



# Office of Spill Prevention and Response

## PROGRAM REPORT 2018





I am very pleased to welcome your review of this program report for the Office of Spill Prevention and Response. This is the first such report that we have compiled and released in more than 10 years. It encapsulates a variety of significant oil spill responses, forward-leaning preparedness and prevention initiatives, the evaluation and deployment of state-of-the-market response technologies, and the expansion of our office's jurisdiction and regulatory authority to protect all of California's surface waters, not just those in the coastal regions.

As our nation experiences the "energy renaissance" of higher quality domestic crude oils in North Dakota and Texas, California's oil transportation, storage, and refining infrastructure will continue to process the flow of our nation's oil at the maximum of their capacities, which poses risks to the environment and our natural resources. We at OSPR will continue to stand ready as we work with our federal, state, local, and non-governmental partners to prevent, prepare for, and respond to any release or imminent threat of an oil spill to our pristine waters.

This report will give you, whether curious novice or seasoned responder, an overview and detailed look "under the hood" of the remarkable work that the 240 members of the OSPR team perform every day and every night to protect California's coast, bays, rivers, streams, and lakes and all of the species that depend upon them. Thank you for your interest in and support of OSPR!

*Thomas M. Cullen Jr.,*  
**Administrator**



**JULIE YAMAMOTO**  
Assistant Deputy Administrator  
Scientific Programs



**STEVE HAMPTON**  
Assistant Deputy Administrator  
Public and External Affairs



**TED MAR**  
Prevention



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**RANDY IMAI**  
Environmental Response



**BERNADETTE FEES**  
Financial and Administrative Services



**DAMON WILLIAMS**  
Information Technology



**ERIC MILSTEIN**  
Legal



**PAUL HAMILTON**  
Enforcement





# MISSION

Prevention • Preparedness  
Response • Restoration

OSPR's mission is to provide best achievable protection of California's natural resources by preventing, preparing for, and responding to spills of oil and enhancing affected resources.

**16 office locations**

**240 personnel**

- 100 scientists/oil spill prevention specialists
- 100 administrative support or other specialists
- 40 wildlife officers





# RECENT MILESTONES

**2014** October 23: Barrel fee expanded to all crude oil shipments

**2015** January 16: Hayward vegetable oil incident  
May 19: Refugio Beach oil spill  
September 3: Inland emergency regulations take effect



**2016** June 23: Grove Incident pipeline spill in Ventura  
September 4: *Spirit of Sacramento* capsizes



**2017** April 7: *Vengeance* barge sinks in San Francisco Bay



**2018** April: OSPR releases [California State Oil Spill Contingency Plan](#)



# PREVENTION

**The goal of OSPR's Prevention Branch is to reduce both the number and total volume of oil spills reaching California's waters. Working with state and federal partners, Prevention staff analyze the root causes of spills and design policies and programs to reduce risk.**

## MARITIME PREVENTION

- Harbor Safety Committees
- Monitoring offshore ship routing
- Tug escort regulations
- Vessel risks evaluations
- Vessel boardings/examinations
- Vessel Traffic Services evaluations
- Vessel Pilotage evaluations
- Emergency tug assist evaluations
- Navigation safety evaluations
  - Dynamic under-keel clearance study
- Marine facility contingency plans
  - Verifications
  - Exemption inspections
  - Facility infrastructure improvements to reduce risk
- Monitoring of fuel transfers over water (bunkering)

## INLAND PREVENTION

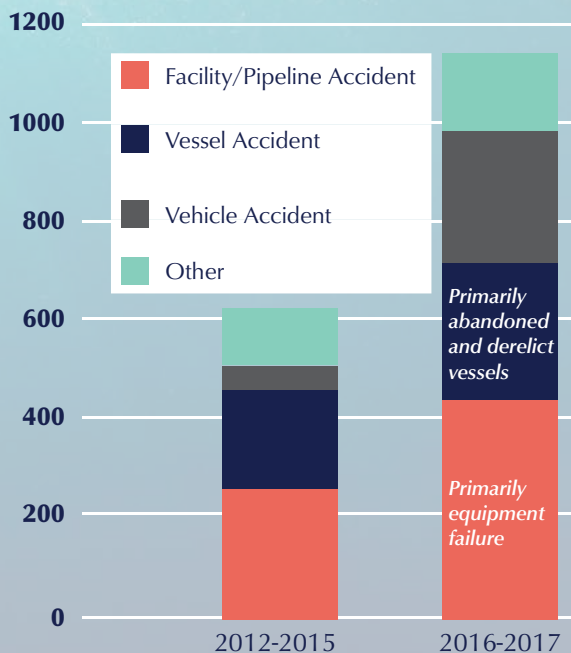
- Infrastructure inspection and exemption program
  - 130 exemptions granted because facilities have significantly reduced the risk of a spill to water
  - 45 Contingency Plans reviewed and approved
  - Assist, when needed, our partner regulatory agencies:
    - ◇ State Fire Marshal / US PHMSA (pipelines)
    - ◇ Public Utilities Commission / Federal Railway Administration (rail)
    - ◇ Dept of Conservation (oil production)



With the expansion from a marine-only program to a statewide program, OSPR is now responding to a lot more spills. At the same time, the number of larger inland spills (over 100 gallons) has declined dramatically.

