

# EXECUTIVE Summary

*of the MSRP Restoration Plan and Programmatic EIS / EIR*



**EXECUTIVE SUMMARY OF THE MONTROSE SETTLEMENTS RESTORATION PROGRAM  
RESTORATION PLAN, PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT, AND  
PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT**

**PRODUCED BY THE NATURAL RESOURCE TRUSTEES**

National Oceanic and Atmospheric Administration  
U.S. Fish & Wildlife Service  
National Park Service  
California Department of Fish and Game  
California Department of Parks and Recreation  
California State Land Commission

**JULY 2006**

An aerial photograph of a coastline, showing a sandy beach, waves, and a hillside with some buildings in the background. The image is slightly faded and serves as the background for the text.

The Natural Resource Trustees have developed a plan to restore natural resources injured and natural resource services lost due to past releases of DDTs and PCBs into the ocean off the coast of Southern California. Through the Montrose Settlements Restoration Program (MSRP), the Trustees will use funds from legal settlements to implement a suite of restoration and monitoring actions addressing injuries to fishing and fish habitat, bald eagles, peregrine falcons and various seabirds.

**JULY 2006**

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**COVER PHOTO**

The DDTs and PCBs causing natural resource injuries entered the environment through a wastewater outfall at White Point, near Los Angeles, California.  
Photo courtesy of David Witting / MSRP.

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# A BRIEF History

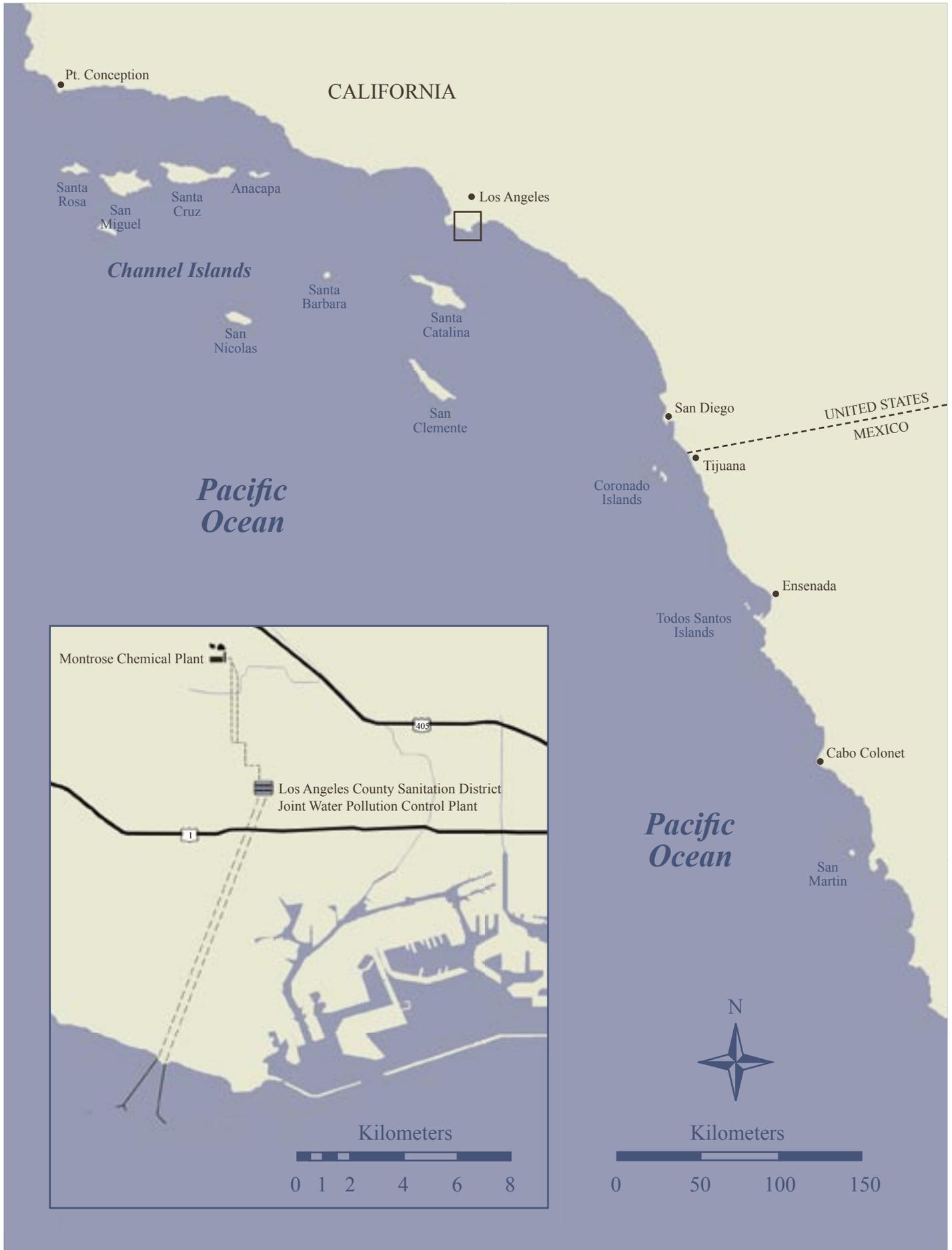
*of DDTs and PCBs in Southern California*



*Signs at piers in Southern California warn anglers against eating white croaker caught nearby.*

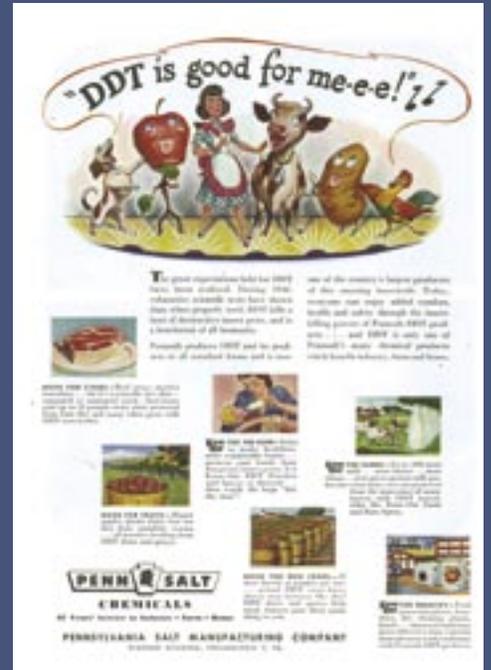
From the late 1940s to the early 1970s, millions of pounds of DDTs and PCBs were discharged from industrial sources through a wastewater outfall into the ocean at White Point, near Los Angeles. These chemicals, banned in the United States today but made and used in the past for pesticide and industrial purposes, resulted in widespread impacts on the natural and human environment. The chemicals can cause birds to lay abnormally thin-shelled eggs which break easily, a factor that contributed to the decline, and in some cases disappearance, of several species of birds throughout the Channel Islands. Even today, bald eagles reintroduced to Santa Catalina Island are unable to successfully hatch their eggs without human assistance. The human health risks associated with high levels of DDTs and PCBs in certain species of fish also led the State of California to issue fish consumption advisories for those fish and enact a commercial catch ban for one species in particular, white croaker. Although the release of DDTs and PCBs ended in the 1970s, these chemicals still contaminate the sediments, water, and living organisms of the Southern California Bight (see map, facing page).

