

# Protecting and Restoring Marbled Murrelet Habitat

by Dolores Savignano,  
Daniel Welsh, Judy Lantor,  
Cindy Schexnider, and  
Mike Szumski

The U.S. Fish and Wildlife Service's Environmental Contaminants (EC) Program is protecting approximately 6,000 acres (2,430 ha) of marbled murrelet habitat in California, Oregon, and Washington.

Working with state, federal, tribal and private partners, EC biologists have successfully settled numerous NRDAR cases and begun restoration projects that benefit murrelets and other species.

*E*ndangered species and other natural resources are all too often harmed or killed by oil spills. Under the Oil Pollution Act (OPA), Natural Resource Trustees can obtain restoration of injured natural resources from the parties responsible for the spill. Under the OPA, the Fish and Wildlife Service is a Trustee for endangered and threatened species, migratory birds, inter-jurisdictional fishes, certain marine mammals, and national wildlife refuges. Other federal and state agencies and tribes are Trustees for resources they manage. Using the

Natural Resource Damage Assessment and Restoration (NRDAR) process under OPA, the Trustees quantify the injuries to trust resources, and then, with public input, determine the appropriate restoration.

Since 1986, at least seven oil spills along the coasts of Washington, Oregon, and California have contaminated marbled murrelets (*Brachyramphus marmoratus marmoratus*). These birds forage for fish in coastal waters and reproduce in old growth forests. They do not build nests, but make a shallow depression in

marbled murrelet nesting



John and Karen Hollingsworth

the moss that grows on the large limbs of mature trees, where they lay a single egg. Marbled murrelets are about the size of a robin and have stout wings that are useful for “flying” underwater in search of food but are not as efficient for aerial flight. With the loss of old growth forest habitat in the Northwestern states, marbled murrelet numbers have declined steadily, and in 1992 the Service listed the population in California, Oregon, and Washington as threatened. Below are two examples of oil spills in which portions of the NRDAR settlements are being used to restore or protect marbled murrelet habitat.

In 1998, the tanker *Command* spilled approximately 3,000 gallons (11,350 liters) of fuel oil from a damaged tank while en route from San Francisco to Central America. The spill oiled beaches along the San Mateo County coastline in California and killed hundreds of birds in adjacent ocean waters, including 6 to 12 marbled murrelets. The NRDAR case was settled in 2000, and the *Command* Trustee Council was formed to oversee restoration. The Trustee Council includes representatives from the Service, National Oceanic and Atmospheric Administration, California Department of Fish and Game, California Department of Parks and Recreation, and California State Lands Commission. The restoration plan, developed by the Trustee Council with public input, describes restoration projects for marbled murrelets and other resources injured by the spill. Murrelet populations are being restored through the protection of nesting habitat and actions to reduce nest predation in state and county parks within the Santa Cruz Mountains.

Habitat protection was accomplished through acquisition of an 80-acre (32-hectare) property in the Butano Creek drainage of San Mateo County, just north of Butano State Park. This property contains old growth redwood trees suitable for marbled murrelet nesting and is thought to be occupied by nesting murrelets. The property will be managed by the California Department of Parks and Recreation as part of Butano State



Rich MacIntosh

**A juvenile marbled murrelet**

Park under a management plan that will ensure any future uses of the property are compatible with nesting murrelets.

Ravens, jays, and crows (corvids) are known to prey on young murrelets and eggs. In areas where corvid populations have increased, murrelet nesting success has declined. This problem is particularly acute in campgrounds in redwood parks, where corvids scavenge the garbage and human food left behind by visitors. To reduce predation, the Trustee Council is funding actions to reduce the availability of garbage to corvids at campgrounds. Over 100 lidless garbage cans at Memorial County Park have been replaced with animal-proof dumpsters. Garbage is no longer available to corvids and no longer gets scattered around the campground by raccoons. At Big Basin Redwoods State Park, approximately 40 plastic dumpster lids were replaced with aluminum lids to make them animal-proof; additional dumpsters were purchased to eliminate overfilling problems, and a shed was built to prevent corvid raids on filled garbage trucks. In addition, ravens associated with campgrounds at Big Basin Redwoods and Butano State Parks and Memorial County Park are being removed, where possible.

Recognizing that garbage will only be secured with public cooperation, the Trustee Council funded camper education material and park staff training. The educational (*Continued page 27.*)

Table: US west coast marine oil spills resulting in injury to marbled murrelets since 1986 and restoration projects obtained from the settlement of the natural resource damage assessment claims associated with each spill.

