



CALIFORNIA
STATE LANDS
COMMISSION

2024 Progress Report

Coastal Hazards and Legacy
Oil & Gas Well Removal and
Remediation Program



Contents

Introduction	1
Accomplishments	3
Summerland Survey	3
Survey Assessment Recommendations	7
Coastal Hazards (legacy infrastructure, not including wells).....	8
Coastal Hazards environmental support contract.....	10
A Look Ahead: 2025	10
Plug and abandon additional Summerland Beach legacy wells.....	10
Consultant solicitation to re-abandon legacy wells and perform seep studies	10
Additional surveys and debris removal.....	10
Rincon Well #102	11
Fund Allocation	12
Supplemental Background:.....	12

Introduction

The California State Lands Commission (Commission) manages roughly 4 million acres of tide and submerged lands and the beds of natural and navigable rivers, streams, lakes, bays, estuaries, inlets, and straits. These lands, often referred to as sovereign or public trust lands, stretch from the Klamath River and Goose Lake in the north to the Tijuana Estuary in the south, and the Colorado River in the southeast. These lands encompass the Pacific Coast from 3 miles offshore to world-famous Lake Tahoe, and include California's two longest rivers, the Sacramento and San Joaquin. The Commission protects and enhances these lands and natural resources by issuing leases for use or development, providing and preserving public access, resolving boundaries between public and private lands, and implementing regulatory programs to protect state waters from oil spills and invasive species introductions. The Commission secures and safeguards the public's access rights to waterways and the coastline and preserves irreplaceable natural habitats for wildlife, vegetation, and biological communities.

The Commission also oversees sovereign lands granted by the Legislature in trust to approximately 70 local jurisdictions. These lands generally consist of prime waterfront lands and coastal waters and include the land underlying California's five major ports.

The Commission has two regulatory programs aimed at preventing the introduction of nonindigenous species into state waters and preventing oil spills at marine oil terminals.

Development of the Summerland Oil Field in Santa Barbara County began in the late 1890s in an area of naturally occurring oil and gas seeps. Wells were first drilled on the beach and then from piers that extended into the Pacific Ocean. The operators drilled, produced, and plugged and abandoned wells without regulation. Production ceased in the early 1900s. Virtually no records exist about the drilling or abandonment of the hundreds of wells in the Summerland Oil Field. Oil leaks and sheens are regularly observed on the beach and in the water near Summerland. Some oil is from natural seeps, but some originates from improperly plugged and abandoned legacy wells.

Legacy oil and gas wells are wells that were drilled before current abandonment standards, where there is scant information on the well's abandonment procedure, and there is no viable company with the responsibility to re-abandon the well should it start leaking or threaten the

environment or public health and safety. Based on the Commission's research, there are 200 high-priority legacy oil and gas wells that could, depending on their condition, leak oil into the marine environment, negatively affecting swimmers, surfers, recreational users, marine and coastal wildlife, as well as causing environmental degradation and public health and safety hazards.

SB 44 (Jackson), Chapter 645, Statutes of 2017, provides the Commission up to \$2 million annually through fiscal year 2027-2028 to administer a Coastal Hazards and Legacy Oil and Gas Well Removal and Remediation Program. Chapter 645 requires the Commission to provide an annual report to the Legislature on the activities and accomplishments of the Program from the prior year and requires the Commission, by January 2027, to submit a report to certain legislative committees that covers the life of the Program and includes information necessary to aid the Legislature in determining the effectiveness of the Program and whether funding should be reauthorized. Chapter 645 becomes inoperative on July 1, 2028. The purpose of this annual report is to provide information on the Commission's activities from December 2023 through December 2024.

