above ambient sound levels, protected marine mammal and sea turtle species would have to remain within the small zone of ensonification (56.8–328 ft [17.3–100 m] from the cutting activity) in order to experience any potential behavioral disturbance. As a precaution, and in line with requirements by NMFS under Section 7 of the ESA to minimize any instances of this potential behavioral disturbance to ESA-listed whales (Ruvelas 2021), visual environmental protection measures will be required as a permit condition by BSEE. In summary, these required measures would be conducted during daytime operations:

- Trained crewmembers would conduct a 30-minute visual clearance of a 300-m (984-ft) clearance zone before and after each initial conductor cutting to ensure that no ESA-listed whales and sea turtles are present before cutting commences and after cutting is completed.

- If these species are detected, initial cutting would be delayed until the ESA-listed whales or sea turtles are more than 300 m (984 ft) away from the cutting site (Ruvelas 2021).

Under Section 7 of the ESA, NMFS concurred that similar operations, as proposed for the Point Arguello Unit offshore Point Conception, Southern California, are not likely to adversely affect ESA-listed species (Coleman 2021).

Considering the above analysis, environmental protection measures, as well as the intermittent and short term nature of the initial well conductor cutting events at, and between, the two platforms (see **Section 2.2**) and the reduced spatial and temporal overlap with marine mammals and sea turtle species during these activities (Argonne National Laboratory 2019; Ruvelas 2020), BOEM has determined that noise associated with the proposed action will have negligible effects on marine mammal and sea turtle species.

Project-related vessel traffic is summarized below with regard to potential vessel strikes. For noise generated by the vessel traffic, a total of 48 additional round trips are expected over the 360-day Project period, mainly between the platforms and the POLB, Port of Los Angeles, or Port Hueneme. The POLB Draft Master Plan Air Emission Inventory (Starcrest Consulting Group LLC 2020) states that 7,000 vessel transists occur annually, amounting to 19 transits per day. The incremental addition of Project-related vessel traffic noise to the existing soundscape is therefore expected to be negligible.

BOEM has determined that noise associated with the proposed action is expected to have negligible effects on marine mammal and sea turtle species based on the above analysis; required environmental protection measures; intermittent and short-term nature of the initial well conductor cutting events at, and between, the two platforms (11/120 days at Platform Grace in 2021 and 8–28/240 days at Platform Gail in 2023); and reduced spatial and temporal overlap with marine mammals and sea turtle species during these activities (Argonne National Laboratory 2019).

The OSV *Adele Elise* is the primary vessel planned for use for this Project and has a maximum speed of 10.2 kn (18.9 km/hr). The M/V *Jackie C.* is the crew transfer and supplies vessel and has a maximum cruising speed of 19 kn (35 km/hr). During the Project period, the OSV *Adele Elise* would make approximately 48 vessel trips total (16 trips or an average of 1 trip/week for Platform Grace and 32 trips or an average of 1 trip/week for Platform Gail) from the platforms to the POLB or Port Hueneme, and M/V *Jackie C.* would make twice daily crew boat trips from Carpinteria (Casitas) Pier to the platforms throughout the proposed Project (**Section 2.2**).

The following environmental protection measures were provided by Chevron as part of their Project submittal (Padre Associates Inc. 2020) to minimize any potential risk of vessel strike to protected species:

- Prior to transiting to and from POLB, Port of Los Angeles, or Port Hueneme, the primary Project vessel would review the current whale presence rating within the SBC shipping lanes using the online tools at Whalesafe.com. If the daily whale presence is reported to be above a medium

rating within the transit corridor, then the vessel would transit at a reduced speed of 10 kn (18.5 km/h) or less.

- Project vessels would utilize (or continue to utilize) the existing USCG TSS and JOFLO corridors within the SBC to minimize the potential for vessel strikes.
- All Project-related crews would be provided the approved OCS operations training program, which includes information regarding marine mammal species present in the Project area. All vessel captains would also be provided copies of the procedures and reporting requirements when encountering marine wildlife during their vessel operations.

Employing the above environmental protection measures would likely minimize the potential for vessel strikes with marine mammals and sea turtles during Project-related vessel operations.

Additionally, considering the overall reduced spatial and temporal overlap with marine mammals and sea turtle species (Argonne National Laboratory 2019; Ruvelas 2020), BOEM has determined that the risk of vessel strikes with marine mammal and sea turtle species as a result of vessel traffic related to the proposed action would be negligible.

Because the Project area does not overlap any critical habitat, no impacts to critical habitat are anticipated from the proposed activities. NMFS concurred with BOEM that the proposed action is not likely to adversely affect NMFS ESA-listed species and/or designated critical habitat (Ruvelas 2021).