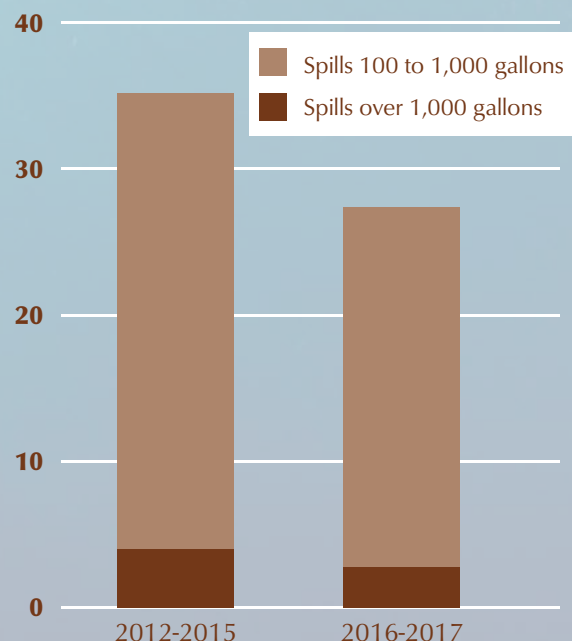
#### All Spills by Source

(Average # of oil spills per year w/ known causes)



#### Large Inland Spills

(Average # of oil spills per year to water)





# PREPAREDNESS



**OSPR's Preparedness Branch ensures that producers and transporters of oil, as well as OSPR and other responders, are prepared in case there is an accident.**

## **Contingency plans and certificates of financial responsibility**

- 1,252 vessels (including 165 new plans in 2017)
- 938 marine oil facilities and fueling docks
- 53 inland facilities, pipelines, and railroads

## **Drills**

### **Unannounced drills in 2017:**

- 25 vessels (80% passing)
- 10 marine facilities (100% passing)
- 16 inland facilities, pipelines, rail (88% passing)
- 26 OSROs (93% passing)

### **Planned drills in 2017:**

- 115 tabletop exercises
- 44 equipment deployments

## **Oil Spill Response Organizations (OSRO)**

### **Rated (tested and approved by OSPR):**

- 12 marine
- 20 inland
- With coverage in all six marine Area Contingency Plans and all six inland Response Planning Areas.



## AREA CONTINGENCY PLANS AND GEOGRAPHIC RESPONSE PLANS



- North Coast
- SF Bay and Delta
- Central Coast
- LA/LB Northern
- LA/LB Southern
- San Diego
- Upper Sacramento River
- Lake Almanor
- North Fork Feather River
- North Fork American River
- Truckee River
- Russian River
- Lake Tahoe
- Carson River/Walker River
- Kern River
- Cajon Pass
- Ballona Creek
- Lower Colorado

- Area Contingency Plans
- Geographic Response Plans

### OSPR staff training and preparedness

- 228 qualified to fill positions in Incident Command
- 149 staff completed HAZWOPER training
- Environmental Response to Oil Spills training conducted annually with NOAA and US EPA

### Stakeholder and agency coordination

- US Coast Guard and Environmental Protection Agency (Regional Response Teams)
- Native nations and communities
- State and local agencies
- Industries
- Environmental organizations





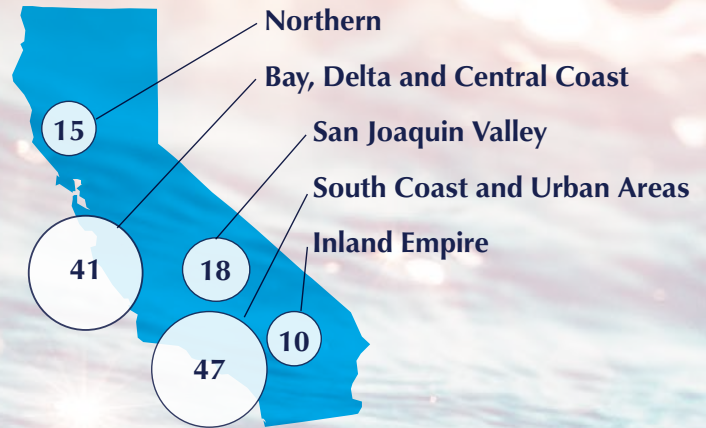
# RESPONSE



**OSPR's Field Response Teams include wildlife officers, oil spill prevention specialists, and environmental scientists. Together, they respond, physically, to an average of 248 spills each year—over four per week. They address another 960 spills per year via telephone consultations.**

