

Marvels of the Marbled Murrelet

By Alex Coenen

Let's travel to the waters of the Pacific Northwest Coast where rocky outcaves blend into dense old growth forests shadowed in a thick misty veil. You may know this area for its particularly vampire-suited overcast climate and salmon-loving people but instead I would like to talk about one of the most enigmatic seabirds of this region whose breeding behavior has puzzled naturalists until the 1970s.

The Marbled Murrelet is a rather cute seabird whose breeding plumage is an assemblage of camouflaging sooty and rusty feathers, while their non-breeding plumage is a stark contrast of white underbody and a black back. These birds spend their winters in coastal, protected waters along the West Coast from central California to the Aleutian Islands in Alaska in social groups feeding on schooling fish and crustaceans. In the spring, breeding pairs fly up to 50 miles inland to nest solitarily within old growth coniferous forests. These seabirds lay a single egg in a mossy nest on the limbs of large conifers. The breeding behavior of Marbled Murrelets was not known to western science as their concealed nests were notoriously difficult to locate. Though Indigenous people within the area long believed that these birds nested in the forests, early ornithologists believed that -like other seabirds- they would nest along the rocky coastline, thus creating the uncertainty and mystery that plagued these seabirds for decades. In fact, Marbled Murrelets were the last North American bird species to have their nests discovered when in 1974 a tree pruner in Big Basin State Park almost stepped on a chick sitting in a nest 150 feet above the ground.

Marbled Murrelets are currently listed as endangered under the Endangered Species Act and face threats from every direction from bycatch in gill nets and oil pollution in offshore waters to logging and habitat fragmentation inland. The same trees that have branches with the optimal width and strength for Marbled Murrelet nests, such as Douglas firs and Western Hemlocks, are also those most sought out by logging companies. A large amount of once expansive, viable breeding habitat has been cut down and little coastal old growth forests are left. In the process of logging these forests, many chicks and eggs were killed from felled trees. In fact, before the first nest was even discovered, loggers noticed that when they would cut down certain trees, they would find the remnants of chicks and eggs on the ground. Furthermore, the remaining coastal old growth forests are often frequented recreation areas where Steller's Jays and Common Ravens thrive to due to the presence of people and their food. These corvids are a significant source of Marbled Murrelet nest predation as they eat eggs and chicks. Oil spills are also a major threat to these birds as they overwinter within inner coastal waters, where

most oil spills occur. Oil spills can directly kill many birds but also can cause physiological consequences affecting breeding, and can significantly decrease the availability of prey populations. For example, after the Exxon-Valdez oil spill in Alaska, around 8,400 Murrelets were estimated to have died which has had a large negative impact on breeding populations. Fishing gill net mortality is another major threat. In Alaska and British Columbia, small percentages of the breeding populations are captured annually. Over time, this practice could exacerbate population decline in these regions and few long-term solutions have been implemented to mitigate this source of mortality.

Since these birds are believed only lay one egg a season, many disturbances in the environment around them can have extreme effects on nesting success and long term population trends. Population models suggest that Marbled Murrelets are declining by 4-7% a year throughout their range. Seabirds play an essential role in nutrient cycling of coastal environments and logging practices are important for the economies of rural communities. Like many other cases where natural resources and wildlife can come into conflict, these seabirds and loggers can coexist. To recover Marbled Murrelets, state departments should conduct effective, sustainable forestry practices to meet the economic needs of rural communities and protect vital nesting habitat for these enigmatic and charming birds.