

1.1 PROPOSED ACTION: IMPLEMENT PROJECTS THAT RESTORE NATURAL RESOURCES INJURED AND SERVICES LOST DUE TO DDTs AND PCBs DISCHARGED TO COASTAL WATERS OF SOUTHERN CALIFORNIA

For more than five decades, DDTs and PCBs have contaminated the Southern California marine environment. Although the major point source discharges of these chemicals were curtailed in the 1970s, large amounts of DDTs and PCBs persist in ocean water and sediments, and certain fish, birds, and other wildlife continue to accumulate DDTs and PCBs in harmful amounts. The state and federal governments investigated these problems and in 1990 filed an action in U.S. District Court against several of the parties responsible for the discharges of DDTs and PCBs.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or “Superfund,” Title 42 United States Code [U.S.C.] Section 9601 et seq.) provides a mechanism for addressing the nation’s hazardous waste sites: states and the federal government may sue polluters for the cleanup and restoration of sites. CERCLA provides for the designation of “natural resource trustees,” who are federal, state, or tribal authorities who represent the public interest in natural resources. These trustees may seek monetary damages from polluters for injury, destruction, or loss of natural resources resulting from releases of hazardous substances. These damages, which are distinct from cleanup costs, must be used by the natural resource trustees to “restore, replace, rehabilitate, or acquire the equivalent of” the natural resources that have been injured.

At the end of October 2000, after ten years of litigation, the federal and state governments and the remaining defendants signed the last of a series of settlements. The court approved the final settlement in March 2001. Under the terms of the four separate settlement agreements, Montrose Chemical Corporation and the other defendants¹ agreed to pay \$140.2 million plus interest to the federal and state governments. Of this amount, the U.S. Environmental Protection Agency (EPA) and the California Department of Toxic Substances Control (DTSC) received a total of \$66.25 million; the Natural Resource Trustees for the Montrose case (Trustees)² received \$63.95 million; and \$10 million was set aside in a special account (swing money).³ The EPA and DTSC are using their recovery funds to address the contaminated sediments offshore and for institutional controls. The Trustees have used \$35 million to reimburse past damage assessment costs and are using the remainder plus the accumulated interest to plan and implement the actions necessary to restore the natural resources and their services⁴ that were injured by the DDTs and PCBs. Further discussion regarding the current balances and the proposed allocation of restoration funds can be found in Section 6.3.2.

¹ 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.); Potlatch Corporation; Simpson Paper Company; and County Sanitation District No. 2 of Los Angeles County, and 150+ local governmental entities.

² The Trustees for the Montrose case are the National Oceanic and Atmospheric Administration, the U.S. Fish and Wildlife Service, the National Park Service, the California Department of Fish and Game, the California Department of Parks and Recreation, and the California State Lands Commission.

³ The swing money goes to the Natural Resource Trustees in the event that EPA makes a decision not to select any in situ response or remedial action for the Palos Verdes Shelf.

⁴ The “services” that a natural resource provides are the functions performed by a natural resource for the benefit of another natural resource and/or the public.

Once the case was settled, the Trustees established the Montrose Settlements Restoration Program (MSRP) to plan and conduct the natural resource restoration work called for under the settlement agreements. To satisfy the requirements of the National Environmental Policy Act (NEPA) (42 U.S.C. Section 4321 et seq.) and the California Environmental Quality Act (CEQA) (Public Resources Code Parts 21000–21178.1), the Trustees are combining the restoration planning process provided for under CERCLA with the development of a programmatic Environmental Impact Statement (EIS) and an Environmental Impact Report (EIR).

This document is the Restoration Plan and programmatic EIS/EIR for the Montrose Settlements Restoration Program. The Restoration Plan has incorporated public and professional opinion to develop, evaluate, and select specific actions to restore injured resources and the lost services that the natural resources provide. Some actions will be initiated in the near-term. Other actions have been selected conditionally, because they must await the outcome of further study, testing, and public review prior to final selection and implementation. Thus the Restoration Plan has a range of selected restoration actions that together will form the basis of a comprehensive plan to restore the natural resources and services affected by the DDTs and PCBs at issue in this case.

This document will guide the MSRP restoration effort as a whole, as well as the specific restoration actions selected for near-term implementation. Thus, this Restoration Plan establishes a process for adaptive decision-making, and future NEPA and CEQA documentation will incorporate by reference (or in the terminology of NEPA “tier off of”) this programmatic EIS/EIR.