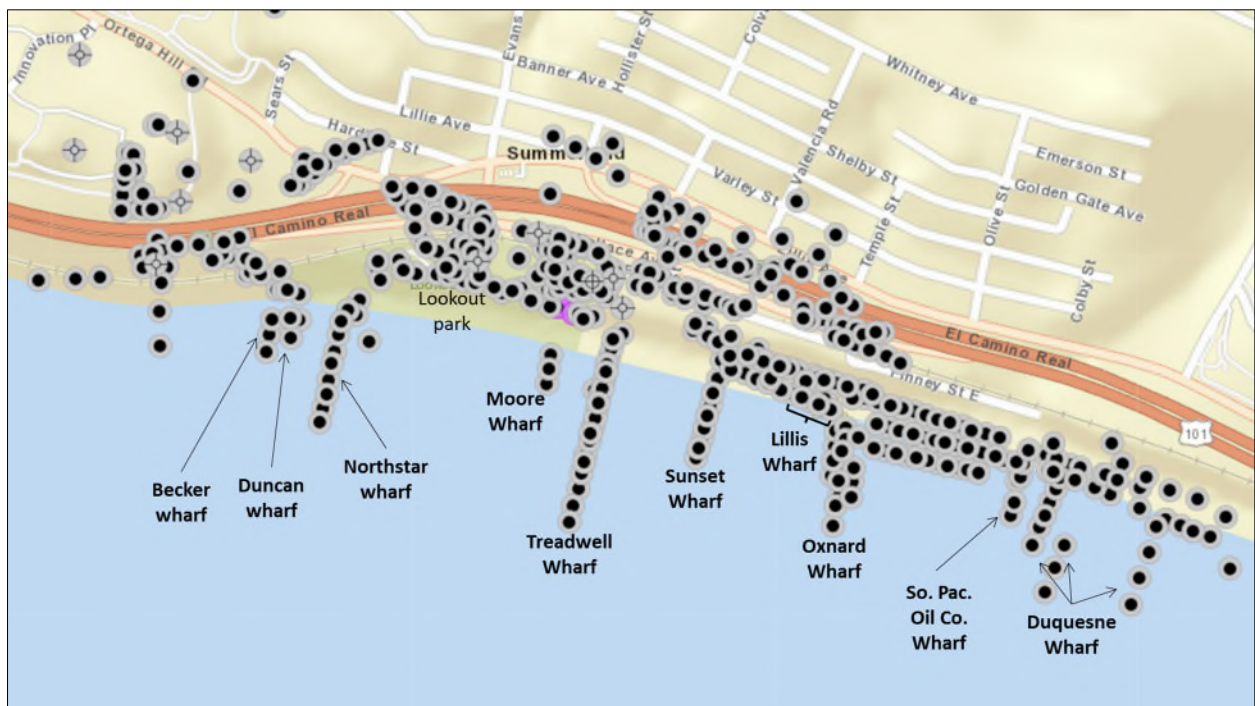


Figure 1. Summerland Legacy Wells in Santa Barbara County.



Figure 2. Exposed railroad irons near Goleta Beach (photo by Padre Associates).

Accomplishments

In 2020, the Commission successfully re-abandoned two legacy wells at Summerland Beach known as Treadwell-10 and NorthStar-815. In 2021, the Commission successfully re-abandoned two more legacy wells known as Olsson-805 and Duquesne-910), and then in 2023, re-abandoned two more legacy wells known as Treadwell-1 and Treadwell-5. Staff has monitored the area since then. Staff is now preparing engineering plans and updating permits to re-abandon two additional legacy wells in 2025, known as wells A and B, that are near the Olsson-805 well area.

Summerland Survey

The 2022-2023 winter storms created an unusual drop in the level of sand on some southern California beaches and revealed several well casings and coastal hazards at Summerland and Loon Point beaches and elsewhere. The Commission's consultant, 2H Offshore California Inc. (formerly InterAct PMTI), surveyed the Summerland area to record the geographic coordinates of the exposed features after the storms.

