

November 2015



Refugio Beach Oil Spill Natural Resource Damage Assessment Update

About the Oil Spill

On May 19, 2015, a pipeline owned and operated by Plains All America Pipeline, Inc. ruptured near Refugio State Beach in Santa Barbara County, California, sending oil into the ocean. In response, state and federal natural resource trustee agencies are conducting a Natural Resource Damage Assessment (NRDA). This is the process of assessing exposure to spilled oil and the injuries to the environment and its public uses. Additionally, the process identifies how to restore and compensate for the harm, and the damages that should be paid by the responsible party to fund restoration projects.

Injury Assessment Updates

Fish

The Trustees are assessing potential impacts to a wide variety of nearshore fish species, especially surfperch and grunion. The grunion were spawning during the spill. Studies include chemical analyses of water, sand, and tissue samples, as well as a survey of grunion hatching success.



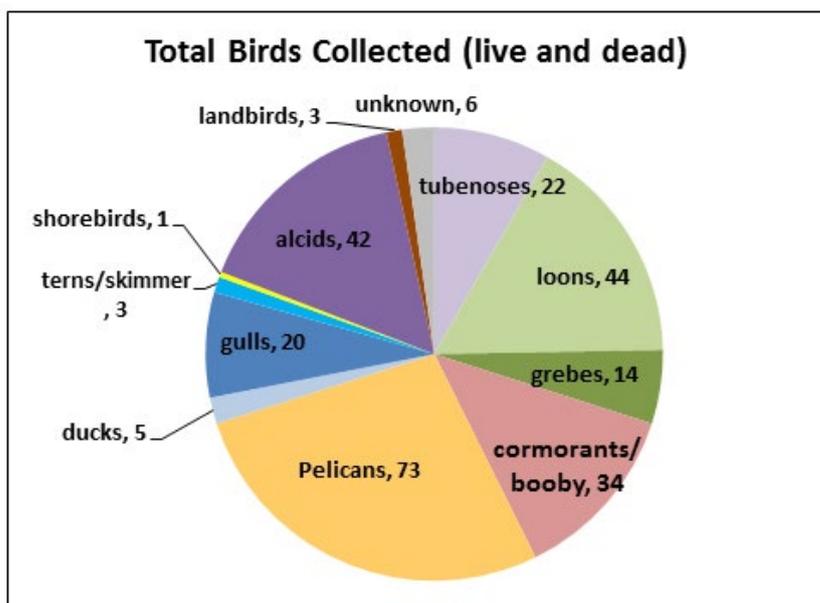
Oiled fish in hand of responder



Spawning Grunion on beach (left); close-up of spawning Grunion (right)

Credit: David Witting, NOAA (left); Karen Martin, Pepperdine (right)

Birds



Collected alive: 65 (46 released)

Collected dead: 202

The primary species collected were Brown Pelican, Common Murre, and Pacific Loon.

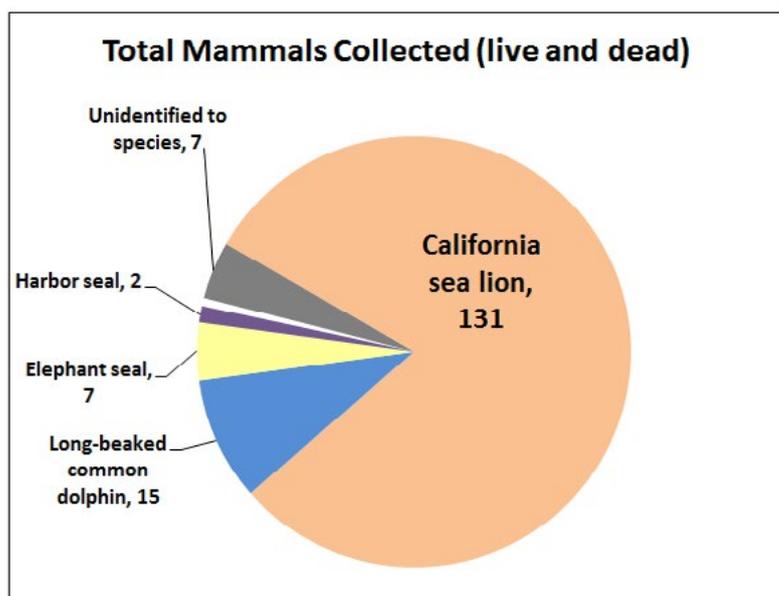


Snowy plover

These three species account for 50% of the birds collected. Several Snowy Plovers were observed with oil on them (see photo). At least 11 of the 12 pelicans that were rehabilitated and released with transponders are alive and well.