*Although the releases of DDTs and PCBs from the Montrose chemical plant in Torrance, CA (inset) and other industrial sources ended in the 1970s, the chemicals still contaminate the sediments, water, and living organisms of the Southern California Bight.*

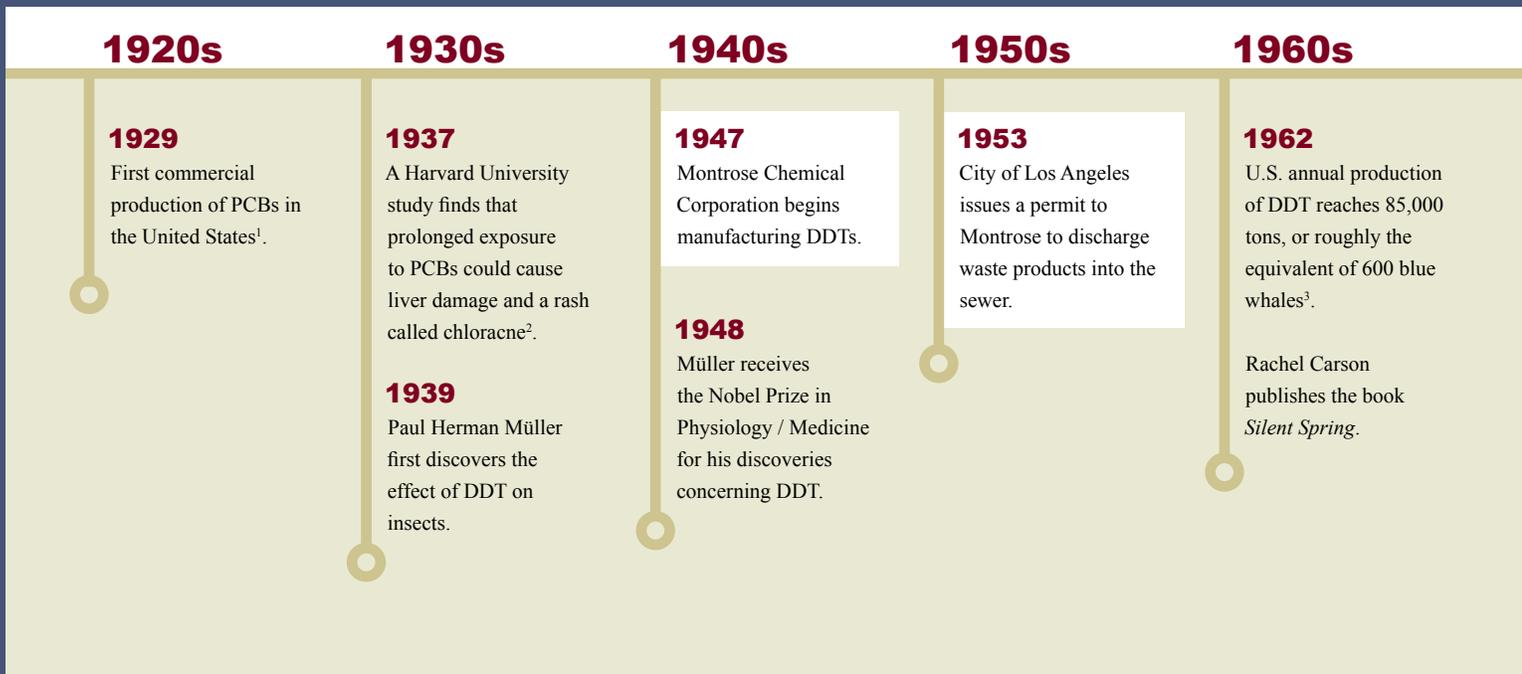


# WHAT ARE DDTs and PCBs?

DDTs and PCBs are toxic mixtures of chemicals that are very slow to break down in the environment. The chemicals can accumulate in plants and animals and move through the food web to become more concentrated in higher predators. Human health problems associated with increased exposure to DDTs and PCBs include cancer and liver disease. Most of the DDTs and PCBs contaminating the marine environment near Los Angeles came from companies that dumped their waste products into the regional sewer system many years ago. The wastewater was discharged into the ocean through outfalls offshore of White Point, on the Los Angeles County coast.



*DDT, once considered a miracle chemical, was banned by the U.S. EPA in 1972.*



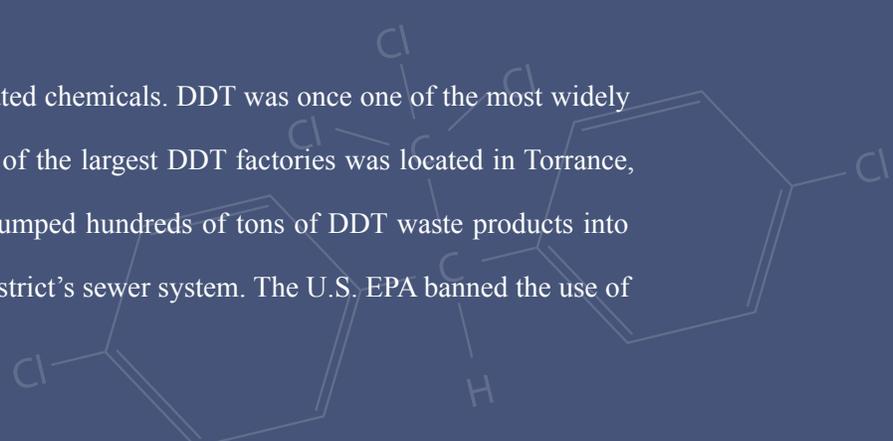
1. Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological Profile for polychlorinated biphenyls (PCBs). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. Available online at <http://www.atsdr.cdc.gov/toxprofiles/tp17.html>.