The survey was divided into two areas:

- **Area 1:** The western area, including previously re-abandoned wells Becker-1 and Olsson-805. This area also includes the two legacy wells proposed for re-abandonment in 2025.
- **Area 2:** The eastern area, including previously re-abandoned well Duquesne-910. The survey did not discover any wells leaking oil.

The areas that were surveyed for coastal hazards can be seen in Figure 3:



Figure 3. Overview map of Summerland Beach & Loon Point (photo by 2H Offshore California Inc).

Area 1 includes 16 locations surveyed for legacy well remnants, such as well casings, capped wells, and pipelines, as is indicated on the map below (Figure 4 below).



Figure 4. Area 1 location map (photo by 2H Offshore California Inc).

The survey discovered multiple exposed well casings. The consultant labelled the exposed hazards. Figures 5, 6, and 7 below show the survey findings.

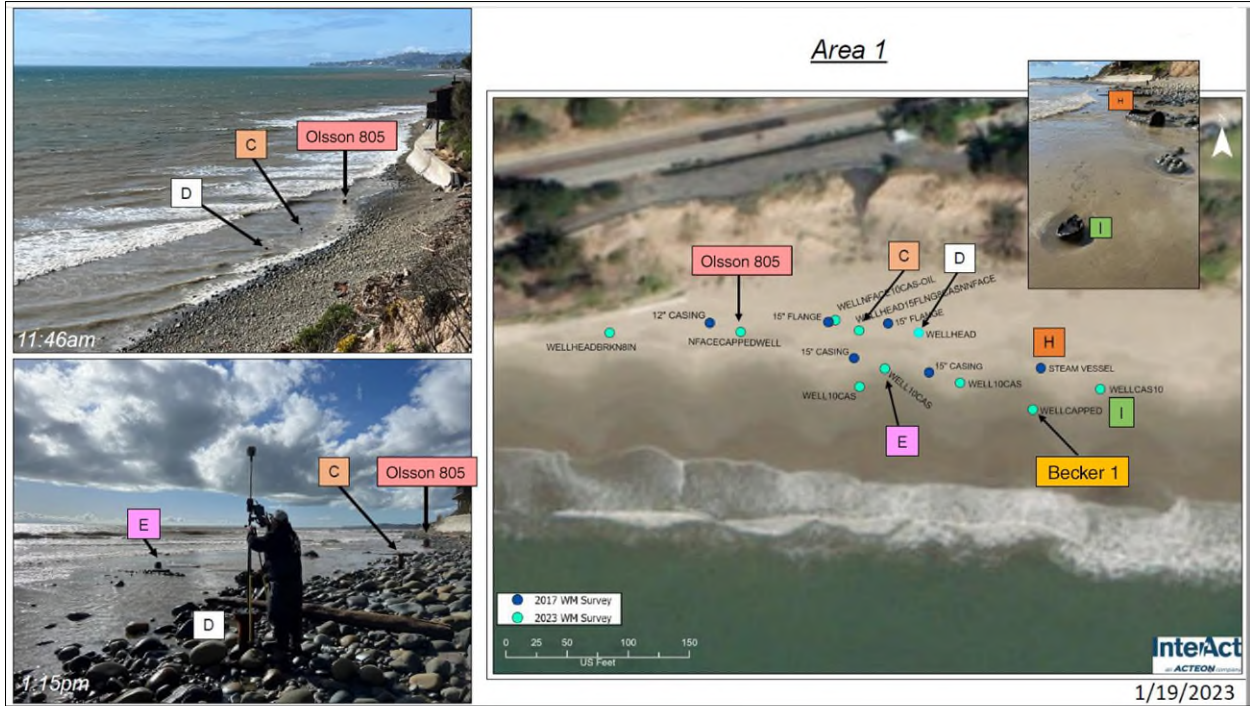


Figure 5. Area 1 photos and survey locations at low tide looking west (photo by 2H Offshore California Inc).