### 3.5.3 Conclusion

The impact analysis considered ongoing and proposed oil and gas activities in Federal and state waters, marine shipping and tankering, and commercial fishing vessels, as well as the the impact-producing factors of Project and noise and vessel strikes associated with the proposed action. The maintenance and crew vessel transfers that occur daily to the shut-in oil and gas platforms near the Santa Clara Unit were also considered. All these activities were analyzed with reference to the current level of activity in and around the action area (Starcrest Consulting Group LLC 2020). After consultation with NMFS under the ESA (Ruvelas 2021). BOEM has determined that the proposed Project, including mitigations, is not expected to add to current activities to the extent that marine mammals and sea turtles would be adversely affected. The proposed activities are anticipated to have a negligible impact on the marine mammals and sea turtles occurring in the action area and no impacts to critical habitat.

## 3.6 THREATENED AND ENDANGERED SPECIES

See **Section 3.4** (Fishes and Essential Fish Habitat) and **Section 3.5** (Marine Mammals and Sea Turtles) for information regarding threatened and endangered species potentially affected by the proposed Project.

## 3.7 COMMERCIAL FISHING

### 3.7.1 Affected Environment

Platforms Grace and Gail are located at depths of 318 ft (97 m) and 719 ft (219 m), respectively, in the eastern portion of the SBC in Ventura County, California. Most of the fishers that use fishing grounds near these platforms likely hail from the port complexes associated with Oxnard (Channel Islands), Ventura, or Santa Barbara. Dominant species that are harvested in this geographic area, depth zone, and habitats are ridgeback prawn, market squid, white seabass, halibut, and crab (Padre Associates Inc. 2020).

### 3.7.2 Impact Analysis

The proposed activities associated with conductor pipe removal would primarily be confined to the existing platform footprints. Because very little, if any, fishing activity occurs next to oil platforms, the proposed conductor removal activities are not expected to have a detectable impact in restricting commercial fishers from their fishing grounds or entangling their gear beyond current baseline levels. Potential effects to fishes and EFH are expected to be either undetectable or temporary in duration and within the local vicinity of the platforms. The permanent reduction in platform substrate may alter resident platform fish communities in the long term, but this impact is not expected to affect the viability of regional populations of harvested species (**Section 3.4**).

Chevron estimates a total of 48 additional round trips from marine vessels are expected over the 360-day Project period, primarily between the platforms and the POLB, Port of Los Angeles, or Port Hueneme (Padre Associates Inc. 2020). Chevron is actively consulting with JOFLO, which mediates potential space-use conflicts between the offshore and commercial fishing industries. JOFLO staff would ensure clear understanding of the approved vessel traffic corridors and techniques used to avoid fishing operations. In addition, Chevron would file a timely advisory with the local USCG District office, with a copy to the Long Beach Office of the State Lands Commission, for publication in the Local Notice to Mariners and will place a similar notification in all SBC ports that support commercial fishing vessels prior to the commencement of Project activities. Given these considerations, the proposed Project is not anticipated to have a detectable impact on commercial fishing operations.

### 3.7.3 Conclusion

The impact analysis considered ongoing and proposed oil and gas activities in Federal and state waters, MPAs, and non-Project marine vessel traffic. In summary, Chevron's proposal to remove conductor pipes at Platforms Grace and Gail is not expected to impact commercial fishing operations in the local area. Chevron would communicate with JOFLO to minimize any unforeseen conflicts that could arise during Project operations. Harvested fish populations are not expected to be adversely affected.

## 3.8 SOCIOECONOMICS

### 3.8.1 Affected Environment

The terrestrial portions of the Project are in Ventura County, California, and Long Beach, California. These two jurisdictions are located along the Southern California Pacific Coast, with Ventura County located approximately 70 mi (113 km) northwest of the City of Long Beach.

Ventura County had a population of 846,006 in 2019.[1] Median household income was $88,131 in 2019 (USCB 2019b). Racial and ethnic makeup was White alone (84.1%); Black or African American alone (2.4%); American Indian and Alaska Native alone (1.9%); Asian alone (7.9%); Hispanic or Latino (43.2%); and White alone, not Hispanic or Latino (44.7%) (USCB 2019b). In 2019, the unemployment rate was 3.7% (County of Ventura 2019). The principal employers are listed in **Table 3-5**.