2. Drinker CK, Warren MF, Bennet GA. 1937. The Problem of Possible Systemic Effects from Certain Chlorinated Hydrocarbons. *Journal of Industrial Hygiene and Toxicology*, Vol. 19, No. 7: pp. 283-311.

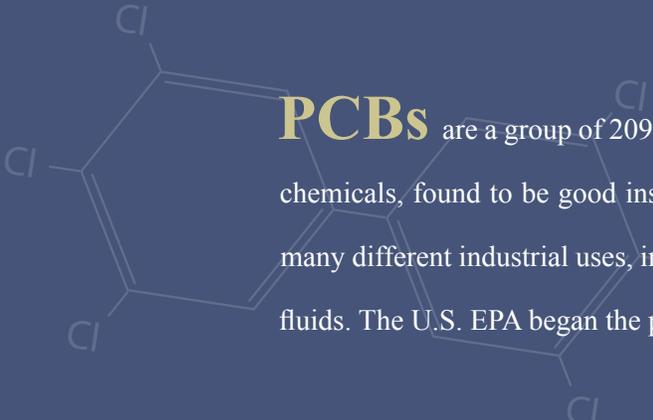
3. Agency for Toxic Substances and Disease Registry (ATSDR). 2002. Toxicological Profile for DDT, DDE, DDD. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. Available online at <http://www.atsdr.cdc.gov/toxprofiles/tp35.html>.

4. U.S. Environmental Protection Agency (USEPA). 2005. 35 Year Environmental Timeline. U.S. EPA.

**DDTs** are a mixture of six related chemicals. DDT was once one of the most widely used pesticides in the world, and one of the largest DDT factories was located in Torrance, CA. During production, the factory dumped hundreds of tons of DDT waste products into the Los Angeles County Sanitation District's sewer system. The U.S. EPA banned the use of DDT in 1972.



**PCBs** are a group of 209 related oil-like chemicals first manufactured in 1929. These chemicals, found to be good insulators and stable when exposed to heat and pressure, had many different industrial uses, including making paints, transformer coolants, and hydraulic fluids. The U.S. EPA began the phase-out of PCB production and use in 1976.



## 1970s

### 1970

U.S. annual production of PCBs peaks at 42,500 tons, or roughly the equivalent of 300 blue whales<sup>1</sup>.

### 1972

Congress bans use (but not production) of DDTs in the United States.

### 1976

U.S. EPA begins phase-out of PCB production and use in the United States.

## 1980s

### 1980

Congress passes the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), also known as the "Superfund Law."

### 1982

Montrose Chemical Corporation ceases manufacturing DDTs; closes down.

## 1990s

### 1990

U.S. Justice Dept. and California Attorney General sue Montrose Chemical Corp. et al.

### 1996

U.S. EPA designates the ocean floor off of southern California as a Superfund site.

Fishing bans instituted in the Los Angeles area.

## 2000s

### 2001

Final consent decree for U.S. and CA v. Montrose et al.

Montrose Settlements Restoration Program (MSRP) created to administer restoration planning and implementation.

### 2005

MSRP Restoration Plan and Programmatic EIS / EIR released.

### 2006

MSRP project implementation begins.

## 2010s

### 2010

Phase II of MSRP restoration set to begin.

# WHAT IS **Natural Resource Damage Assessment**?

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## What are injured resources?

Hazardous substance releases can harm natural resources in a number of ways. The most immediate and visible impacts may be injured or dead organisms - such as fish, birds, wetland plants, and seagrasses. Other impacts may not be readily apparent. Nurseries for fish or nesting sites for birds may be destroyed, and birds and other wildlife may become ill from eating contaminated food. A spill or release may also diminish the services that natural resources provide (e.g., fishing, boating, beachgoing, and wildlife viewing) and ecological services (e.g., providing habitat, nutrient cycling, and energy transfer through food webs).

**Natural Resource Trustees** are agencies that act on behalf of the public to identify the injuries to natural resources resulting from such incidences, and then restore the resources and their services.

## What is damage assessment?

Natural resource damage assessment is a process to determine the nature and extent of injuries to natural resources and the restoration actions needed to reverse these losses. Natural Resource Trustees work together, when possible, with the parties responsible for the pollution to identify injured natural resources, the type and amount of restoration required, and the best methods to achieve restoration. The natural resource damage assessment process promotes cost-effective assessment and restoration — benefitting the public, the responsible parties, and the environment.

## Applicable Laws

Several laws provide a framework for how the Natural Resource Trustees should conduct damage assessment and restoration. These laws include:

The **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, also known as “Superfund”, provides the government the authority to address cleanup and restoration of the nation’s hazardous waste sites. CERCLA regulations require the preparation and public review of a restoration plan to guide natural resource restoration actions.

The **National Environmental Protection Act (NEPA)** mandates that before federal agencies make decisions, they consider and publicly disclose the effects of their actions on the quality of the human environment. In developing this Restoration Plan, the Trustees are meeting NEPA requirements by preparing the document as an Environmental Impact Statement (EIS).

The **California Environmental Quality Act (CEQA)** requires that California’s public agencies identify the significant environmental effects of their actions and either avoid or mitigate those significant environmental effects, where possible. In developing this Restoration Plan, the Trustees are meeting CEQA requirements by preparing the document as an Environmental Impact Report (EIR).

## LITIGATION

In 1990, the state and federal governments initiated legal action against the Montrose Chemical Corporation (Montrose) and the other parties responsible for discharging waste DDTs and PCBs into the California marine environment. In December 2000 the final settlement was signed, ending ten years of litigation. Under the terms of four separate settlement agreements, Montrose and the other defendants<sup>1</sup> agreed to pay \$140.2 million to the federal and state governments.

## CLEANUP

Of this amount, the U.S. Environmental Protection Agency (U.S. EPA) and the California Department of Toxic Substances Control (DTSC) received \$66.25 million plus interest to research and implement cleanup activities. They are using these funds to address cleanup of the contaminated sediments offshore, in addition to conducting public outreach, education, monitoring, and enforcement actions to try to reduce human exposure to fish contaminated by the discharges. An additional \$10 million (“swing money”) has been set aside in a separate escrow account for U.S. EPA cleanup actions, but may instead go to natural resource restoration depending on their final decision concerning cleanup of the site.