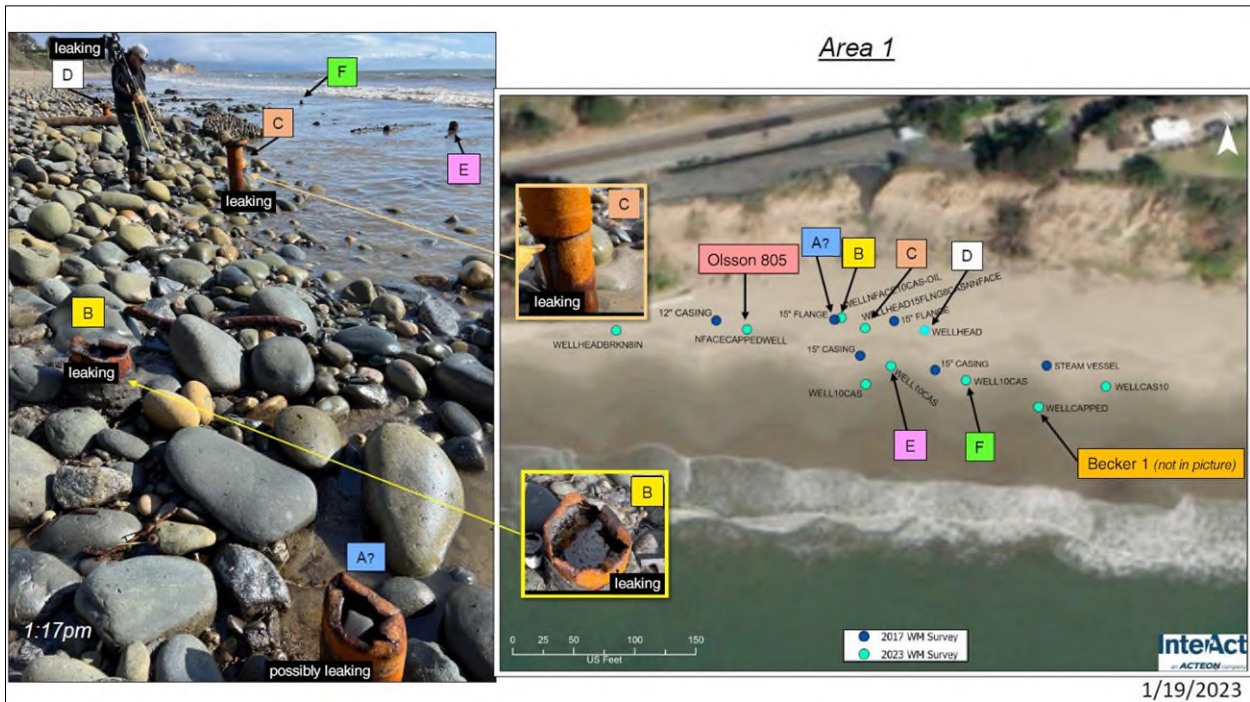


Figure 6. Area 1 photos and survey locations at low tide looking east (photo by 2H Offshore California Inc).