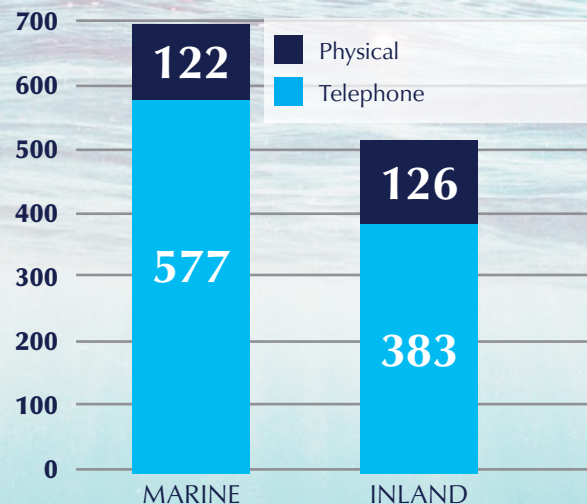
## OIL SPILLS BY REGION

Over 42 gallons to water since September 2015



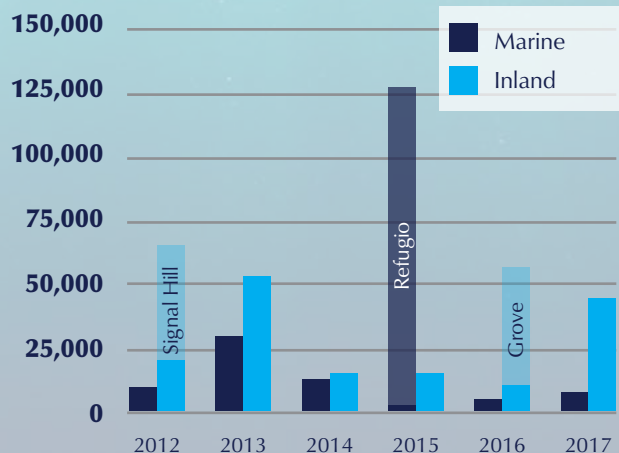
## OSPR Responses per year

(oil spills to water since September 2015)



## Oil Spills to Water

Total Volume in Gallons





## RESPONSE TECHNOLOGY AND SUPPORT

This team works with the response community on emerging and innovative response techniques and leads the oiled wildlife program. Program elements include:

### Best Achievable Technology

See these pages for OSPR's recent reports to the legislature on best methods for:

- [Prevention/Mitigation](#)
- [Mechanical Response](#)
- [Remote Sensing](#)
- [Applied Response Technologies](#)

### Applied Response Technology

- Licenses and oversees use of chemical response agents such as dispersants.
- Hosts workshops with industry on spill response.

### Oiled Wildlife Response

- Maintains and helps implement the [Wildlife Response Plan](#).
- Coordinates wildlife hazing and recovery training.

### Geographic Information Systems

- Provides mapping and geographic research needs.
- Develops apps for digital field data collection.

### Fishery Closures

- Works with other state and local agencies to address fisheries during spill response.

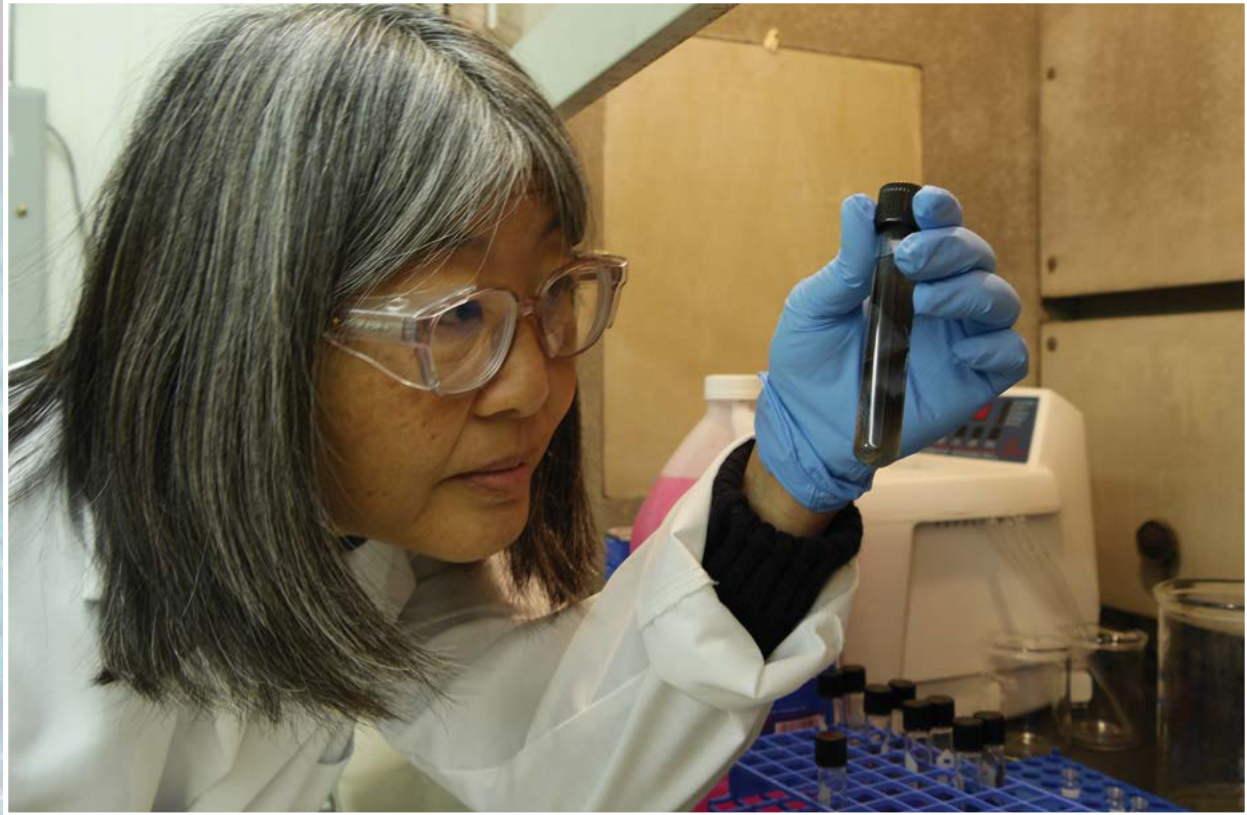


## MARINE WILDLIFE VETERINARY CARE & RESEARCH CENTER

- Maintains readiness to care for oiled wildlife, particularly sea otters.
- Collects, identifies, processes, and stores dead wildlife after oil spills.
- Conducts extensive research on sea otter health and pathology through necropsies.
- In conjunction with USGS, conducts annual census of southern sea otters.
- Conducts research on marine bird health and pathology.
- Conducts other research related to effects of oil on wildlife and animal care protocols.