## RESTORATION

The Natural Resource Trustees (Trustees)<sup>2</sup> are federal and state agencies charged with protecting, managing and restoring natural resources. For the Montrose case, the Trustees received \$63.95 million plus interest. The Trustees have used \$35 million to pay for the damage assessment and litigation necessary to achieve the overall settlement. As required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or “Superfund”; see box, facing page), the Trustees must use the remainder of the settlement money to restore natural resources that were harmed by DDTs and PCBs, and must prepare a restoration plan subject to public review (see page 15 for a more detailed description of the plan).

The MSRP Restoration Plan and Programmatic Environmental Impact Statement (EIS) / Environmental Impact Report (EIR) is a comprehensive document detailing the affected region, the restoration planning process, and restoration projects the Trustees plan to implement. As an EIS / EIR, the document also addresses NEPA and CEQA requirements (see box at left) for environmental review. This Executive Summary is a brief introduction to that larger document.



*The Trustees released the MSRP Final Restoration Plan / EIS / EIR in the fall of 2005.*

<sup>1</sup> The other defendants were: Aventis CropScience USA, Inc. (formerly Rhone-Poulenc, Inc., and corporate successor to Stauffer Chemical Company); Chris-Craft Industries, Inc.; Atkemix Thirty-Seven, Inc.; CBS Corporation (formerly Westinghouse Electric Corp.); Potlach Corporation; Simpson Paper Company; and County Sanitation District No. 2 of Los Angeles County (LACSD) and more than 150 local government entities.

<sup>2</sup> The Natural Resource Trustees for the Montrose case are: the National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, National Park Service, C□

# EPA AND THE TRUSTEES

## *Working Together on the Montrose Case*

The Montrose Settlements Restoration Program (MSRP) is related to but separate from the U.S. Environmental Protection Agency (U.S. EPA) Superfund cleanup program.

### U.S. EPA Programs

The U.S. EPA is currently focusing on cleaning up the DDTs and PCBs that remain in the sediment along the Palos Verdes Shelf, in an effort to reduce present and future risks to human health and the environment. U.S. EPA programs related to the Montrose case include:

**Cleanup of the contaminated sediment**, which includes examining the extent and risk of contamination and evaluating potential long-term cleanup alternatives. This effort includes a 2001 pilot capping project in which areas of contaminated sediment were covered with a thick layer of clean sediment. The data collected will be used to decide if a full-scale capping project should be implemented.



*At a U.S. EPA media event, an MSRP staff member works with a state representative to demonstrate safe fish preparation to local anglers and their families.*

**The Institutional Controls Program**, a non-engineering approach to reducing human risk through public education and outreach, fish monitoring, and enforcement of the existing fishing regulations. Public education and outreach is conducted through the Fish Contamination and Education Collaborative, a partnership between federal and state government agencies, local health departments, community-based organizations, and other local institutions.

Highlights of the Institutional Controls Program include:

- Partnerships with local health departments to provide language-specific outreach to women of childbearing age;
- Outreach to pier anglers, shoreline anglers, and local markets where contaminated white croaker could be sold;
- Outreach in language-specific media to target at-risk, non-English speaking communities;
- “Fish-in-Ocean” monitoring of contaminant levels in (1) white croaker to determine whether the commercial catch ban area should be enlarged or revised, and (2) in fish to provide information to update current fish advisories;
- Marketplace monitoring to evaluate if fishing restrictions and enforcement actions are effective in preventing contaminated white croaker from reaching consumers; and
- A partnership with the California Department of Fish and Game to enforce the commercial catch ban and sport fishing restrictions for white croaker.

To learn more about the U.S. EPA’s work, visit them online at [www.pvsfish.org](http://www.pvsfish.org), or call (800) 231-3075.

## Trustee Programs

The Trustees' goal is to restore, replace or acquire the equivalent of natural resources injured and services lost as a result of past releases of DDTs and PCBs into the Southern California marine environment. Trustee efforts related to the Montrose case include:

An extensive **damage assessment** conducted during the 1990s to examine the potential injuries to natural resources and services.

**Data gap studies** to gather information needed for effective restoration planning. Certain data gap studies have been undertaken jointly with the U.S. EPA. See pages 13-14 for complete descriptions of these studies.

**Restoration planning and implementation** to address affected resources and services, which include:

- Fishing and fish habitat;
- Bald eagles;
- Peregrine falcons; and
- Seabirds.

The following sections provide a detailed look at the MSRP restoration planning process and the projects that will be implemented as a part of the program.

## MSRP / U.S. EPA Outreach

As a contributor to the U.S. EPA's Fish Contamination and Education Collaborative (FCEC), MSRP has worked with FCEC to create and distribute tools that promote understanding of fish contamination issues that affect the ethnically diverse populations in the area. For copies of these publications, please contact MSRP at [msrp@noaa.gov](mailto:msrp@noaa.gov) or (562) 980-3236.

Available outreach materials include:

**“Fishing Resources in Southern California,”** a fish identification card to help anglers identify the fish they catch.

**“Protect Your Health!”** an FCEC guide to fish advisories in the Palos Verdes Shelf area, available in 14 languages.

**Fishing Comic Book.** MSRP and Cabrillo Marine Aquarium have developed an educational comic book for kids and parents alike. The story follows Mariza, Jose, and their animal friends as they learn about fish contamination in southern California. The comic will be ready for distribution in 2007.



# The ROAD to Restoration

## *The MSRP Restoration Planning Process*



***The MSRP is a collaborative effort between federal and California state natural resource agencies to manage the work of restoring the resources injured by past releases of DDTs and PCBs.***

In 2001, the Natural Resource Trustees created the Montrose Settlements Restoration Program (MSRP) as a multi-agency effort to manage the work of restoring the injured resources. Through the MSRP, the Trustees began a broad restoration planning effort, during which they asked scientific experts and the public to provide feedback on the goals and objectives of the program, and submit preliminary restoration ideas.