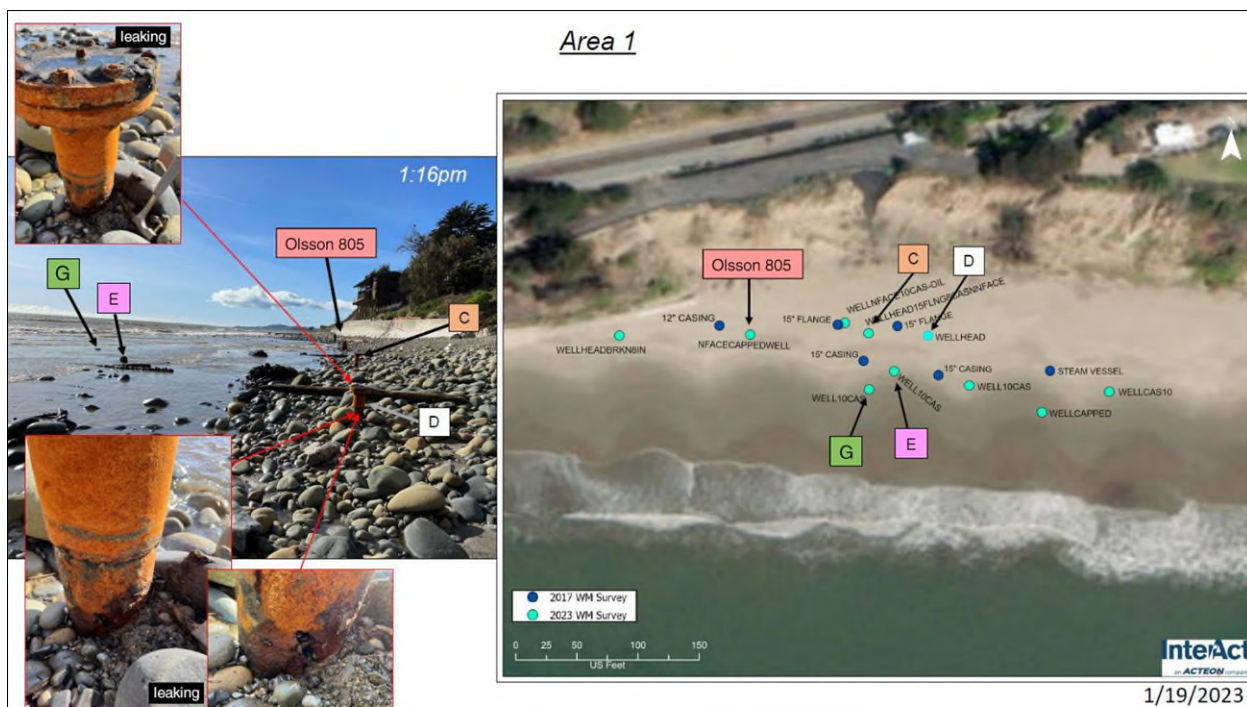


Figure 7. Area 1 photos and survey locations at low tide looking west (photo by 2H Offshore California Inc).

As mentioned above, the Commission intends to re-abandon two legacy wells in Area 1 in 2025 based on survey and engineering review. These wells are near each other, providing value and savings when designing and executing a multiple-well re-abandonment program. Area 1 also has the most public use and ease of access from Lookout Park, which makes it a priority area.

Survey Assessment Recommendations

The survey discovered clear evidence of minor hydrocarbon discharge directly from four well casings into the surrounding environment in Area 1. Two casings, identified as “A” and “B,” sit next to each other, which decreases re-abandonment costs because the work will involve just one mobilization. Wells C and D in Figure 7 will be addressed in the future and subject to available funding.

Unlike other legacy wells previously identified, there is no documentation for wells A through D. These wells are not part of the database that the Department of Conservation California Geologic Energy Management Division maintains. This may indicate that there are additional unidentified wells in the area. The Commission has prioritized re-abandonments in Area 1 because it is the area most trafficked by the public and because Area 2 had no visible oil leaking from any well casings. The Commission intends to perform an additional legacy well

survey after the 2025 re-abandonments. Any legacy wells suspected of leaking hydrocarbons will be addressed in the future and is subject to available funding.

The Commission continues to conduct land-based monitoring, which consists of weekly site visits by Commission inspectors to look for tar balls and to record seep activity.

Coastal Hazards (legacy infrastructure, not including wells)

Coastal hazards are remnants of artificial coastal structures that have been abandoned and orphaned (i.e., there is no known responsible party). These hazards, typically buried in the coastal surf zone, include wood or steel pilings, H piles and H beams, railroad irons, cables, angle bars, ties, pipes, pipelines, seep tent related structural remnants of rip rap structures, wood structures, groins, jetties, piers, and oil and gas-related infrastructure located along the California coastline. Hazard exposure depends on tide and beach erosion. Many hazards are only exposed following the high tidal erosion that occurs in winter. The Commission responds to and removes hazards subject to permit conditions.