The Trustees will estimate total mortality, taking into account carcasses collected that were likely not spill related, and the number of birds unable to be recovered (due to scavenging and other factors).

Mammals



Collected alive: 63 (23 released)

Collected dead: 99

The Trustees will estimate total mortality, taking into account mammal impacts that are likely not spill related, as well as how many may have been missed during the response (due to sinking and other factors). Additionally, the Trustees are studying possible impacts to bottlenose dolphins.



Oiled sea lions

Refugio Beach Oil Spill • Natural Resource Damage Assessment

Coastal Habitats



To inform cleanup operations, all beaches from Gaviota to Pt. Mugu were surveyed by Shoreline Cleanup Assessment Technique (SCAT) teams over multiple days to evaluate their level of oiling. The map below presents the maximum level of shoreline oiling observed at each shoreline segment during a SCAT assessment. This assessment incorporated both spill oil and natural seep oil.

Map showing SCAT maximum oiling observations

The trustees are conducting a wide variety of field studies to assess injuries, from both oiling and cleanup operations, to coastal habitats and their associated species. These include the following:

Sandy Beach Habitat

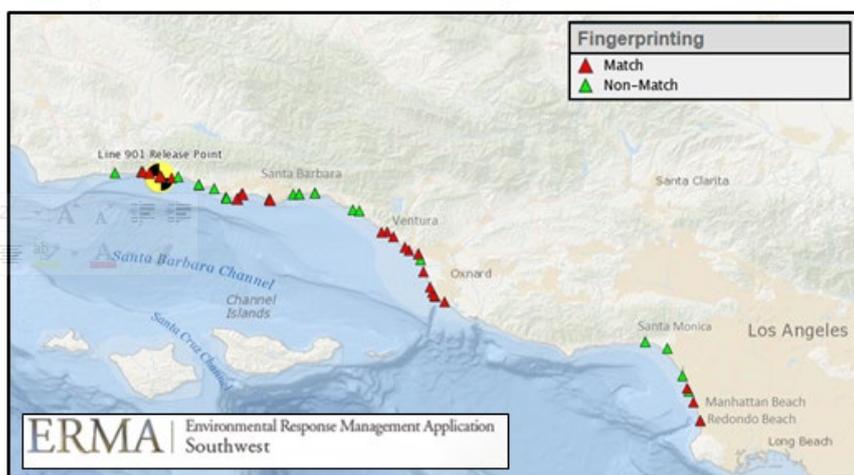
Sand crabs
Bloodworms
Beach hoppers
Kelp wrack

Rocky Intertidal Habitat

Mussels
Feather-boa kelp
Barnacles
Limpets

Subtidal Habitat

Lobsters
Abalone
Surfgrass
Eelgrass



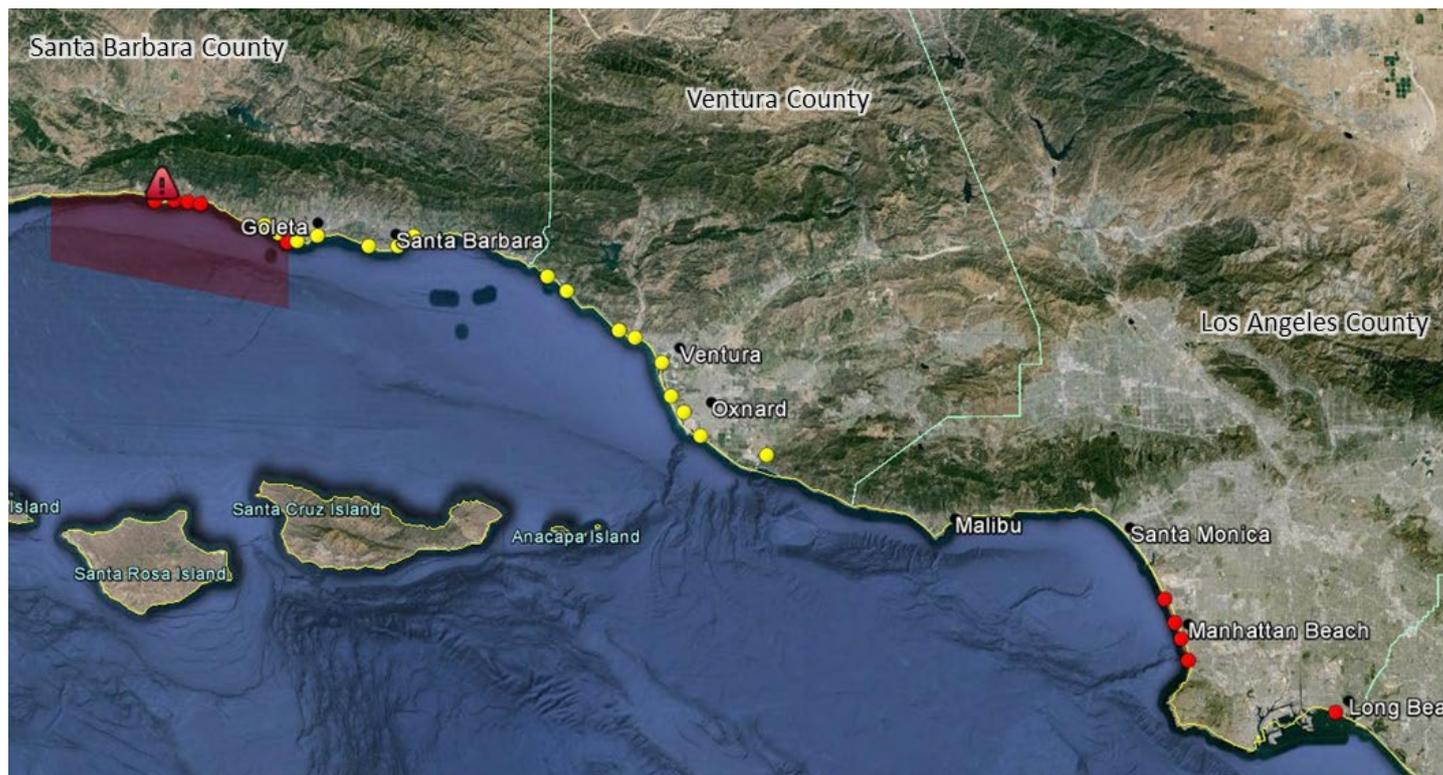
Map showing oiled fingerprinting results