The overall goals of the MSRP, identified through this process, are to:

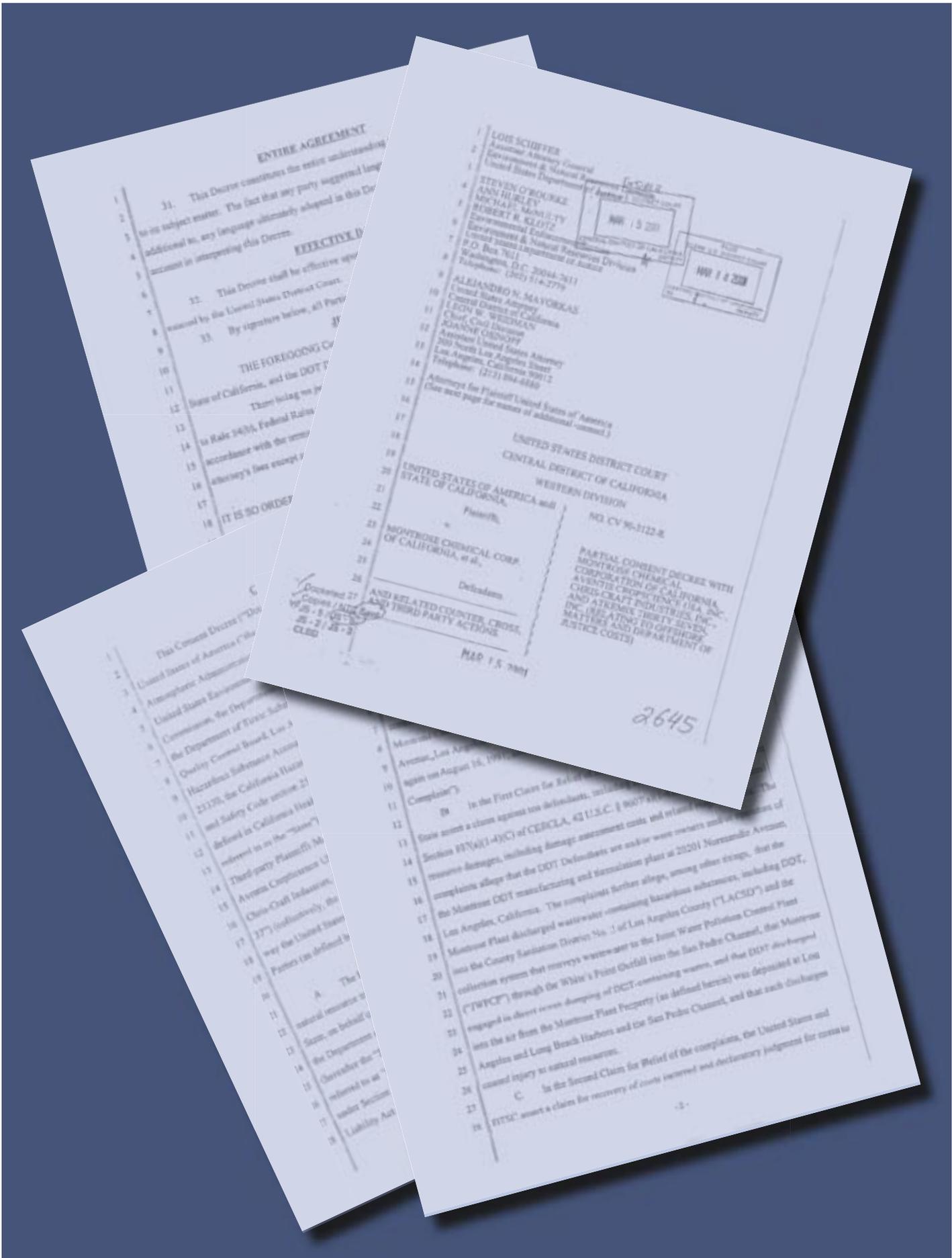
- Restore, replace, rehabilitate, or acquire the equivalent of the injured natural resources and the services those resources provide (“primary restoration”); and
- Compensate for the lost services of the injured natural resources while those resources are recovering (“compensatory restoration”).

The final consent decree for the Montrose case states:

*“The Trustees will use the damages for restoration of injured natural resources, including bald eagles, peregrine falcons and other marine birds, fish and the habitats upon which they depend, as well as providing for implementation of restoration projects intended to compensate the public for lost use of natural resources.”*

*– United States of America and State of California  
v. Montose Chemical Corporation et al.  
(page 5, lines 18-22)*

With this provision in mind, and with input and feedback from the public during past restoration planning workshops, the Trustees identified four resource categories for restoration within the Southern California Bight.





***MSRP target resources for restoration include fishing and fish habitats, bald eagles, peregrine falcons, and seabirds.***

The four resources are:

- Fishing and fish habitats;
- Bald eagles; and
- Peregrine falcons;
- Seabirds.

## **RESTORATION IDEAS**

The Trustees began collecting and compiling potential restoration ideas even before the legal case was settled in 2000. The early list of ideas was expanded through public scoping in 2002 and 2003. This process included further consultation with scientific experts with specialized knowledge about the injured resources as well as a series of public workshops to encourage public participation. The initial broad list of potential restoration ideas that the Trustees gathered was then evaluated in a two-step process.

### ***Tier 1 Evaluation***

The initial list of project ideas was screened and consolidated in a Tier 1 evaluation, using the following criteria: nexus, feasibility, resource benefits, and ecosystem benefits. A detailed description of the Tier 1 process, including descriptions of the criteria and a list of those restoration ideas that did not receive further consideration after the Tier 1 evaluation, can be found in Section 5 of the full MSRP Restoration Plan and Programmatic EIS / EIR.

The Tier 1 evaluation resulted in a list of the 17 most promising potential restoration actions. Some of these actions are fully developed, specific projects for which the plan constitutes final environmental impact assessment under NEPA and CEQA. However, other actions are still conceptual approaches that would require further development and environmental review prior to initiation.

In addition to actions that directly and actively restore the specific injured resources and lost services of the Montrose case, the Trustees received several suggestions from the public that some of the restoration funds be used for more general public outreach and education. Other suggestions were received for further research studies to better understand the injuries and potential restoration approaches (“data gap” studies). The Trustees did not evaluate the outreach and education or research ideas gathered against specific actions that restore fishing and fish habitat, bald eagles, peregrine falcons, and seabirds. However, certain outreach concepts identified through this process have been incorporated into one of the fish restoration ideas (“provide public information to restore lost fishing services”), and the research ideas will be retained for consideration as planning and decision-making proceed and specific outreach and data needs become apparent.

## *Tier 2 Evaluation*

In the Tier 2 evaluation, the 17 potential restoration actions were analyzed in greater detail. The Trustees expanded on the criteria used in the Tier 1 evaluation by including consideration of environmental acceptability and cost.

