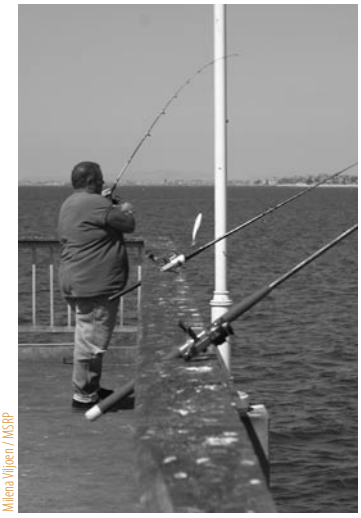
Montrose Settlements Restoration Program
Restoring natural resources harmed by DDTs and PCBs

Update Fall 2007

In 2002, the Montrose Settlements Restoration Program (MSRP) and the the U.S. Environmental Protection Agency (EPA) Superfund Program began a comprehensive survey of marine fish along the Southern California coast to provide reliable information on the current status of contamination in the area, with particular interest in fish commonly caught by subsistence and sport anglers.

MSRP, EPA complete the Coastal Marine Fish Contaminants Survey



Milena Viljoen / MSRP

Fish consumption advisories will be updated and distributed along popular fishing areas in Southern California.

For more information contact:

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From the 1940s to the 1970s, millions of pounds of DDTs and PCBs were discharged from industrial sources through wastewater outfalls into the ocean along the Palos Verdes shelf, near Los Angeles. The coastal marine fish contaminants survey found that concentrations of these chemicals in resident fish caught in some locations in or near the Palos Verdes shelf region remain higher than in fish caught in Orange County, northern Santa Monica Bay and Ventura. Biologists collected over 2,500 fish from 30 locations along the southern California coast, targeting 23 of the most commonly caught recreational fish species and species groups.

Fish become contaminated with DDTs and PCBs by consuming marine organisms such as worms and shrimp that live in the bottom sediments. Fish species that spend most of their adult life in a contaminated area, such as the Palos Verdes shelf, are more susceptible to higher levels of contamination as opposed to fish that are migratory. Species that are typically non-migratory include croaker, bass, surfperch, rockfish, and scorpionfish.

"Although we were primarily concerned with DDT and PCBs, no discussion of fish contamination is complete without addressing mercury, which we included in our analysis," said Greg Baker, NOAA environmental scientist and project manager for the MSRP. An interesting finding for the Pacific mackerel was that this fish had the lowest mercury content of all fish species. This is surprising because mackerels are in the tuna family which are usually associated with higher levels of mercury.

These new findings will be provided to California's Office of Environmental Health Hazard Assessment (OEHHA) to create updated fish consumption advisories for the region. EPA and MSRP will ensure that these advisories are provided and explained to the public as soon as they are completed.

MSRP has developed projects that are dedicated to restoring fishing and fish habitat in the Southern California region. These projects include 1) Constructing artificial reefs and improving public fishing access ; 2) Providing public information on fish contamination so the public can make informed choices about where and which species to fish; 3) Restoring tidal wetlands that serve as nursery habitats for commonly caught coastal fish; 4) Providing additional funding for marine protected areas in California to monitor their effectiveness in restoring depleted fish stocks.

More information on MSRP projects, including a copy of the full report, can be found on our website at www.montroserestoration.gov

If you would like to get involved in educating your community about smart fishing visit www.pvsfish.org or contact info@pvsfish.org for more information on volunteer and paid opportunities.

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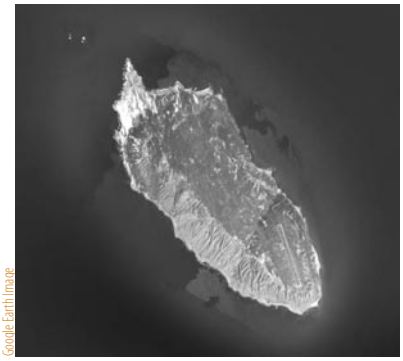
In Brief



Google Earth Image

Aerial photograph of San Nicolas Island. San Nicolas is one of the more remote of California's Channel Islands and is owned by the U.S. Navy.

Restoring Seabird Populations to San Nicolas Island

The delicate balance of this island's ecosystem has been disrupted for years due to the introduction of non-indigenous cats. These feral cats multiplied, and today they still prey on sensitive native island species, such as seabirds and shorebirds, and compete with native island foxes for food. Among the seabird populations, the most impacted are Brandt's cormorant and western gulls. To restore seabird colonies to this island the MSRP is planning a feral cat eradication program over a three-year time frame. A draft Environmental Assessment (EA) of the potential beneficial and adverse effects from the eradication program will be made available to the public in the Fall of 2007.

A public meeting to discuss and receive comments on the draft EA for the San Nicolas Island project will be held in Long Beach, California soon after the document is released for public comment. Please check www.montroserestoration.gov for further information as it becomes available, or ask to be added to our mailing list by contacting Gabrielle Dorr at msrp@noaa.gov.

Continued Progress in Restoring Bald Eagles on the Channel Islands

The 2007 bald eagle breeding season on the Channel Islands was an exciting one. Restoration efforts continue to produce results, as five bald eagle chicks hatched naturally. Four of these chicks hatched on Catalina Island, the first natural hatchings of bald eagles on Catalina Island in over 50 years! More information on bald eagle restoration efforts, including links to web cams, can be found at www.montroserestoration.gov.