1.2 NEED FOR THE ACTION: DDT AND PCB CONTAMINATION AND NATURAL RESOURCE INJURIES IN THE SOUTHERN CALIFORNIA BIGHT

From the late 1940s to the early 1970s, Los Angeles area industries discharged approximately 2,000 metric tons (about 2,200 U.S. tons) of DDTs and PCBs into the ocean waters off the Southern California coast. Almost all of the DDTs released to the Southern California marine environment originated from the Montrose Chemical Corporation (Montrose) manufacturing plant in Torrance, California. The Montrose plant discharged waste into the Los Angeles County Sanitation Districts (LACSD) sewer collection system. Wastewater treatment methods employed at that time did not capture the DDTs prior to their discharge through ocean outfall pipes that empty into the Pacific Ocean off of White Point on the Palos Verdes Shelf. Montrose also dumped DDT-contaminated waste from barges into deep ocean waters in the San Pedro Basin near and possibly en route to Santa Catalina Island. In addition, large quantities of PCBs from numerous sources throughout the Los Angeles Basin were released into ocean waters through the LACSD and City of Los Angeles wastewater outfalls and the regional storm drain systems. Although DDTs were also released into the Southern California Bight through agricultural runoff and atmospheric deposition, these sources were found to be insignificant in comparison to the Montrose discharges.

In 1992 and 1993, surveys by the U.S. Geological Survey (Lee et al. 2002) found that more than 100 metric tons (110 U.S. tons) of DDTs and 10 metric tons (11 U.S. tons) of PCBs still remained in the sediments on the ocean bottom of the Palos Verdes Shelf. The highest concentrations of DDTs and PCBs were centered near the ends of the White Point outfalls, ranging between water depths of 40 to 80 meters (130 to 260 feet). Surveys conducted as part of the Southern California Bight 1994 Pilot Project (Schiff and Gossett 1998) showed that elevated

concentrations of DDTs and PCBs in bottom sediments extended beyond the Palos Verdes Shelf into Santa Monica Bay and were also present in Los Angeles and Long Beach Harbors. The discharge and fate of these chemicals in the Southern California Bight is further described in Section 2 of this Restoration Plan.

1.2.1 Geographic Target Area

The geographic focus of the Trustees' natural resource damage assessment and restoration efforts is the marine region bordering the Southern California mainland known as the Southern California Bight (SCB) (Figure 1-1). For the purposes of the Restoration Plan, the SCB is defined as the area between Point Conception (north), Cabo Colonet, located south of Ensenada, Mexico (south), outside of the Cortez and Tanner Banks (west), and coastal watersheds (east). The SCB includes the Northern and Southern Channel Islands and surrounding waters.

The SCB is a unique, discrete marine ecosystem. Although the SCB has been significantly affected by human activities, it has numerous environmental restoration, preservation, and enhancement opportunities. The SCB has been studied extensively at the ecosystem level, and a large body of data is available to evaluate environmental issues at both the local and the regional levels.

The portion of the SCB known as the Palos Verdes Shelf is located off the Palos Verdes peninsula, which separates Santa Monica Bay and San Pedro Bay. The Palos Verdes Shelf is generally defined as the offshore area extending from Point Vicente in the northwest to Point Fermin in the southeast. This sub-region contains the most significant deposits of DDTs and PCBs in sediments from historical discharges and is also the focus of Superfund cleanup activities by the EPA. However, DDTs and PCBs have come to be distributed over a wide region (through movement of sediments, water, and uptake by mobile biological organisms) beyond the immediate area of the Palos Verdes Shelf. Also, as further described in Section 2, the natural resource injuries and lost services caused by the DDTs and PCBs discharged by the defendants have occurred over a broader area of the SCB. For this reason, the SCB, rather than just the Palos Verdes Shelf, forms the primary geographic area of focus for the Trustees' natural resource restoration actions.

1.2.2 Overview of Injuries to Natural Resources

Numerous independent studies have shown that DDTs and PCBs are still found at harmful levels in the marine life and birds of Southern California (e.g., Hickey and Anderson 1968, Risebrough et al. 1971, Gress et al. 1973, Lee and Wiberg 2002). During the Montrose litigation, the Trustees carefully evaluated the evidence of injury to a number of resources. From this evaluation, the Trustees narrowed their claim at trial to focus on (1) reproductive problems in bald eagles and peregrine falcons and (2) PCB/DDT contamination of fish that resulted in a commercial fishing ban and fish consumption advisories. Although the Trustees recognized that DDTs had adversely affected a variety of other species in the past, notably California brown pelicans and double-crested cormorants, the priority was to focus the trial and the damages claim on those injuries that were continuing.