## LABORATORIES

OSPR oversees four laboratories that serve both OSPR and various needs of the Department of Fish & Wildlife. Funding comes from a variety of sources, depending upon the activity.

### **Water Pollution Control Laboratory**

This lab analyzes oil, pesticides, herbicides, and other contaminants for OSPR, Department enforcement, and several state and national monitoring programs and special studies.

### **Petroleum Chemistry Laboratory**

Established to support OSPR, this lab fingerprints oil associated with oil spills and natural seeps.

### **Aquatic Bioassessment Laboratory**

With a focus on water quality in rivers and lakes, this lab uses a variety of ecological indicators, such as macroinvertebrates, to assess water quality and stream health.

### **Marine Pollution Studies Laboratory**

Based at the Moss Landing Marine Laboratories, this lab investigates the extent of contaminants in marine and inland environments.



*OSPR staff train with first responders of the Yurok Tribe*



## RESPONSE EQUIPMENT GRANTS

As required by the Lempert-Keene-Seastrand Oil Spill Act, OSPR developed a grant program to provide funding to Native American tribes, counties, cities, and special districts in order to pre-position response equipment to protect their economic resources in the event of an oil spill. These grants fund pre-staged oil spill response equipment throughout the state. OSPR also trains with local staff regarding use of the equipment.

**To date, recipients have included:**

- 19 fire departments
- 25 harbor districts, ports, marinas
- 6 counties agencies or regional park districts
- 4 Native tribal governments







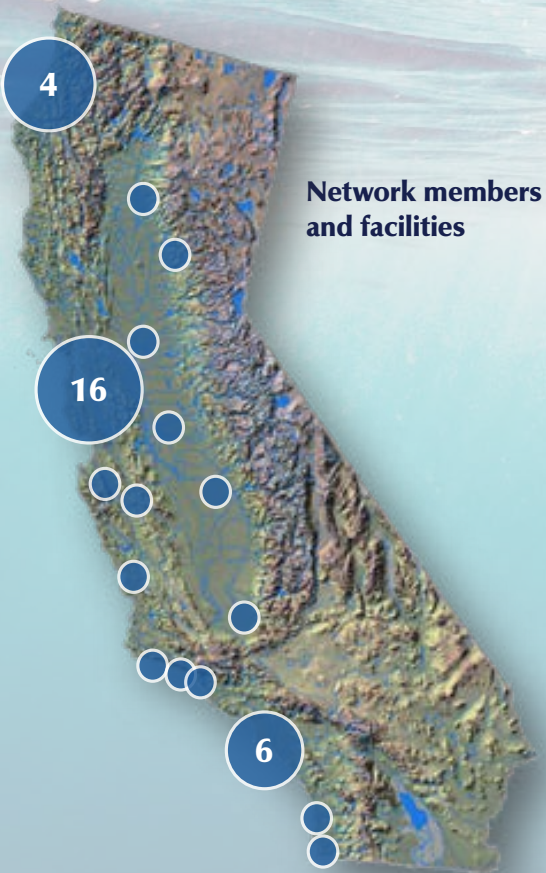
### OILED WILDLIFE CARE NETWORK

OSPR and OWCN work jointly in spill response. Funded by the Oil Spill Prevention and Administration Fund, the OWCN is a statewide collective of trained wildlife care providers, regulatory agencies, academic



institutions and wildlife organizations working to rescue and rehabilitate oiled wildlife in California.

The OWCN is recognized as a world leader in oiled wildlife response, rescue, rehabilitation and research.



### CALIFORNIA OIL SPILL STUDY AND EVALUATION PROGRAM

This program funds scientific studies regarding the impacts of oil spills on the environment and our ability to respond to them. Recent studies underway include:

- Relating acute oil injury in fish to polycyclic aromatic hydrocarbon metabolite concentrations in bile
- Portable unmanned aerial system-based Shoreline Cleanup Assessment Technique reconnaissance
- Dry stream channel assessment
- Polycyclic aromatic hydrocarbon exposures using talitrids (small crustaceans)
- Evaluation of subchronic and developmental toxicities of two California licensed dispersants



## MARINE INVASIVE SPECIES

OSPR collaborates with the California State Lands Commission to regulate and minimize the introduction of non-indigenous species that may arrive in the ballast holds of ocean-going vessels arriving from foreign ports.

Significant introductions of non-native species have occurred in all major harbors and bays.

OSPR works with the Smithsonian Environmental Research Center to conduct biological surveys and with the Moss Landing Marine Laboratories to conduct genetic analyses.