Project Highlight

Brian Latta / SCPBRG

Three week old peregrine falcon chicks. This photograph was taken after the chicks were banded so that scientists can track their movements into adulthood.

Peregrine Falcon Hatchlings on Santa Barbara Island!

This past April 2007, three peregrine falcon chicks were observed hatching on Santa Barbara Island for the first time in over 50 years! Peregrine falcons disappeared from the Channel Islands in the mid 1900s, as did bald eagles. Both species have had problems with breeding on the Channel Islands due to contamination from DDT and PCBs in the food web. These chemicals cause the birds to lay thin-shelled eggs that dehydrate or break during incubation.

Biologists that discovered the chicks were pleasantly surprised by the unexpected hatchings. "I climbed to the eyrie (falcon nest), hoping to recover an unhatched egg we could use for contaminant analysis," said Brian Latta, the field biologist from the Santa Cruz Predatory Bird Research Group (SCPBRG). "Imagine my surprise to find two recently hatched young and another beginning to hatch!"

Peregrine Falcon Monitoring Program

This year the MSRP funded the SCPBRG to conduct a comprehensive monitoring of the recovery of peregrine falcons throughout the Channel Islands.

In 2007, biologists collected information on the number and locations of peregrine falcon nests on all of the Channel Islands, the occupants of the nests, and their reproductive success. Biologists are also collecting other nest contents such as eggshell fragments, eggs that failed to hatch, and identifying prey remains. Levels of DDT and PCBs will be measured in egg and blood samples, and the thickness of eggshell fragments will be measured to determine how much contamination still exists in the food web.

Monitoring Marine Protected Areas in Southern California

Funds Awarded!

This year, MSRP awarded funds to evaluate the effectiveness of Marine Protected Areas (MPAs) in Southern California. MSRP was interested in funding projects that evaluated the degree to which MPAs function as a production zone to enhance fishing opportunities outside of their borders. Two recipients were awarded funds and both projects started earlier this year. Brief descriptions of the projects are presented below.

National Park Service Monitors Kelp Forests in Northern Channel Islands

The Channel Islands National Park has been monitoring kelp forests around the five park islands (Santa Barbara, Anacapa, Santa Cruz, Santa Rosa, and San Miguel) since 1982. Monitoring efforts include collecting information on groups of fish, invertebrates, and algae that make up kelp forest communities in this region. The species selected for monitoring are indicators of overall ecosystem health, and include both fished and non-fished species.

This monitoring program is the largest and longest-running monitoring program studying a kelp forest ecosystem in California. The most important aspect of this program is that data collection is occurring in sites within and outside of MPA borders. Comparing data inside and outside of protected areas can demonstrate the effectiveness of MPAs and support future decision-making about these areas in Southern California.

This long-term monitoring program was at risk of losing funding starting in 2007. MSRP was able to provide funding to continue this project for another two years 2007-08. This project is also leveraged by funding from the National Park Service, NOAA's Channel Islands Marine Sanctuary, and the California Department of Fish and Game.

Standardized Monitoring Units (SMURFs) Measure Recruitment in Northern Channel Islands

The Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) is an academic collaborative organization made up of four universities on the West Coast with a main goal of understanding how coastal marine ecosystems function. This group is interested in gaining knowledge on recruitment, or number of marine organisms entering different age classes, inside and outside of protected areas. Collection of this data is complimentary to other monitoring programs that only record abundance of marine organisms.

SMURFs are artificial collectors that are placed in the water and used to attract young invertebrates (crabs, urchins, lobsters) and fish. The SMURFs will be moored both near the bottom and the surface for a year. Once a month the SMURFs will be brought up to count invertebrates. During June to September when fish recruitment season peaks the SMURFs will be brought up biweekly to count fish.

Since 2000, the SMURFs have been used to monitor recruitment of fishes throughout the Santa Barbara Channel and the Northern Channel Islands. This technique has been successful for determining the number of fish that are settling in particular areas throughout this region. MSRP is funding the expansion of this project to have a better understanding of the differences in recruitment inside and outside of MPAs.

Michael Sheey / PISCO

Diver is retrieving SMURF collector from the water column. Young invertebrates (crabs, urchins, lobsters) and fish will be brought up to the surface and counted.

Get your MSRP updates electronically!

E-mail msrp@noaa.gov and include "Mailing List" in the subject line, or sign up online at www.montroserestoration.gov.

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In This Issue:

Coastal Marine Fish Contaminants Survey Completed

The MSRP / EPA 2002-2004 Southern California Coastal Marine fish contaminants survey is complete! These data are now available to the public, and will be used to update existing fish consumption advisories and the commercial catch ban; help evaluate sediment cleanup options; and help guide fishing restoration efforts in the region.

In Brief

- Restoring seabird populations on San Nicolas Island
- Five more bald eagle chicks hatch naturally on Channel Islands

Project Highlight

Monitoring Peregrine falcon recovery on the Channel Islands

Monitoring Marine Protected Areas in Southern California

- National Park Service Monitors Kelp Forests in Northern Channel Islands
- Standardized Monitoring Units (SMURFs) Measure Recruitment in Northern Channel Islands

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The MSRP Update is a publication of the Montrose Settlements Restoration Program, administered by the six federal and State of California trustee agencies responsible for restoring natural resources injured by past releases of DDTs and PCBs to the Southern California Bight.