## **FUNDING, ALLOCATION AND PHASING**

One important consideration in the restoration planning process was how available funds should be distributed between the different natural resources and services identified for restoration in the final Montrose consent decree, which did not specify how the restoration funds should be allocated. The balance of funds remaining for restoration as this Restoration Plan was being developed was approximately \$38 million. The final legal settlement also provides the potential that approximately \$10 million currently earmarked for U.S. EPA response actions may instead go to natural resource restoration, depending on the outcome of the ongoing remedial investigation.

Taking these factors into consideration, along with the uncertain outcomes of ongoing data gap studies, the Trustees committed \$25 million for a first phase of restoration implementation under this plan. In approximately 5 years, several uncertainties should be resolved, including the outcome of the Northern Channel Islands Bald Eagle Feasibility Study and the U.S. EPA's site remediation decision. The Trustees will then assess their progress and allocate the remaining restoration funds.

The Trustees propose to allocate the \$25 million for Phase 1 among the four restoration categories: fishing and fish habitat, bald eagles, peregrine falcons, and seabirds. Considering the likely costs of the actions and various uncertainties, the Trustees propose to allocate the initial \$25 million on an approximately equal basis between fishing / fish habitat restoration and bird restoration as follows:

- \$12 million for fishing and fish habitat restoration actions; and
- \$13 million for bald eagle, peregrine falcon, and seabird restoration actions.

This overall commitment (\$25 million for the first phase) and its allocation are built into the restoration alternatives discussed in the following section.



## Northern Channel Islands (NCI) Bald Eagle Feasibility Study



*Biologists take measurements of juvenile bald eagles (top) before placing them in “hawk towers” (bottom). Since 2002, over 60 bald eagles have found new homes on the Northern Channel Islands as a part of the MSRP Bald Eagle Feasibility Study.*

Levels of DDTs and PCBs in the Southern California Bight have declined since the Montrose discharge was controlled in the 1970s, but persist at levels that continue to cause reproductive problems in bald eagles on Santa Catalina Island. Since bald eagles have not naturally recolonized other Channel Islands, the Trustees initiated a feasibility study in 2002 to determine whether bald eagles reintroduced to the Northern Channel Islands might have greater reproductive success than the Catalina Island birds.

To date, 60 juvenile bald eagles have been released on Santa Cruz Island. The birds have dispersed among the Northern Channel Islands and inhabit not only Santa Cruz, but San Miguel, Santa Rosa and Anacapa Islands as well.

In 2004, biologists began recapturing eagles to collect blood and feather samples for contaminant analysis. In early 2006, biologists discovered the first two nests on the Northern Channel Islands in over 50 years. Now that these birds have begun to reproduce, biologists will monitor these and other new nests over the next few years to determine if the bald eagles can continue to successfully reproduce in the wild.

## Angler Survey

In 2002 and 2003, the MSRP and the U.S. EPA interviewed 2,441 anglers at numerous sites along the coast of Los Angeles and Orange Counties to gather information on local fishing and fish consumption practices. The responses are being used to fill gaps in information that have not been the focus of other recreational fishing studies, such as:

- Ethnic and language issues, current awareness of fishing advisories, and how anglers obtain that awareness;
- Catch preferences, parts of the fish consumed, and different ways people prepare fish for eating; and
- Fishing preferences (types of fish and locations) that may assist in planning projects to increase the availability of opportunities to fish for clean fish.

The resulting database will be used for planning future restoration and public outreach efforts.

## Southern California Fish Contamination Survey

From Fall 2002 to Spring 2004, MSRP and U.S. EPA collected over 3,000 fish from 28 locations off the southern California coast, representing a wide variety of species commonly caught by local recreational and commercial anglers. Approximately 900 fish are being analyzed for DDTs, PCBs, and other contaminants to provide a comprehensive assessment of current contamination levels across different species and locations.

The state of the art laboratory analysis and quality assurance program, driven by the exacting standards of MSRP and U.S. EPA, has required additional time and re-analysis of fish samples. The final data will provide an uncompromised assessment of fish contamination in the Southern California coastal region.

MSRP will use the data to plan restoration projects to create better fishing environments, and to enhance effectiveness of public outreach and education programs. The data will also be used by the California Office of Environmental Health Hazard Assessment and Department of Fish and Game to update fish consumption advisories, bag limits, and the commercial catch ban on white croaker. Finally, U.S. EPA will use the data to evaluate current and future risks and potential cleanup actions for the Palos Verdes Shelf.

## Peregrine Falcon Survey

A 1991 survey showed that peregrine falcons were breeding on several of the Northern Channel Islands after being completely extirpated from the area just before dumping of DDTs from the Montrose facility ended. Although these birds are once again breeding successfully, the extent of their recovery on the rest of the Channel Islands is not clearly known, nor . In addition, no studies have been conducted to examine if contamination-related reproductive problems persist in these birds.

In 2004, MSRP funded a survey of Santa Catalina Island to determine whether peregrine falcons were beginning to re-colonize the Southern Channel Islands. Two pairs of peregrine falcons were observed nesting on Santa Catalina Island, although no evidence of egg laying was observed.



*As a part of the fish contamination study, MSRP and U.S. EPA collected and analyzed commonly caught fish for DDTs, PCBs, and other contaminants.*

# A RESTORATION Plan

## *Project Descriptions and Environmental Consequences*



*Rubberlip surfperch  
at home in a giant  
kelp forest.*

The natural resource restoration planning process is guided by NEPA, CEQA, and CERCLA regulations, which require the consideration of a range of possible restoration alternatives. In the MSRP Restoration Plan and Programmatic EIS / EIR, the Trustees evaluated three such alternatives.