**Table 3-5. County of Ventura principal employers**

| Employer | Rank | Employees | Percentage of Total County Employment |
|---|---|---|---|
| United States Naval Base | 1 | 18,776 | 4.65% |
| County of Ventura | 2 | 8,435 | 2.09% |
| Amgen, Inc. | 3 | 5,500 | 1.36% |
| Anthem Inc. (previously Wellpoint, Inc.) | 4 | 2,860 | 0.71% |
| Simi Valley Unified School District | 5 | 2,737 | 0.68% |
| Community Memorial Hospital | 6 | 2,300 | 0.57% |
| Conejo Valley Unified School District | 7 | 2,050 | 0.51% |
| Dignity Health (St. John's) | 8 | 2,016 | 0.50% |
| Ventura Unified School District | 9 | 1,835 | 0.45% |
| Oxnard Union School District | 10 | 1,654 | 0.41% |
| Total | - | 48,163 | 11.93% |

Source: County of Ventura (2019)

County economic activity in 2017 totaled over $51.4 billion (County of Ventura 2019). In 2013, fishermen in the combined Ventura County harbors (Port Hueneme, Ventura, and Channel Islands harbors) and Santa Barbara Harbor landed 111 million pounds of seafood, with an ex-vessel value (amount paid to fishermen at the docks) of approximately $50.5 million. For comparison, the entire State of California landed 363 million pounds in 2013 with an ex-vessel value of $256 million (Grant 2021). In 2013, Port Hueneme ranked 37$^{th}$ in the U.S. in port calls (299), with total cargo capacity of 5,285,000 DWT, handling 54,000 TEUs (Bureau of Transportation Statistics 2015).

In 2019, the total number of housing units was 291,512. Total accommodation and food service sales in 2012 was $1,597,442 million, and total retail sales was $11,194,185 million (USCB 2019b).

[1] Note that these statistics are pre-Covid pandemic and are subject to high variability in quarterly and annual terms beginning in the first quarter of 2020.

Ventura County's tourism industry brought in $1,597.3 million in total direct travel spending in 2019. This amount included $318.8 million for accommodations and $486.1 million for food service. Industry employment generated by travel spending totaled 17,050 jobs (Dean Runyan Associates Inc. 2020).

The City of Long Beach has a population of 462,628 with 166,813 households. The city occupies 50.29 $mi^2$. Racial and ethnic makeup was White alone (51.2%); Black or African American alone (12.7%); American Indian and Alaska Native alone (1.1%); Asian alone (13.1%); Hispanic or Latino (42.6%); and White alone, not Hispanic or Latino (28.2%). Total retail sales in 2012 was $3,783,946 million, and total accommodation and food service sales was $984,077 million (USCB 2019a).

In 2017 (through April), the unemployment rate was 5.1% as compared to 4.6% for Los Angeles County. In the second quarter of 2016, the leisure and hospitality industry employed 20,600 workers (the second highest after healthcare, with 30,500 workers), and retail trade employed 13,800 workers (Beacon Economics LLC 2017).

POLB is the second busiest container port in the United States. It handles approximately $194 billion annually and supports 51,090 port-related jobs in Long Beach. In 2018, the Port handled 8.1 million TEUs of cargo. The POLB has 6 container terminals and 80 berths (Port of Long Beach 2019).

### 3.8.2 Impact Analysis

The Project's potential socioeconomic impacts are on general economic activity, transportation, employment, fishing, and tourism. Economic activity would likely increase due to increased business in ocean and land transportation, onshore scrapping, fuel purchases, and platform employment. These changes would be temporary and extremely small compared to the total economic activity in either Ventura County or Long Beach.

Chevron anticipates the use of two vessels, OSV *Adele Elise* (or equivalent vessel) and the crew boat M/V *Jackie C.*, transiting in accordance with the TSS, which was established to provide safe passage of ships into and out of the SBC and POLB (Padre Associates Inc. 2020), and/or the existing JOFLO corridors, designed to reduce interference with commercial fishing vessels.

No disruption is expected in tourism, recreational fishing, or consumer travel activities due to Project-related marine activities.

### 3.8.3 Conclusion

The Project is expected to increase economic activity, employment, and transportation. These impacts are likely to be negligible compared to the total economic activity, employment, and transportation occurring on a normal basis in the Project areas. Impacts are expected to also be temporary, lasting during the periods of Project activity in 2021 and 2023. No impacts to fishing or tourism are expected.

Transportation would be performed with existing vessels and trucks and would occur over well-defined routes. No disruption in existing transportation is expected. No navigational closures (i.e., exclusion

zones) are expected due to this Project. No road closures are expected for the transport of cut piping from Port Hueneme to Standards Industries in Saticoy.