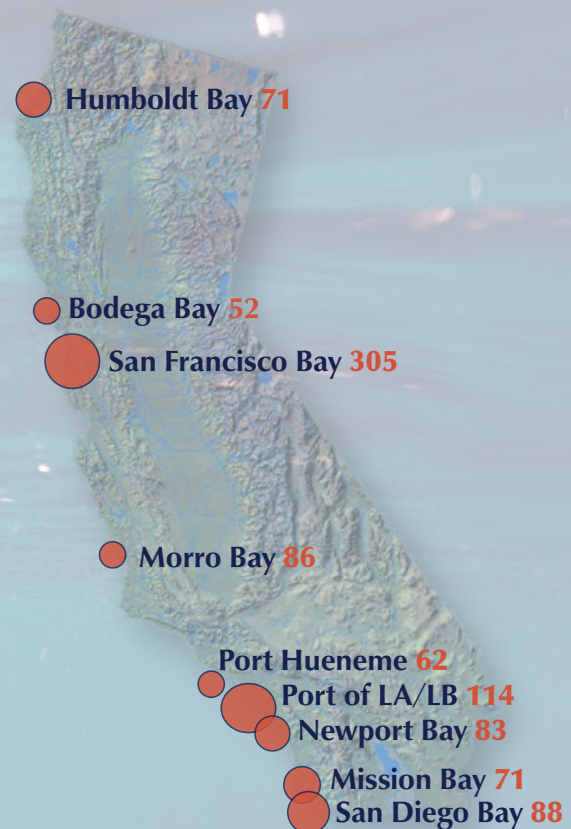
## MILITARY AND SUPERFUND SITES

OSPR works with the US Department of Defense, the US Environmental Protection Agency, and other federal and state agencies to provide technical expertise on the cleanup of former military sites under the Base Realignment and Closure Act and on other hazardous waste sites under the Comprehensive Environmental Response, Compensation, and Liability Act.

This work includes assessing chemical contamination, potential risks to natural resources, and remediation to protect the environment at over 60 sites around the state.



## INVASIVE SPECIES AT SAMPLE LOCATIONS





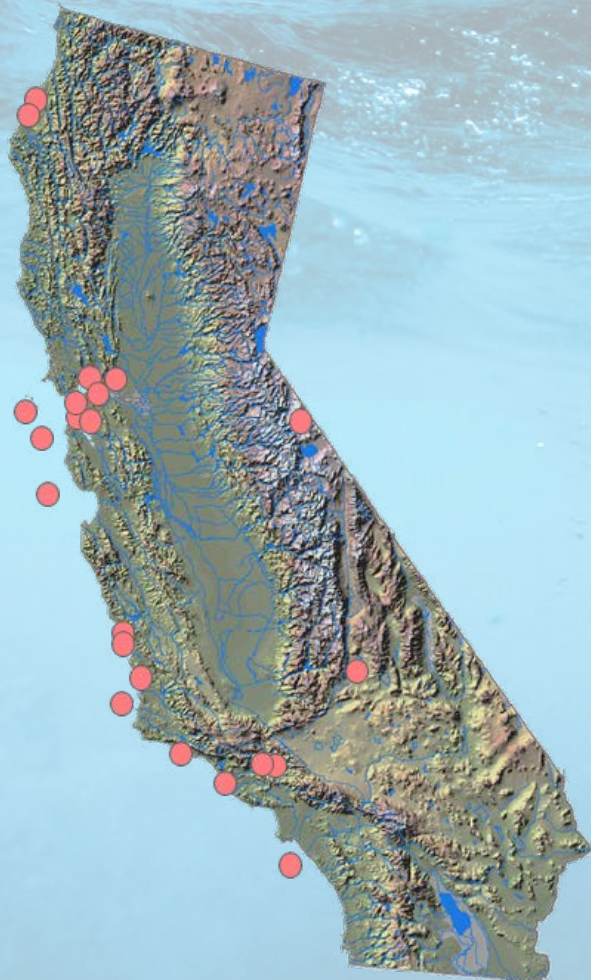
# RESTORATION



*OSPR partnered with other trustees to restore a saltmarsh at Cullinan Ranch near San Pablo Bay.*

**As a trustee for natural resources, OSPR conducts natural resource damage assessments (NRDA) to examine the natural resource injuries from oil spills, to quantify the injuries, and to seek damages to both restore the injured resources and to compensate the public for the lost interim ecological benefits and uses of those resources.**

## LARGE INCIDENTS WITH NATURAL RESOURCE DAMAGES





## DAMAGE ASSESSMENT

- Large damage cases in OSPR's history: 22
- Small damage cases: over 160
- Total damages recovered for restoration: over \$210 million

## RESTORATION

- Total number of projects implemented or planned: over 300
- Major projects in 2016-2017:
  - Seabird Protection Networks along the coast
  - Grebe colony protection at inland lakes
  - Seabird colony protection at Farallon, Año Nuevo, Channel, and Baja California Islands
  - Marbled Murrelet restoration
  - Habitat restoration at Santa Clara River
  - Eelgrass restoration in San Francisco Bay
  - Recreational use improvements in the Bay Area