### **PREFERRED ALTERNATIVE**

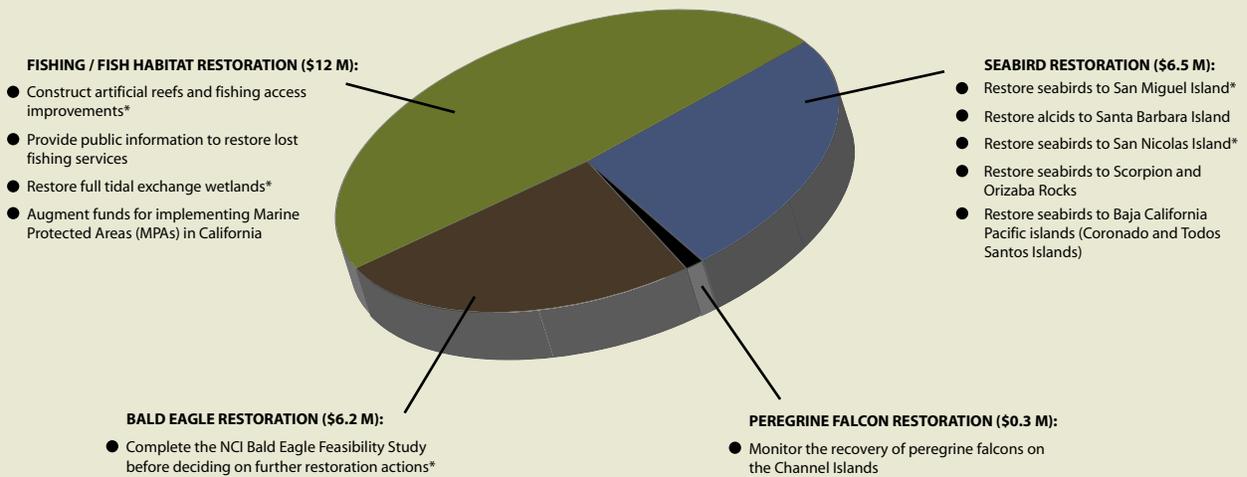
Based on the detailed evaluations performed in Tier 2 of restoration planning (see Appendices A-D of the full MSRP Restoration Plan and Programmatic EIS / EIR), the Trustees determined that a subset of actions would most effectively address the continuing injuries and lost services of the Montrose case and compensate for past injuries (see box, facing page). These actions, which constitute the Trustees' preferred alternative, include projects to restore fishing and fish habitat, bald eagles, and seabirds in the Southern California Bight, and a project to monitor the recovery of peregrine falcons on the Channel Islands. The actions address all resource categories, their total cost falls within the limits of the funding allocated for the first phase of restoration implementation, and they are distributed throughout the Southern California Bight.

Having considered the restoration goals and objectives, the current state of recovery of resources, and the continuing presence of contamination, the Trustees believe that the preferred alternative represents an optimal distribution of funding for natural resource restoration across the demonstrated injury types for the purposes of both primary and compensatory restoration.

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## TRUSTEES' PREFERRED ALTERNATIVE

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\* These actions require further detailed development and subsequent NEPA and/or CEQA analysis prior to implementation.

# PREFERRED *Alternative*



## FISHING AND FISH HABITAT

The Trustees' preferred alternative provides for a diverse set of actions that will address both the restoration of human uses (fishing services) and the restoration of fish and the habitats on which they depend. Fishing and fish habitat projects include:

**1 Construct artificial reefs and fishing access improvements.**

Construct reefs to displace the highly contaminated fish that occupy existing soft-bottom habitats with reef and water-column-feeding fish that are lower in DDTs and PCBs. This project also includes facility improvements to encourage fishing in areas where habitat manipulation is performed, as well as provisions for monitoring fish on and around the reefs to determine project effectiveness and direct subsequent MSRP reef actions.

**2 Provide public information to restore lost fishing services.**

Increase fishing services by developing and distributing reliable information on local fish contamination that enables the fishing public to make informed choices about where and for which species to fish. This project will build on efforts initiated by U.S. EPA's Fish Contamination Education Collaborative (see page 6-7).

**3 Restore full tidal exchange wetlands.**

Contribute funding to ongoing or planned larger-scale restoration of wetland and/or estuarine habitats that can serve as nursery habitats for fish species commonly caught along the coast of southern California.

**4 Augment funds for implementing Marine Protected Areas in California.**

Supplement existing management and monitoring activities within the recently created Channel Islands Marine Protected Areas (MPAs) to ensure they provide the best possible basis for further implementations of MPA networks throughout California. MSRP funds could be used for monitoring sub-tidal fish and groundfish, deep-water surveys, or the enforcement of MPA restrictions.



*Fish species such as garibaldi (top) and kelp bass (bottom) are frequently seen on both natural and artificial reefs.*

*MSRP restoration projects are distributed throughout the Southern California Bight and will benefit fish and fish habitats, bald eagles, peregrine falcons and seabirds.*

## BALD EAGLES



*In 2006, two nests produced the first chicks to hatch unaided by humans on the Northern Channel Islands in over 50 years.*

- 5 Complete the NCI Bald Eagle Feasibility Study before deciding on further restoration actions.

The Trustees will defer making longer-term decisions on bald eagle restoration until the results of the NCI Bald Eagle Feasibility Study are known (in or around 2008). During the interim period until the NCI Bald Eagle Feasibility Study is completed, the Trustees have chosen to focus restoration efforts on the Northern Channel Islands, which continue to hold the potential for long-term restoration, and suspend funding of the Santa Catalina Island Bald Eagle Program. Even without continued Trustee funding for the current Santa Catalina Island Bald Eagle Program, it is highly likely that bald eagles will remain on Santa Catalina Island for several years despite their inability to hatch offspring naturally.

When the results of the NCI Bald Eagle Feasibility Study become available, the Trustees will re-evaluate all potential options for bald eagle restoration, including measures that may be taken even if bald eagles are not able to reproduce on their own anywhere in the Channel Islands. The Trustees will then release a subsequent NEPA/CEQA document for public review and input. This action conserves limited restoration funds until sufficient information is known on the ability of the environments on the different Channel Islands to support bald eagles.

## PEREGRINE FALCONS

- 6 Monitor the recovery of peregrine falcons on the Channel Islands.

Previous efforts conducted by other organizations have successfully aided the recovery of peregrine falcons on the Channel Islands, and the number of breeding pairs is steadily increasing. This project provides for monitoring of the continued recovery of peregrine falcons on the Channel Islands through periodic surveys and contaminant analyses. The Trustees also recognize that peregrine falcons will benefit from seabird restoration projects, as an increase in the numbers of seabirds increases the availability of the preferred prey of peregrine falcons.

## SEABIRDS

The Trustees selected seabird restoration actions that benefit species with evidence of injuries from DDTs, or with past evidence of elevated levels of DDTs in their eggs.

### 7 Restore seabirds to San Miguel Island.

San Miguel Island and its associated islets, Prince Island and Castle Rock, support regionally important and diverse seabird colonies, including one-third of the breeding seabirds in the Channel Islands. This project will enhance critical seabird nesting habitat on San Miguel Island by eradicating the introduced black rat, which preys on seabird eggs, and preventing future rodent introductions.

