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Marbled Murrelets

The marbled murrelet is a seabird of the Pacific Northwest which has been listed as threatened on the endangered species list of the United States since 1992. There is an estimated population of 350,000 marbled murrelets, though this number covers a range from Alaska to the northern California coastal region. The majority of marbled murrelets are now found in Alaska and Canada. It is estimated that only 2,700 marbled murrelets remain in our local redwood region. The marbled murrelet population is rapidly decreasing and without intervention, they are likely to become extinct within the next century. This bird is mysterious, elusive, and secretive making it difficult for scientists to track. For nearly 185 years naturalists, professional birders, and ornithologists searched for its nesting sites, but they were looking in the wrong place, near the shore; it wasn't until 1974 that scientists learned the marbled murrelets nest in the old-growth forests.

Many Native American stories tell of the marbled murrelet, but it was not until 1778 on Captain Cook's third and final voyage did scientists take notice. A marbled diver, as it was then known, was found by Dr. William Anderson who brought three or four specimens back to England from Prince William's Sound in Alaska. These birds were first sold to collectors and later to the Natural History Museum in Vienna, Austria. These are the oldest known specimens of marbled murrelets and to this day are on exhibit in the museum.

When first published in John Latham's *A General Synopsis of Birds* (around 1780), marbled murrelets were known as "marbled guillemots", because of their marbled design and Latham's belief of them to be of the guillemot family. In 1789, Johann Friedrich Gmelin gave these birds the scientific name *Colymbus marmoratus*, but it was changed in 1837 to *Brachyramphus marmoratus*, to more accurately reflect the characteristics: brachy (Greek) for short, ramphus (Greek) for neck, and marmoratus (Latin) for marbled. Its common name "marbled murrelet" was given because it appeared as a diminutive version of the larger murre, which is a seabird related to the marbled murrelet. Marbled murrelets, as members of the Alcidae family, are also related to auks and puffins.

The marbled murrelet is a small, chubby, neck-less looking seabird about the size and shape of a potato. During mating season (summer), marbled murrelets appear brown from afar, but actually come in a variety of colors ranging from tan to cinnamon to brownish black on their backs, tops of heads, and wings allowing them to blend into their forest home. Their under parts are heavily barred. In the winter, they appear more black than brown with white under parts which serve as camouflage when seen from below. Their feet are webbed and their legs are placed far back on the body, allowing them to be used as rudders as they dive for food.

Though they nest in the old growth forests, which may be over thirty-five miles away, marbled murrelets spend most of their life at sea. They tend to stay within three miles of shore when they are out in the ocean foraging. The marbled murrelets' small wings flap and propel allowing them to "fly" under the water as they dive deep for their favorite foods. Marbled murrelets enjoy eating small fish like anchovies and herring, but are also known to eat squid and krill. Adult marbled murrelets eat several times a day, while chicks in the forest eat about twice a day when their parents return with fish.

Marbled murrelets lay one large egg a year and nest only in old-growth conifer forests which include: Redwoods (CA), Douglas Firs, Spruce and Hemlock. They do not build a nest but lay their eggs directly on a branch large enough to keep the egg from rolling off. Marbled murrelets nest in trees 200 or more years old and sometimes pick the same tree for their mating lives, which is about ten years. They mate and lay every year or two. The first mating season for a marbled murrelet occurs when they are about three years old. If marbled murrelets are lucky, two chicks will survive the parent's mating lives which would replace them at zero population growth, but their numbers are steadily decreasing.

There are many threats leading to the decline of the marbled murrelet, which include both natural and human factors. Adult marbled murrelets are prey to owls and peregrine falcons. Logging has greatly decreased their nesting habitat, and they have also been caught in gill nets and oil spills. Although there have been fewer oil spills on the west coast in the past couple of decades and old growth forests are now mostly protected from logging south of Canada, most of the nesting areas that remain in California are fragmented and near campgrounds or recreational boundaries.

However, perhaps the greatest threats are not to adult marbled murrelets, but to their chicks and eggs. Human food and trash is found at campsites and trailheads located close to marbled murrelets' nesting areas which attract corvids (which include ravens, crows, and steller's jays). Corvids are opportunistic scavengers. They seek out and feed in areas where humans and their food are found. As the amount of food scraps available to them grows, so do their numbers. When human food becomes scarce, the corvids find the marbled murrelet eggs and chicks to be easy prey. A recent program has begun placing bad tasting marbled murrelet egg look-alikes in known nesting areas to deter the corvids from raiding the nests.

Because of their cryptic nature, scientists have only begun to understand the marbled murrelet as well as what can be done to help assure their survival in the future. It appears the easiest and most effective way to help is to more thoroughly educate the public about the importance of keeping human food away from the ever-increasing population of corvids, thereby assuring more eggs and chicks have the chance to reach adulthood, hopefully allowing the population to grow. The Redwood National and State Parks use direct education efforts to inform all visitors, upon entering the parks, about the importance of responsible food and trash handling especially concerning the marbled murrelet and their corvid hunters. The most visible reminder of this educational outreach is the “Don’t Let a Good Bird Go Bad” poster that is displayed throughout the parks and surrounding communities. The poster is effective as long as someone tall enough to see it stops, reads, and understands its meaning.

“The best way to change a generation is at a mother’s knee.” This saying has been put into practice many times throughout history and I believe using this model to educate children about marbled murrelets through fun and educational activities is a solid approach. My project is an educational activity book directed towards children which will teach awareness of the marbled murrelet. There will be an emphasis on what a marbled murrelet is, the corvids in the campgrounds, and how the proper handling of human food and trash could help save the murrelet eggs and chicks. These books, along with the master files, will be donated to the Redwood National and State Parks and the Sequoia Park Zoo as a tool to aid their continued educational outreach.

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