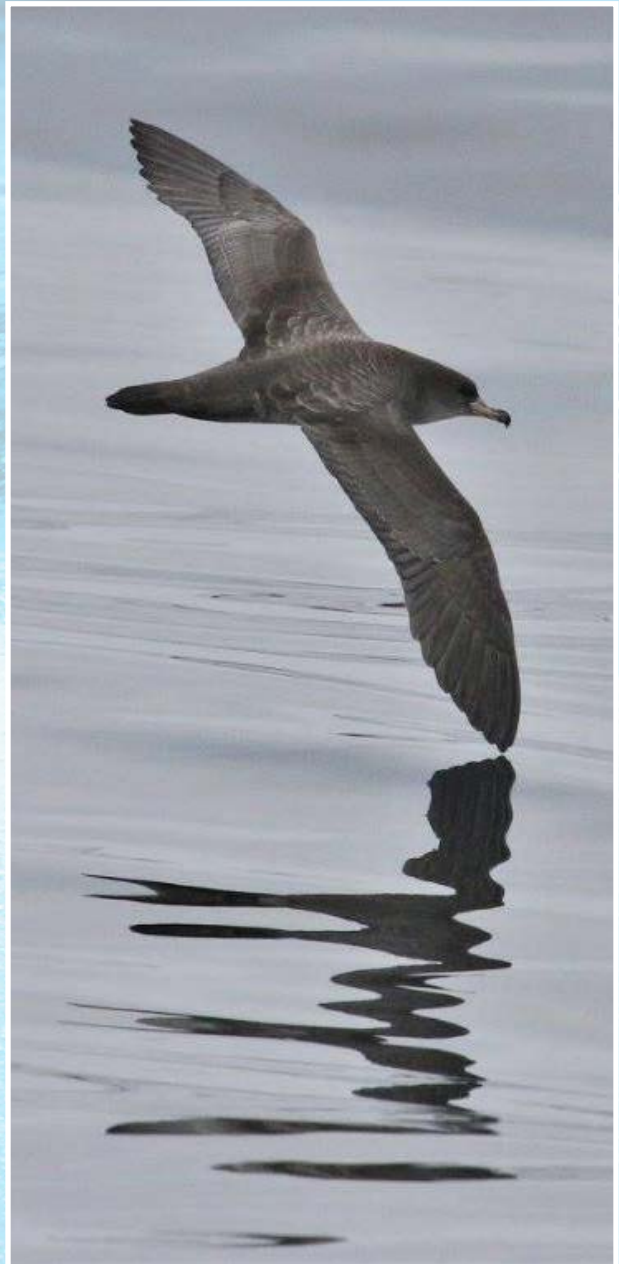
## ENVIRONMENTAL ENHANCEMENT FUND

Provides grants for restoration projects using fines and penalties.

- Over \$2 million for 14 projects since 2014.

New grants in 2017:

- Dune restoration at Morro Bay Estuary
- Marsh restoration at Cosumnes River Preserve





# REGULATIONS



**The Lempert-Keene-Seastrand Oil Spill Act defines OSPR's mission and responsibilities. To implement the Act, OSPR creates regulations that require the oil industry to take various measures to prevent oil spills and to be prepared in the event of a spill.**

## STATUS OF NEW INLAND REGULATIONS

The statewide fee expansion implementing the statutory change to 6 ½ cents per barrel (on crude arriving at refineries) was made a permanent regulation in 2017.

OSPR has revised these emergency regulations for inland facilities, based on input from staff and stakeholders. These will soon become permanent regulations:

- Contingency plans
- Financial responsibility
- Drills & exercises
- Oil spill response organizations (OSROs) inland response ratings

## COMING REGULATIONS

- Spill management teams
- Harmonization of marine and inland plan holder requirements
- Wildlife rehabilitation and restoration
- Shoreline protection tables (updated)
- Civil administrative penalties
- Tug escorts



# TECHNICAL ADVISORY COMMITTEE



**The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act established the Technical Advisory Committee to provide independent recommendations to OSPR.**

**The Committee consists of fourteen members. Eight are appointed by the Governor, three by the Speaker of the Assembly, and three by the Senate Rules Committee. They meet at least twice a year and prepare a report at least once every two years for the Governor and Legislature.**

## **GOVERNOR APPOINTEES:**

Stephen Ricks  
*Oil Spill Response Representative*  
John Berge  
*Dry Cargo Industry Representative*  
Matt Rezvani  
*Petroleum Industry Representative*  
Joe Cobb  
*Oil Production Industry Representative*  
Lynn Korwatch  
*Marine Transportation Representative*  
James Farner  
*Railroad Industry Representative*  
vacant  
*State Government Representative*  
Janell Myhre  
*Local Government Representative*

## **SENATE RULES COMMITTEE APPOINTEES:**

Jenna Driscoll  
*Environment/Ecosystems Representative*  
Sejal Choksi-Chugh  
*Environment/Ecosystems Representative*  
vacant  
*Public Representative*

## **SPEAKER OF THE ASSEMBLY APPOINTEES:**

Uta Passow  
*Environment/Ecosystems Representative*  
Tracy Van Houten  
*Environment/Ecosystems Representative*  
Pedro Santillan  
*Public Representative*