Yellowing surfgrass

Fingerprinting of oil and tarballs on the beaches has demonstrated that some matched the pipeline oil, while others likely originated from natural seeps in the area.

Recreational Use Impacts



Map showing beach closures and advisories

The Trustees will be assessing impacts to recreational uses, including camping, non-commercial fishing, and other beach uses. The map above illustrates the fisheries closure (red area) and the general scope of beach closures (red dots) and advisories (yellow dots) during the spill period. Refugio and El Capitan beaches and campgrounds were closed until July 17 and June 26, respectively. Beaches in Los Angeles County were closed for a few days.

Public Meeting and Restoration Planning

The trustees will host a public meeting on Wednesday, January 20, 7:00-8:30pm, at the Santa Barbara Public Library, Faulkner Gallery (40 E. Anapamu St). The purpose of this meeting is to answer questions about the NRDA process, provide preliminary results of assessment studies, and to seek suggestions for restoration projects that will compensate for the injuries caused by the spill.

Criteria for restoration project selection are drawn from the federal regulations and include:

- Relationship to Injured Resources and/or Services
- Likelihood of Success
- Time to Provide Benefits
- Duration of Benefits
- Multiple Resource and Service Benefits
- Comprehensive Range of Projects
- Opportunities for Collaboration
- Educational/Research Value
- Cost-Effectiveness

While many projects have research value and most will have a monitoring component, projects must provide tangible benefits in the form of increased wildlife, enhanced habitat, or improved recreational use. To submit a project idea, please visit: <http://bit.ly/refugiorestoration>



Oiled California Brown Pelicans. (Deborah Jacques, Pacific Eco Logic)

Refugio Beach Oil Spill: Get the latest information

Learn More:

California Department of Fish and Wildlife
www.wildlife.ca.gov/OSPR/NRDA/refugio

U. S. Fish & Wildlife Service
www.fws.gov/contaminants/issues/restoration.cfm

National Oceanic & Atmospheric Administration
<https://darrp.noaa.gov/oil-spills/refugio-beach-oil-spill>

Department of Interior
www.doi.gov/restoration/index.cfm

Plains All American Pipeline
www.plainsline901response.com/go/doc/7266/2547486/

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The Trustees

The natural resource trustees involved in this assessment are:

- **California Department of Fish and Wildlife**
- **California State Lands Commission**
- **California Department of Parks and Recreation**
- **University of California**
- **US Fish and Wildlife Service**
- **National Park Service**
- **Bureau of Land Management**
- **National Oceanic and Atmospheric Administration**

These agencies are named as Trustees under state and federal laws. They have formed multi-agency teams, employing local experts, to examine the impacts of the spill. Also serving in an advisory role or providing data are Santa Barbara County, the cities of Goleta and Santa Barbara, other local cities and counties, the US Navy, and several bands of the Chumash.



Dead oiled lobster on beach

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