A net positive impact from the proposed Project is expected on employment, with increased crew on the platforms for the conductor recovery effort. The need for additional housing to support crew from outside the local area is expected to be minimal. There would probably be more on-road time for truck drivers and increased activity for scrap yard crews and port stevedores. The overall impact on the local economy is not expected to be significant, and local social activities are not expected to be disrupted.

## 3.9 ENVIRONMENTAL JUSTICE AND TRIBES

### 3.9.1 Environmental Justice

The platforms that are the subject of Chevron's proposed Santa Clara conductor removal Project are located in the OCS offshore Ventura County, within the SCCAB. After the conductor pipes are recovered and cut to size, they would be transported by a marine vessel to either POLB in Los Angeles County, California, or Port Hueneme, in Ventura County, California (Padre Associates Inc. 2020). The populated areas that may be affected by the proposed Project are the communities immediately surrounding POLB and Port Hueneme, and the area surrounding Standard Industries, which is a scrap metal facility located at 1905 Lirio Avenue, Ventura, California.

Minority and low-income populations in the subject areas were identified using Council on Environmental Quality guidance for agencies (CEQ 1997). USCB (2019a; 2019b) and other demographic data sources (FFIEC 2020; USEPA 2020a) indicate that relatively high-percentage minority and low-income populations are present in the POLB and Port Hueneme areas but are a significant distance from areas of actual heavy industrial operations. The approximately 12.5-mi (20-km) drayage truck route between Port Hueneme and Standard Industries passes through areas with significant minority and low-income populations, but the transit of trucks would be of very short duration and limited in scope; significant impacts are not expected from this transit activity.

BOEM personnel performed a physical survey of the area immediately surrounding Standard Industries and found the area to be occupied by facilities such as a bulk loading terminal, concrete batch plant, aggregates plant, and various other industrial operations, with the nearest residential structures located approximately 500 ft (152 m) east of the facility's western boundary.

A review of Project-related operations at POLB, Port Hueneme, and Standard Industries indicates that, due to the limited scope and short duration of the proposed Project activities, the Project is not expected to result in disproportionately high adverse human health or environmental impacts on minority and low-income populations.

### 3.9.2 Tribes

The following Project areas are located on or near the traditional cultural region of Chumash-affiliated Tribes (NAHC 2021b):

- The offshore area where Platforms Grace and Gail are located
- The offshore area between the platforms and the Carpinteria (Casitas) Pier, where the crew boat and support vessel would be transiting during conductor cutting and removal activities
- Port Hueneme, where the OSV may dock and cut conductor material may be offloaded
- Standard Industries, where materials may be disposed for the Port Hueneme recycling scenario
- The offshore area between the Platforms and POLB, where vessels may dock and cut conductor material may be offloaded for the POLB recycling scenario

The Chumash-affiliated Tribes are the Barbareño/Ventureño Band of Mission Indians, Chumash Council of Bakersfield, Coastal Band of the Chumash Nation, Northern Chumash Tribal Council, San Luis Obispo County Chumash Council, Santa Ynez Band of Chumash Indians, Tejon Indian Tribe, and yak tityu tityu yak tiłhini – Northern Chumash Tribe (NAHC 2021a).[2]

The following Project areas are located on or near the traditional cultural region of Gabrielino- (Tongva-) affiliated Tribes (NAHC 2021b):

- The offshore area between the Platforms and POLB, where vessels may dock and cut conductor material may be offloaded for the POLB recycling scenario
- POLB, where the OSV may dock and cut conductor material may be offloaded
- SA Recycling, where materials may be disposed for the POLB recycling scenario

Gabrielino- (Tongva-) affiliated Tribes are the Gabrieleno Band of Mission Indians – Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/Tongva Nation of the Greater Los Angeles Basin, Gabrielino-Tongva Tribe, and Gabrielino-Tongva Indians of California Tribal Council (NAHC 2021c).[2]

### 3.9.3 Impact Analysis

In 2001, the Chumash community celebrated the first crossing since the 1800s of a tomol (traditional redwood plank canoe and oldest example of an oceangoing watercraft in North America) from the mainland to Santa Cruz Island. The Chumash are a maritime culture; prior to European contact, the tomol and other watercraft "wove together coastal and island communities in a complex system of trade, kinship and a resource stewardship that was sustained over thousands of years" (Cordero 2021). Tomol crossings were made again in subsequent years, and the crossing is now an annual event. The tomol crossings are significant to Chumash culture and the restoration of Chumash maritime heritage (Cordero 2021; NPS 2016; Pagaling 2018).

[2] Cultural affiliations are self-reported by tribes.