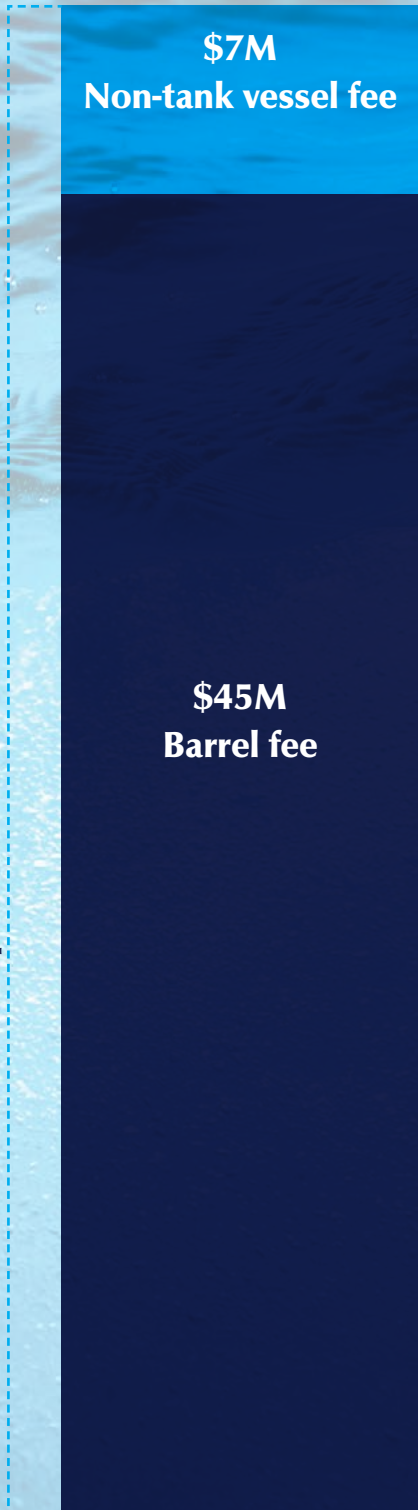
# FINANCES



OSPR receives the bulk of its funding from a 6 ½ cent per barrel fee on crude oil delivered to refineries in California. A smaller fee on non-tank vessels augments these revenues. Together, these form the Oil Spill Prevention and Administration Fund, which funds most of OSPR, as well as parts of the Oiled Wildlife Care Network and the State Lands Commission. OSPR receives some additional funds for non-oil related work, such as Base Realignment and Closure (BRAC), Marine Invasive Species, and various programs within the laboratories.

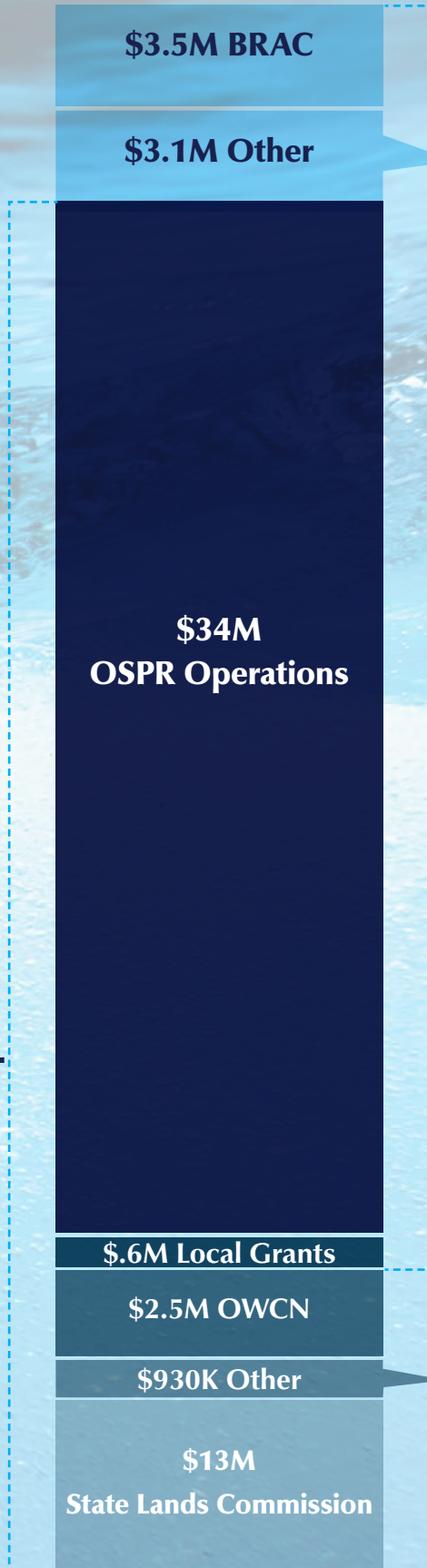


**Oil Spill Prevention and Administration Fund**



**REVENUES**

**Oil Spill Prevention and Administration Fund**



**APPROPRIATIONS**

- \$460K General Fund
- \$650K Preservation Fund
- \$1.4M Marine Invasive Species
- \$130K CA Sea Otter Fund
- \$500K Pollution Fund non-oil response

**OSPR \$41M**

- \$710K Tax & Fee Admin
- \$157K Environmental Health Hazard
- \$64K FisCal



# SCIENTIFIC PUBLICATIONS BY OSPR STAFF

## 2016-17

Backer, L.C., Miller, M. 2016. Sentinel animals in a one health approach to harmful cyanobacteria and algae blooms. *Veterinary Sciences* 3(2), 8.