In February 2024, the Commission awarded a new contract to MP Environmental, an on-call coastal hazards removal contractor, to remove coastal hazards. Work to remove coastal hazards occurs when hazards become exposed, which is usually between September and March. Hazards are usually removed with small excavators or loaders.

No coastal hazard removal work occurred in 2024 as of the date of this report, but work is anticipated during the coming winter storm season.

Examples of coastal hazard removal activities can be seen below:



Figure 8. H Beam extracted near the Bacara Resort in Goleta, Santa Barbara County (photo by Commission staff).



Figure 9. H Beam extracted near the Bacara Resort in Goleta, Santa Barbara County (photo by Commission staff).

Coastal Hazards environmental support contract

In July 2024, the Commission retained Beacon West Consulting to provide coastal hazard tracking and discoveries or updates, support during project planning for coastal hazard removal projects, and for environmental compliance, field monitoring, and reporting during project implementation. Padre Associates had previously performed this work until their contract expired in January 2024.

A Look Ahead: 2025

Plug and abandon additional Summerland Beach legacy wells

The Commission anticipates plugging and abandoning two legacy wells in 2025 subject to program budgeting. The plug and abandonment approach will likely mirror the approach used in the Olsson-805 and Duquesne-910 abandonments. The work will involve driving a pipe-pile around the well, like a sleeve, and filling the pipe with cement, entombing the legacy well.

Consultant solicitation to re-abandon legacy wells and perform seep studies

The Commission authorized its Executive Officer to retain a consultant to conduct seep studies in the Santa Barbara Channel. The studies will likely require historical research and an inventory of offshore natural tar, oil, and gas seeps. The survey, study, and monitoring of tar, oil, and gas seepage (seep studies) in state waters will determine locations, rates, and fingerprinting techniques to characterize tar, oil, and gas samples originating from natural seeps, the geologic framework and other conditions controlling seeps, and their environmental impacts.

The Commission's legacy well re-abandonment contract with 2H Offshore California Inc. will expire in June 2025. The Commission plans to re-abandon two legacy wells in 2025 before the contract expires and will seek a new contractor when the 2H Offshore California Inc. contract expires.

Additional surveys and debris removal

The Commission plans to continue conducting surveys and removing debris along the beach and offshore in Summerland. This will include:

1. Prepare plans to re-abandon additional legacy wells.

2. Finish documenting well casings toward the shore, starting with Treadwell-11.
3. Investigate the area around Treadwell-9, which has moderate seepage and warrants further investigation to determine if the seepage is associated with the well or attributable to a natural seep.
4. Remove vertical timber piles and other debris around future well casings proposed for re-abandonment.
5. Recover and dispose of underwater oiled debris stockpiles.
6. Remove larger debris around future well casing targets for re-abandonment. This project is in the early planning phase and is contingent on future budgeting and program priorities.

The Commission intends to develop a plan for the Duncan Pier and Moore Pier locations (seen in Figure 1). This will include:

1. A follow-up dive for Duncan Pier and Moore Pier to locate and determine if there are leaking well(s) or natural seeps.
2. Extensive documentation and modeling of seepage area(s).
3. Map and tag Moore and Duncan Piers.

More information about the Duncan and Moore piers can be found on Page 20 of our [2022 report](#).

The Commission intends to continue investigating seep sites for association with legacy wells and its coastal hazard removal program.

Rincon Well #102

Rincon Well # 102 is an idled subsea well near Rincon Island in Ventura County that requires re-abandonment. The well is downcoast from Summerland Beach in 55 feet of water and approximately three quarters of a mile off the coast at Punta Gorda in Western Ventura County. The Commission intends to do the following to facilitate this re-abandonment:

1. Document and verify, using video, the structure of the intact well tree and casing.
2. Document and model seepage area adjacent to the well.
3. Identify an engineering approach and locate equipment necessary to undertake a subsea abandonment.