DDTs and PCBs degrade slowly in the environment and biomagnify (become more concentrated) in animals at higher levels in the food web. When feeding on prey contaminated with DDTs and PCBs, animals at the top of the food web, such as bald eagles and peregrine



Figure 1-1. Geographic extent of the Southern California Bight.

falcons, can accumulate injurious concentrations of these chemicals, even when levels in the water column appear to be very low. DDTs in particular cause these birds to produce eggs with shells that are so thin that they break when the adults sit on them during incubation, or allow the developing embryos to dry out.

Many common sport fish caught from the ocean in the Los Angeles area (eight species or species groups) have levels of DDTs high enough that the State of California has issued fish consumption advisories, which are recommendations that people limit or avoid consumption of certain fish. A number of these sports fish also have concentrations of PCBs high enough to be of concern for human consumption. Consequently, the State of California has issued health advisories to limit or avoid consumption of these fish when caught at certain coastal locations in Los Angeles and Orange Counties. In addition, because of especially high levels of DDTs and PCBs in the white croaker, the State of California has imposed bag limits for this fish and has banned commercial fishing for white croaker in the vicinity of the Palos Verdes Shelf.

1.2.3 Coordination with Cleanup Actions

In addition to the Trustees' natural resource restoration efforts, the EPA and the DTSC are using a part of the settlement funds to attempt to reduce ongoing exposure to DDTs and PCBs. For example, these agencies are considering covering the contaminated sediments with clean sediments and conducting additional efforts to reduce public consumption and prevent commercial catch of contaminated fish. The selection, design, and implementation of EPA actions to remediate contaminated sediments are likely to take five years or more. (More information on these agencies' activities in this regard may be found by contacting the EPA at (800) 231-3075 or www.epa.gov/region9/features/pvshelf.)

If instituted, cleanup options under evaluation by the EPA would in theory minimize trophic transfer of DDT and PCB contamination in the local ecosystem; however, at present it appears not to be feasible to clean up all of the area contaminated with DDTs and PCBs. The studies conducted for the Trustees have indicated that the reservoir of DDTs and PCBs in the bottom sediments on the Palos Verdes Shelf and surrounding areas will likely continue to contaminate and injure marine life and birds over a large area of the SCB for many years to come. Thus, the selection and design of restoration actions must take into account the likelihood of long-term effects from the remaining DDTs and PCBs in the coastal food web.

1.3 PURPOSE OF THE ACTION: RESTORE INJURED NATURAL RESOURCES AND LOST SERVICES

The Trustees propose to undertake actions aimed at restoring key species and services to their baseline condition (i.e., the condition that would exist if the releases of DDTs and PCBs had not occurred). The Trustees further propose to undertake additional natural resource restoration actions to compensate the public for the lost use of injured natural resources from December 1980 (when CERCLA provisions became effective) until the time when those injured resources have recovered to as close to baseline as possible given available restoration funds. These actions are referred to as compensatory restoration. One key criterion in the planning of compensatory restoration is that the restoration approaches benefit the same or similar natural resources as those that sustained injury as a result of the DDT or PCB releases addressed in Montrose case. Restoration actions implemented under this plan would thereby accelerate recovery of the injured

natural resources and the services they provide and provide compensation for the interim losses of resources and services.⁵

To accomplish these restoration objectives, the Trustees will implement a series of actions directed at a range of natural resources and services. The settlement agreements call for the Trustees to use settlement funds to restore, replace, or acquire the equivalent of the injured natural resources and/or the services provided by such resources. The final consent decree for the Montrose case further specifies that “[t]he 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” (page 5, lines 18–22).

In keeping with the settlement agreements and the laws and regulations governing natural resource damage assessment and restoration, the Trustees will target the following natural resource restoration actions: (1) primary restoration of specific natural resources still being injured by DDTs and PCBs (i.e., the bald eagle and peregrine falcon populations that historically inhabited the Channel Islands); (2) primary restoration/replacement of human use services that continue to be harmed (i.e., the public’s ability to fish for clean fish where certain marine species are contaminated to levels that have prompted the State of California to issue consumption advisories); and (3) compensatory restoration of these resources and services as well as the seabirds and their habitats and the fish and their habitats for which there is evidence of past harm from DDTs or PCBs.

As an overarching element of the restoration program, the Trustees will conduct active public outreach and education aimed at informing and engaging the public on ways to participate in, benefit from, and enhance the restoration of the environment injured by the DDTs and PCBs that were the subject of these settlements. The Trustees will also continue to undertake a limited amount of study and research to ensure that the restoration actions ultimately taken represent an efficient and effective use of settlement funds and maximize benefits to natural resources and their services.

Section 2 provides the background and context necessary for understanding the natural resource restoration planning process for the MSRP.

