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The Marbled Murrelet:

How did these little-known seabirds become a symbol for saving old-growth forests?

by Harry R. Carter



*A Marbled Murrelet in winter plumage on the ocean
Photo by Ervio Sian*

The marbled murrelet (*Brachyramphus marmoratus*) has recently become an important symbol of the biological consequences of the logging of the last remaining old-growth forests in the Pacific Northwest, along with its better-known avian companion, the spotted owl (*Strix occidentalis*). In fact, the murrelet is only known to nest in coastal old-growth forests in California, Oregon, Washington, and British Columbia. Farther north, in Alaska, murrelets also nest in old-growth forests and on the ground in treeless areas.

Amazingly, the murrelet is actually a seabird that feeds on small fish and invertebrates in the ocean during the day and visits its nest site located on a large branch high in the canopy of old-growth forests mainly at dawn or dusk. Due to concerns about the impacts of loss of nesting habitat in old-growth forests and mortality at sea from gill nets and oil spills, the marbled murrelet was listed in 1992 under the Endangered Species Act as a federally threatened species in California, Oregon, and Washington by the US Fish and Wildlife Service. Prior to the federal listing, it had been listed as an endangered species by the State of California. It has also been listed as threatened by the states of Oregon and Washington, as well as federally threatened in Canada.

Today, the marbled murrelet is at the brink of playing a significant role in the implementation of the Northwest Forest Plan in Washington, Oregon, and California, as well as affecting significant forest use policies in British Columbia and Alaska (for example, the future of the Tongass National Forest in south-eastern Alaska). In addition, the murrelet will affect decisions relating to gill-net fisheries and oil spills.

In Washington, difficult decisions are being made with regard to coastal salmon gill-net fisheries due to concerns about the impacts of this form of fishing on salmon resources as well as marine mammals, murrelets, and other seabirds, such as common murre (*Uria aalge*). The massive 1989 Exxon Valdez oil spill in Prince William Sound, Alaska,

killed thousands of murrelets. Smaller oil spills have killed murrelets in California and Washington. These oil spills have had one positive result -- plans have been drawn up to protect certain old-growth forests in Alaska and California by federal and state trustee agencies (including the Fish and Wildlife Service) using oil spill settlement funds.

But how did this little-known seabird become such an overnight sensation? To set the record straight, the murrelet has never actually been "obscure" to anyone living along the coast from Washington to southern Alaska. Yet, until the early 1970's, not one verified nest of the marbled murrelet had been found in North America! This ornithological mystery was first solved in North America when a tree climber discovered a downy chick in a single nest high in a Douglas Fir tree in Big Basin Redwoods State Park in San Mateo/Santa Cruz counties, California, in 1974! Soon thereafter, we found out through translation that the Russians had actually first found a tree nest as early as 1961 along the coast of the Sea of Okhotsk in southeastern Siberia.

The discovery of tree nesting had taken ornithologists by surprise. How could this little seabird nest solitarily in trees when all of its closest relatives nest in large colonies in burrows and crevices on offshore islands? Well, when you think about it, its very closest relative, the Kittlitz's murrelet (*Brachyramphus brevirostris*), also nests solitarily, but on the ground in subalpine areas. As a result of the marbled murrelet's tree-nesting behavior, it has expanded its range to regions a thousand miles south of Kittlitz's murrelet (which only occurs in Alaska and northern Siberia). Tree-nesting behavior may have evolved in response to conditions experienced during or after ice ages which limited seabirds to nesting in certain areas.

In the late 1970's and early 1980's, biologists analyzed historical records of chicks and adults found on the forest floor and at coastal lakes throughout North America. As a result, we now know that marbled murrelets nest in extensive areas of coastal, old-growth forests, sometimes far from the coast. Although other tree nests had not been located, it became clear that the extensive logging of old-growth forests would remove the nesting habitat of the marbled murrelet and cause population decline and disappearance in many areas. Spencer G. Sealy and I presented this conclusion at a special symposium on the status of the world's seabirds held in Cambridge, United Kingdom, in 1982, which was organized by the International Council for Bird Preservation. Biologists involved in the management of old-growth forests immediately recognized the potential plight of the marbled murrelet, especially south of British Columbia where fewer murrelets occurred and old-growth forests were in very short supply. At the 1986 meeting of Pacific Seabird Group in La Paz, Mexico, these biologists met to discuss the situation and agreed to hold a special symposium on the marbled murrelet at the 1987 Pacific Seabird Group meeting in Asilomar, California. There, available when he prepared a report on the marbled murrelet for the Audubon Society. In 1988, the Audubon Society submitted the report to the US Fish and Wildlife Service, the federal agency responsible for listing threatened and endangered species.

Starting in 1988, a major research effort began and is still underway to identify murrelet nesting areas and behaviors as well as determine murrelet at-sea population sizes and

trends from California to Alaska. Each year these researchers meet at the Pacific Seabird Group meeting to present papers and discuss their results.

The extensive research effort since 1988 has further clarified our understanding of murrelet biology and nesting in old-growth forests and at ocean feeding areas. Over 40 nests have been found in old-growth trees through intensive efforts using new techniques and we have a better idea of the size of murrelet populations from surveys conducted at sea. Our concern for the plight of the marbled murrelet only has been heightened by further research as well as by additional evidence of population decline and low productivity in certain areas. In addition, it is becoming clear that populations in British Columbia and Alaska also are facing severe problems.

In 1995, the Fish and Wildlife Service released a draft version of the "Marbled Murrelet Recovery Plan". When each species is listed as threatened or endangered under the Endangered Species Act, a recovery team is formed of experts to assist the Fish and Wildlife Service with developing a recovery plan for the species. The Plan summarizes the biology of the species and must outline the steps necessary to protect the species and reverse factors leading to population decline. The Plan also may include criteria for eventual de-listing of the species, if such criteria can be determined. The comment period has recently ended for this draft plan and the recovery team, along with the Fish and Wildlife Service will soon be incorporating public comment into a final version of the Recovery Plan.

The Plan will then be implemented by the Fish and Wildlife Service, with the intended result to prevent the marbled murrelet's population from getting so low that extinction might occur in Washington, Oregon and California. The continuing existence of murrelets on the Pacific Coast will represent healthy old-growth forests, and a successful, dedicated effort by many biologists to preserve North America's biodiversity.

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