Oil Spill	Location	Year	Oil Spilled	Total Acres Protected	Additional Murrelet Projects	Partners
<b>Apex</b> <b>Revolcan</b>	Pacific Ocean between San Francisco and Monterey, CA	1986	30,000-25,000 gallons of crude oil	111 acres of forest in Gases Creek Drainage, San Mateo County, CA, including 30 acres of old growth.	Monitoring of murrelet occupancy of the Gases Creek drainage.	CA Dept. of Fish and Game, NOAA, Sempervirens Fund
Nestucca	Grays Harbor, WA, north to Vancouver Island, British Columbia and south to OR.	1988	230,000 gallons of #6 fuel oil	Not applicable	Forest management on 300 acres to develop nesting habitat for Murrelets in South Willapa Bay on the Willapa National Wildlife Refuge	The Nature Conservancy
<b>Terra</b> <b>Maru</b>	Cape Flattery, WA, south to OR.	1991	Up to 354,880 gallons of intermediate fuel oil and 97,800 gallons of diesel fuel	906 acres of rare coastal old growth forest and buffering younger stands in southwest Washington and on the Makah Indian Reservation in northwest Washington	Murrelet surveys of nesting habitat in coastal Washington identified approximately 2,900 acres of occupied habitat, making it subject to additional protective measures	WA State Dept. of Ecology, Makah Tribe, NOAA, The Nature Conservancy
MV Kure	Humboldt Bay and Pacific Ocean near Eureka, CA	1997	4,500 gallons of intermediate fuel oil	Settlement pending	Settlement pending	CA Dept. of Fish & Game
<b>MT</b> <b>Commercial</b>	Pacific Ocean off San Mateo County, CA	1998	3,806 gallons of intermediate bunker fuel	80 acres in Butano Creek drainage, San Mateo County, CA	Corvid management in State and County communities in the Santa Cruz Mountains	CA Dept. of Fish and Game, CA Dept. of Parks and Recreation, CA State Lands Commission, NOAA
MV Stuyvesant	Pacific Ocean off Eureka, CA	1999	2,000 gallons of intermediate fuel oil	624 acres of forest in Klamath River Drainage, Del Norte County, CA, including 135 acres of old growth.	Corvid management at Redwood National Park	CA Dept. of Fish & Game, Save the Redwoods League
<b>New</b> <b>Carissa</b>	Cove Bay/Waldport, OR.	1999	Up to 140,060 gallons of bunker/intermediate fuel oil and 48,000 gallons of diesel fuel	Purchased 4,296 acres of commercial forest lands on central Oregon coast, including 1,269 acres of occupied and suitable nesting habitat for marbled murrelets. Management will be implemented to increase suitable marbled murrelet habitat to at least 1,938 acres, and retain 1374 acres in conservation forestry.		Oregon Dept. Fish and Wildlife, Siletz Tribe, Coos, Lower Umpqua, and Siuslaw Tribe, USFS, BLM

Note: Many of the restorations for these spills also included projects to restore other impacted species of migratory birds and their habitat, including threatened and endangered species such as the western snowy plover and California brown pelican.

Abbreviations: BLM = Bureau of Land Management, NOAA= National Oceanic and Atmospheric Administration; USFS= U.S. Forest Service



Dan Welsh/USFWS

**Close-up of outdoor marbled murrelet outreach display at Memorial Park visitors center.**

material includes: 1) a brochure for campers and picnickers; 2) signs posted on picnic tables, food storage lockers, trash disposal areas, and in bathrooms; and 3) a short video for use in visitor centers. The park staff is trained to develop campfire programs on the topic and answer questions from the public. Additional campground workers have been hired for the peak period of campground use to monitor the campgrounds and picnic areas for compliance and to educate visitors. We expect that the reduced availability of human food waste in campgrounds will result in lower corvid populations and reduced predation on murrelets.

The Trustees took a similar approach to restoration after the 1999 M/V Stuyvesant oil spill off the coast of northern California. The spill released approximately 2,000 gallons (760 l) of fuel oil into the ocean near Eureka, California, when the dredging arm of the vessel struck the hull and ruptured a fuel tank. It killed more than 2,000 seabirds, including at least 135 marbled murrelets,

1,600 common murre (Uria aalge), and 670 other seabirds.

To compensate for the damage of the Stuyvesant spill on marbled murrelets, a 634-acre (257-ha) complex, including 135 acres (55-ha) of old-growth redwoods suitable for murrelet nesting, will be protected in perpetuity through a conservation easement. The complex will be managed for murrelets by the Save the Redwoods League under an agreement with the Service, the California Department of Fish and Game, and the timber company that owns the land. The League will also be responsible for monitoring the murrelet population on the property. Additional funding will be provided for corvid management in Redwood national and state parks.

These examples illustrate the types of restoration activities and partnerships conducted by the EC Program through the NRDAR process. The table summarizes restoration actions for these and other oil spills that have injured marbled murrelets.

---

*Dolores Savignano is a biologist in the Division of Environmental Quality in Arlington, VA (dolores\_savignano@fws.gov; telephone: 703-358-2148). Daniel Welsh is the Environmental Contaminants Division Chief in the Sacramento, CA, Field Office (daniel\_welsh@fws.gov; telephone: 916-414-6660). Judy Lantor and Cindy Schexnider are biologists in the Western Washington Fish and Wildlife Office in Lacey, WA (judy\_lantor@fws.gov, cindy\_schexnider@fws.gov, telephone: 360-753-9440). Mike Szumski is a biologist in the Oregon Fish and Wildlife Office in Portland (mike\_szumski@fws.gov; telephone: 503-231-6179).*