More information about Rincon Well # 102 can be found on page 17 of our [2022 report](#).

Fund Allocation

Contract No.	Contractor	Start	End	Contract Value
C2023039	MP Environmental	2/15/2024	2/14/2027	\$450,000
C2023038	Beacon West	7/1/2024	12/31/2026	\$250,000
C2019060 (Plug and Abandonment work)	2H Offshore California Inc.	06/30/2020	06/29/2025	\$10,500,000

Supplemental Background:

In the late 1800s, the area offshore of Summerland Beach in Santa Barbara County had hundreds of oil wells and related drilling infrastructure. Today, the coastline area retains the vestiges of that extensive and largely unregulated offshore oil production. These are the unfortunate legacies of the rapid and intensive offshore oil development along the coastline that began just before the turn of the twentieth century and primarily at Summerland Beach.

Most legacy oil and gas wells were abandoned in the early 1900s when regulatory oversight was nonexistent. Virtually no records exist about the drilling and abandonment of these wells. Removal, if any, varied from well to well and involved rudimentary procedures that fell far short of current health, safety, and environmental protection requirements. Based on the Commission's research, there are approximately 200 high priority legacy oil and gas wells (identified as Category 1 wells), that could, depending on their condition, leak oil into the marine environment, negatively affecting swimmers, surfers, recreational users, and marine and coastal wildlife and fish and their habitats, as well as causing environmental degradation and public health and safety hazards. Legacy oil and gas wells are wells drilled before current abandonment standards. There is little or no information on the well's abandonment procedure and no viable company with the responsibility to re-abandon the well should it start leaking or pose a threat to the environment or to public health and safety. Other wells are categorized as medium (Category 2) to low (Category 3) priority wells because more information is available about the integrity and abandonment of these

wells or because a responsible party is or may be available to address any leak that may occur.

The Legislature, when it passed SB 44, found that there is a critical need for funding to remove coastal hazards, to identify exact locations of legacy oil and gas wells that may be leaking, and to prioritize remediating wells with the highest risk. The funding enables the Commission to gather data to address the presence of oil along the coastline, determine where legacy wells are located and whether they are leaking oil, and prioritize remediation to address the highest risk wells first. The funding also enables the Commission to survey and monitor offshore oil seeps in state waters, to contract for studies to determine oil seepage locations, rates, and environmental impacts, and pursue innovative solutions to address natural seeps.

SB 44 added section 6212 to the Public Resources Code, which requires the Commission to administer a coastal hazard and legacy oil and gas well removal and remediation program that does the following:

1. Complete an assessment of legacy oil and gas wells and other coastal hazards along the California coastline, including conducting aerial surveys and dives, and determine high-priority hazards and legacy oil and gas wells to remediate.
2. Survey, study, and monitor oil seepage in state waters and tidelands under the Commission's jurisdiction to determine oil seepage locations, rates, and environmental impacts; and partner with experts to facilitate innovative solutions.
3. In cooperation with the Department of Conservation's California Geologic Energy Management Division, begin remediating improperly abandoned legacy oil and gas wells that have a high risk of leaking oil and are hazardous to public health and safety and the environment.

SB 44 (Jackson), Chapter 645, Statutes of 2017, authorizes up to \$2 million annually from the state's General Fund to the Commission's Kapiloff Land Bank Fund (<https://www.slc.ca.gov/kapiloff>) beginning in 2018-19 and through 2027-28, to administer the program. In July 2018, the Commission received the first \$2 million appropriation. SB 44 authorizes the transfer of an amount sufficient to bring the unencumbered balance of the program funds back up to \$2 million annually through 2027-28.