Bartlett G., Smith W., Dominik C., Batac F., Dodd E., Byrne B.A., Jang S., Jessup D., Chantrey J., Miller M.A. 2016. Prevalence, pathology and potential risk factors associated with *Streptococcus phocae* infection in southern sea otters (*Enhydra lutris nereis*), 2004-2010. *Journal of Wildlife Diseases* 52(1): 1-9

Bentall, G.B., Rosen, B.H., Kunz, J.M., Miller, M.A., Saunders, G.W. LaRoche, N.L. 2016. Characterization of the putatively introduced red alga *Acrochaetium secundatum* (Acrochaetiales, Rhodophyta) growing epizoically on the pelage of southern sea otters (*Enhydra lutris nereis*). *Marine Mammal Science* 32(2): 753-764.

Capuano AM, Miller M, Stallknecht DE, Moriarty M, Plancarte M, Dodd E, Batac F, and Boyce WM. 2017. Serologic detection of subtype-specific antibodies to Influenza A viruses in southern sea otters (*Enhydra lutris nereis*). *Journal of Wildlife Diseases* 53(4): 906-910.

Chinn, S.M., Miller, M.A., Tinker, M.T., Staedler, M.M., Batac, F.I., Dodd, E.M., Henkel, L.A. 2016. The high cost of motherhood: end-lactation syndrome in southern sea otters (*Enhydra lutris nereis*). *Marine Mammal Science* 32(2): 753-764.

Ferguson, S.D., Wellehan, J.F.X., Jr., Frasca, S., Jr., Innis, C.J., Harris, H., Miller, M., Weber, E.S., Stockdale Walden, H.D., Greiner, E.C., Merigo, C. Stacy, B.A. 2016. Coccidial infection of the adrenal glands of leatherback sea turtles (*Dermochelys coriacea*). *Journal of Wildlife Diseases* 52: 874-882.

Gibble, C.M., Peacock, M.B., Kudela, R.M. 2016. Evidence of freshwater algal toxins in marine shellfish: Implications for human and aquatic health. *Harmful Algae*: 59: 59-66.

Law, C.J., C. Young, and R.S. Mehta. 2016. Ontogenetic scaling of theoretical bite force in southern sea otters (*Enhydra lutris nereis*). *Physiological and Biochemical Zoology* 89(5): 347-363.

Lee, B., Byrne, B.A., Young, M.A., Murray, M.A., Miller, M.A., Tell, L. 2016. Pharmacokinetic indices for cefovecin after single-dose administration to adult sea otters (*Enhydra lutris*). *Journal of Veterinary Pharmacology and Therapeutics* 39(6): 625-628.



Miller, M., Burgess, T.L., Dodd, E.M., Rhyan, J.C., Jang, S.S., Byrne, B.A., Gulland, F.M., Murray, M.J., Toy-Choutka, S., Conrad, P.A., Smith, W.A. 2017. Isolation and characterization of a novel marine *Brucella* from a southern sea otter (*Enhydra lutris nereis*). *Journal of Wildlife Diseases* 53(2): 215-227.

Patton RT, Goodenough KS, De La Cruz SEW, Nevins H, Cole R, Bodenstein B, Shearn-Bochsler V, Collins B, Beck J, Sadkowski M, Takekawa JY. 2017. Mass mortality attributed to acanthocephaliasis at a gull-billed tern (*Gelechelidon nilotica*) colony in coastal California. *Journal of Wildlife Diseases* 53(4): 885-890.

Shapiro, K., Miller, M.A., Packham, A.E., Aguilar, B., Conrad, P.A., VanWormer, E., Murray, M.J. 2016. Dual congenital transmission of *Toxoplasma gondii* and *Sarcocystis neurona* in a late-term aborted pup from a chronically infected southern sea otter (*Enhydra lutris nereis*). *Parasitology* 143: 276-288.

Shen, Z., Batac, F., Mannion, A., Miller, M.A., Bakthavatchalu, V., Ho., C., Manning, S., Paster, B.J., Fox, J.G. 2017. Novel urease-negative *Helicobacter* sp., "*H. enhydrae* sp. nov." isolated from inflamed gastric tissue of southern sea otters. *Diseases of Aquatic Organisms* 123: 1-11.

Siqueira J.D., Ng T., Miller M., Li L., Deng X., Dodd E., Batac F., Delwart E. 2017. Endemic infection of stranded southern sea otters (*Enhydra lutris nereis*) with novel parvovirus, polyomavirus and adenovirus. *Journal of Wildlife Diseases* 53(3): 532-542.

Stacy, B., Innis, C., Daoust, P., Wyneken, J., Miller, M., Harris, H., James, M., Foley, A. 2016. Solitary large intestinal diverticulitis in leatherback turtles (*Dermochelys coriacea*): a review of 27 cases. *Veterinary Pathology* 52(4): 712-715.

Young C., Miller M.A., Kuchta R., Brabec J., Newsome S.D, and Dailey M. 2017. First report of an adult tapeworm (Cestoda: *Diphylobothriidea*) in a southern sea otter (*Enhydra lutris nereis*). *Journal of Wildlife Diseases* 53(4): 934-937.



A photograph showing a large-scale oil spill cleanup operation. A long, dark, segmented boom is deployed across a body of water, separating a thick, dark oil slick from the surrounding lighter blue water. The oil slick is visible as a dark, irregular mass along the boom. The water surface shows some ripples and reflections of light.

# **Report Oil Spills**

**800-852-7550 or**  
**800-OILS-911**

**Office of Spill Prevention and Response**  
**OSPRinfo@wildlife.ca.gov**  
**wildlife.ca.gov/OSPR**