The annual tomol crossing typically take place in August/September. The tomol departs from the mainland at Channel Islands Harbor in Oxnard and arrives at Scorpion Valley on Santa Cruz Island. The route is approximately 20 mi (32 km) across the SBC. The tomol is typically accompanied by a vessel that sets the course, hosts resting paddlers, and protects the tomol from vessel traffic (Chumash Maritime Association 2018; NPS 2016; Pagaling 2018).

The proposed Project activities are expected to take approximately 360 operational days to complete, starting in the third quarter of 2021 and continuing through the third quarter of 2023 (Padre Associates Inc. 2020). This proposed timing will likely overlap with one or more August/September tomol crossings.

Chevron estimates a total of 48 additional vessel round trips are expected over the 360-day Project period (Padre Associates Inc. 2020). As an environmental protection measure to avoid or minimize impacts to commercial fishing (**Section 3.4** and **Table 2-3**), Chevron will be required to file a timely advisory with the local USCG District office, with a copy to the Long Beach Office of the State Lands Commission, for publication in the Local Notice to Mariners and will place a similar notification in all SBC ports that support commercial fishing vessels prior to the commencement of Project activities. The Notice will be available for the tomol crew and support vessel if the proposed Project timing overlaps with the annual tomol crossing.

Tomol crossings to date have been completed with co-occurring activities in the SBC for offshore energy projects, shipping, commercial fishing, and recreational activities. Given the relatively low number of additional vessel trips estimated for the proposed Project and the requirement for Chevron to file a timely advisory for publication in the Local Notice to Mariners, it is unlikely the proposed Project will impact the tomol crossing(s).

### 3.9.4 Conclusion

The impact analysis considered vessel traffic in the SBC for proposed Project and for ongoing non-Project activities. In summary, Chevron's proposal to remove conductor pipes at Platforms Grace and Gail is not expected to have adverse effects on tribes and tribal activities in the proposed Project area.

# 4 Consultation, Coordination, and Stakeholder Comments

**National Marine Fisheries Service (NMFS).** In compliance with the ESA, BOEM prepared a biological evaluation and determined that the proposed activities are not likely to adversely affect threatened or endangered fish, marine mammal, and sea turtle species. NMFS must consider the potential effects of the Project on these species under the ESA and decide whether to concur with BOEM's determination or provide additional Terms and Conditions. Per the regulations of the Magnuson-Stevens Fishery Conservation and Management Act, BOEM prepared an EFH assessment and determined that the proposed activities would produce minimally adverse effects to EFH and proposed no additional conservation measures beyond those already incorporated into the Project's proposed activities. NMFS must decide to either concur with the EFH assessment or suggest additional conservation recommendations to avoid, minimize, or otherwise offset impacts to EFH. In addition, in accordance with the MMPA, the applicant must determine the need for an Incidental Harassment Authorization (IHA), which allows the incidental take of marine mammals during the specified activities. If the applicant determines the need for an IHA, they must submit an application to NMFS, who, after evaluation, would either authorize incidental take or deny the IHA application

**U.S. Fish and Wildlife Service (USFWS).** An analysis of the Project was conducted, and a "No Effect" determination was made by BOEM because the activities proposed by Chevron to remove the well conductors on the Santa Clara Unit facilities would have no effect on federally threatened and endangered species under the jurisdiction of the USFWS.

**U.S. Army Corps of Engineers (USACE).** It was determined that the Project does not require a Rivers and Harbors Act Section 10 authorization.

**Ventura County Air Pollution Control District (VCAPCD).** Equipment utilized for the well conductor removal activities that require air quality permits are presently under existing PTOs issued by the VCAPCD, and no new modifications are required to current air permits. In addition to PTO conditions and District rule requirements, Chevron is required to comply with all specifications within the updated Boat Monitoring and Reporting Plan for the OSV *Adele Elise*, as well as CARB engine emissions, fuel sulfur content, and reporting requirements for marine vessels.

**Stakeholder Comments.** The draft EA was posted on the internet for public review. BOEM provided notice of the availability of the EA for review through a broad email campaign to known or expected interested parties. Comments were accepted between March 23 and April 6, 2021. We received three comments on the draft EA, with substantive comments primarily regarding the potential for impacts from the removal of habitat for aquatic life. BOEM considered all comments and, where appropriate, made revisions in this document.

# 5 List of Preparers

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### BOEM, Headquarters

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| Paulina Chen | Technical Editor |

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## U.S. Department of the Interior

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## Bureau of Ocean Energy Management

The mission of the Bureau of Ocean Energy Management is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way. The bureau promotes energy independence, environmental protection, and economic development through responsible management of these offshore resources based on the best available science.