1.4 PUBLIC INVOLVEMENT

As mentioned above, the restoration planning process is guided by NEPA and CEQA regulations. These regulations require significant public involvement to support and direct the planning process. Public review is an integral component of the MSRP. Public involvement was initiated through a scoping document released on August 24, 2001, which included notices of public meetings to discuss restoration planning. The document was disseminated to

⁵ Under the CERCLA regulatory framework, natural resource damages may include, “The compensable value of all or a portion of the services lost to the public for the time period from the discharge or release until the attainment of the restoration, rehabilitation, replacement, and/or acquisition of the equivalent of the resources and their services to baseline” (Title 43 Code of Federal Regulations [CFR] Part 11.80). In the Montrose settlements, no distinction was made between settlement funds for primary restoration and settlement funds for compensatory restoration. As a result, the Trustees will use this planning process to develop an appropriate mix of primary and compensatory restoration activities that will be conducted using the settlement funds.

approximately 500 recipients, including individuals, organizations, and government agencies, and was posted to the program web site. The Trustees also advertised the upcoming public meetings in local and area newspapers. The scoping document was followed by the publication of a Federal Register notice on October 9, 2001. The official public scoping period extended from October 9, 2001, to November 24, 2002.

The locations and dates of the MSRP public scoping meetings were as follows:

- **October 13, 2001:** Channel Islands National Park Headquarters
Ventura, CA
- **October 21, 2001:** Cabrillo Sea Fair
Cabrillo Marine Aquarium
San Pedro, CA
- **November 1, 2001:** Ken Edwards Center
Santa Monica, CA

In addition to the notice published in the Federal Register, the Trustees published a Notice of Preparation in the California State Clearinghouse on March 15, 2002. This established a second 30-day comment period, which extended from March 15, 2002, to April 15, 2002.

After the close of the official scoping period, the Trustees maintained open channels of communication with the public, other organizations, and government agencies. As the planning progressed, the Trustees initiated a second round of technical and public workshops to encourage roundtable review of the draft restoration program goals and objectives as well as the screening criteria and to solicit restoration project ideas. The locations and dates of the MSRP workshops were as follows:

- **January 9, 2003:** **Bird Technical Workshop**
U.S. Fish and Wildlife Service Sacramento Office
Sacramento, CA
- **January 22, 2003:** **Fish Technical Workshop**
Long Beach Federal Building
Long Beach, CA
- **January 27, 2003:** **Public Workshops**
Cabrillo Marine Aquarium
San Pedro, CA
(Two sessions: morning and evening)

These workshops were followed by a March 17, 2003, public announcement further soliciting restoration ideas that was disseminated to the mailing list.

MSRP representatives also attend local and area outreach events to increase awareness of the project and the restoration planning process. Periodic updates and notices are disseminated through the MSRP mailing list, and updates are always available at the MSRP web site: www.montroserestoration.gov.

On April 8, 2005, the Trustees released the draft Restoration Plan and programmatic EIS/EIR for public review and comment. A 45-day comment period was provided, which ran through May 23, 2005. During this time, four public meetings were conducted in affected locations to accept

comments on the draft Restoration Plan. The locations and dates of these public meetings were as follows:

- **Saturday, April 23, 2005:** 1:00 p.m.–3:00 p.m.
Cabrillo Marine Aquarium
John M. Olguin Auditorium
3720 Stephen White Dr.
San Pedro, CA 90731

- **Sunday, April 24, 2005:** 5:00 p.m.–7:00 p.m.
Long Beach Aquarium of the Pacific
Honda Theater
100 Aquarium Way
Long Beach, CA 90802

- **Thursday, April 28, 2005:** 10:00 a.m.–12:00 p.m.
Long Beach Federal Building
501 W. Ocean Blvd.
Suite 3470
Long Beach, CA 90802

- **Monday, May 9, 2005:** 7:00 p.m.–9:00 p.m.
Channel Islands National Park
Visitor Center Auditorium
1901 Spinnaker Dr.
Ventura, CA 93001

The MSRP sought comments on the individual restoration actions, the evaluation criteria, the restoration alternatives (including the proposed allocation of restoration funds across the different actions and categories of resources), and other aspects of the draft plan. Numerous comments were received. Section 9 of this plan summarizes the comments received and presents the Trustees' responses to the comments.

The public is encouraged to follow the MSRP restoration implementation process by accessing the program web site at www.montrosere restoration.gov, by contacting program staff at (562) 980-3236, or by e-mailing staff at msrp@noaa.gov.

1.5 ADMINISTRATIVE RECORD

The Trustees have opened an Administrative Record (Record) for restoration activities. The Record includes documents relied on by the Trustees during the restoration planning performed in connection with the release of DDTs and PCBs in the Southern California Bight.

The Record is on file at the MSRP Long Beach office. Arrangements may be made to review the Record by contacting:

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