### 8 Restore seabirds to Scorpion and Orizaba Rocks.

Scorpion and Orizaba Rocks, located off of Santa Cruz Island, are important nesting islands for burrow-nesting seabirds in California. The goal of this project is to restore seabird habitat through habitat enhancement, social attraction and reductions in human disturbance.

### 9 Restore seabirds to San Nicolas Island.

Cats were first introduced to San Nicolas Island in the 1800s, and negative impacts from feral cats on island fauna, including seabirds, have been documented. The goal of this project is to eradicate feral cats and increase seabird colonies on the island by expanding U.S. Navy control efforts using methods that pose the least possible risk to the native island fox.

### 10 Restore alcids to Santa Barbara Island.

Santa Barbara Island supports California's largest colony of state-threatened Xantus's murrelets, and once also supported a sizable population of Cassin's auklets. This project will facilitate the recovery of these birds on the island using social attraction and nesting habitat improvements, such as exotic vegetation removal, native plant restoration, and the installation of nest boxes.

### 11 Restore seabirds to Baja California Pacific Islands (Coronado and Todos Santos Islands).

Historically, these island groups supported many important colonies of seabirds, including Cassin's auklets, Xantus's murrelets, California brown pelicans and double-crested cormorants. Recent successful removals of introduced species from these islands have created opportunities to enhance the recovery of these seabirds within the Southern California Bight. Restoration actions will include social attraction, artificial nest boxes, shielding lights, and reducing human disturbance.



*Seabird restoration efforts will target several seabird species, including Xantus's murrelets (top) and double-crested cormorants (bottom).*



**Top:**  
**Bald eagle**



**Bottom:**  
**Giant sea bass**

## **NON-PREFERRED ALTERNATIVES**

The Trustees evaluated three restoration alternatives, including a no-action alternative (a natural recovery alternative with minimal management actions) and an alternative focusing exclusively on primary restoration (the restoration of continuing injuries and lost services).

### ***No Action Alternative***

This alternative assumed that the Trustees would not intervene to restore injured natural resources or compensate for lost services for any of the affected resources of the Montrose case. Instead, the Trustees would rely on natural processes for the gradual recovery of the injured natural resources and would only take the limited action of monitoring natural recovery.

Although natural recovery may eventually occur for many of the injured resources, it may also take a significantly longer time than would recovery under an active restoration scenario. In addition, any interim losses of natural resource services would not be compensated. Certain events, such as the extirpation of bald eagles and the introduction of exotic species on the Channel Islands, have led to consequences that may not be addressed under a natural recovery alternative. Because feasible restoration actions have been identified that would address the injuries and lost services of the case, the Trustees felt that the “no action” alternative, as an overall approach across all resource categories, did not fulfill the goals of the MSRP.

### ***Alternative 3***

The Trustees developed a third alternative through a reconsideration of some of the restoration priorities of the program. In this alternative, a greater level of effort was devoted to restoration of continuing injuries and lost services (primary restoration).

This alternative provided for the maintenance of breeding bald eagles in the Channel Islands regardless of the outcome of the NCI Bald Eagle Feasibility Study, and thus reserved a greater level of funding for bald eagle restoration to sustain the Santa Catalina Island birds until, and potentially long after, the conclusion of the NCI Bald Eagle Feasibility Study. The funds available for seabirds were commensurately reduced. This alternative also focused on the continuing human use impacts of fish contamination and state consumption advisories for several commonly caught species of fish, and gave the restoration of lost fishing services greater emphasis over projects to benefit fishing and fish habitat, which were not included in the alternative.

After consideration of the restoration goals and objectives, the MSRP evaluation criteria, the current status of injured resources, the continuing presence of contamination, the Trustees believe that the preferred alternative represents

the optimal distribution of funding for natural resource restoration across the demonstrated injury categories, and for the purposes of both primary and compensatory restoration.

## ENVIRONMENTAL CONSEQUENCES

The NEPA and CEQA analyses of the environmental consequences of the MSRP and the restoration alternatives are presented in Section 7 of the full MSRP Final Restoration Plan, with expanded discussions of the individual actions in Appendices A–D.

The environmental effects of the MSRP will be largely beneficial given its fundamental purpose; however, final analysis of all issues cannot be completed, given that certain actions, such as the construction of artificial reefs, are only developed to a conceptual level at this stage. The Trustees have identified seven of the 17 actions evaluated in Tier 2 that will need further development and subsequent NEPA and/or CEQA analyses prior to implementation. These actions are:

- Construct artificial reefs and fishing access improvements;
- Restore full tidal exchange wetlands;
- Complete the NCI Bald Eagle Feasibility Study before deciding on further restoration actions;
- Restore seabirds to San Miguel Island; and
- Restore seabirds to San Nicolas Island.



*Top:*  
*Cassin's auklet*

*Bottom:*  
*Western gull*

# PUBLIC Involvement

*in the Restoration Planning Process*



***Members of the MSRP team presented restoration alternatives and accepted input at several meetings held during the public comment period.***

NEPA, CEQA, and CERCLA requirements require significant public involvement to support and direct the planning process. Public involvement for the MSRP Restoration Plan and Programmatic EIS / EIR to date has included:

- Public meetings in 2001 and 2002 to discuss restoration planning.
- Publication of a Federal Register notice on October 9, 2001, establishing an official 45-day public scoping period, and of a Notice of Preparation in the California State Clearinghouse on March 15, 2002, establishing a second 30-day comment period.
- A second round of technical and public workshops in 2003 to encourage review of the Program's goals and objectives, to solicit restoration ideas, and to review screening criteria for the proposed projects.
- A 2003 public announcement distributed to the mailing list, further soliciting restoration ideas.
- Release of the draft MSRP Restoration Plan and Programmatic EIS / EIR for a 45-day comment period on April 8, 2005. During this time, a series of public meetings were held in affected locations to accept comments on the draft document.
- Publication of a Federal Register notice on November 18, 2005 indicating the availability of the MSRP Final Restoration Plan and Programmatic EIS / EIR.

Throughout the restoration planning process, the Trustees have maintained open channels of communication with the public, other organizations, and government agencies. The public is encouraged to follow MSRP project implementation by visiting the program website at [www.montroserestoration.gov](http://www.montroserestoration.gov), or by contacting MSRP program staff at:

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## REFERENCES

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4. U.S. Environmental Protection Agency (USEPA). 2005. 35 Year Environmental Timeline. U.S. EPA.

## PHOTOGRAPHY

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