Researchers try to solve marbeled murrelet's mystery

Birds

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By JANE KAY
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SANTA CRUZ — Off the coast of Santa Cruz under the darkness of a new moon, a rubber Zodiac boat bobbed in the ocean, carrying a group of scientists.

Silently, they watched pairs of rare sea birds sleeping peacefully on the open waters.

The boat slowly motored closer to the 8-inch birds. With the snap of a switch, a spotlight temporarily blinded and confused the prey.

"Kir! Kir! Kir!' the birds softly called as they fluttered to escape. The researchers deftly netted a bird, much like scooping a salmon.

Thus began an effort to unravel the mystery of the endangered marbled murrelet, whose fleeting presence in California's ancient redwood forests is at the heart of a fierce controversy over logging.

In depth

By attaching radio transmitters to 13 birds two weeks ago, scientists inaugurated their latest attempt to track the murrelets' secret reproductive lives in forests 10 to 35 miles from the coast.

So little is known, yet so much is at stake, scientists say, worried that if they can't understand the intricacies of the life cycles, they can't save the birds from extinction.

Bird experts can count the sea birds as they feed and rest off the coast in open waters from Santa Cruz to north of Crescent City. They estimate that 7,000 survive in California.

But humans have spotted only 20 nests in the dozen years they've been searching in California. The nests are hollowed out on redwood branches, hundreds of feet above ground, in three remaining clusters in cathedral-like old-growth forests of Del Norte, Humboldt and Santa Cruz counties.

Even as researchers chart the birds' movements, timber executives, regulators and conservationists in Sacramento and on the North Coast are battling over proposed logging plans on thousands of acres of the world's last ancient stands in private ownership.

"We don't have much time. We've got to learn very quickly," said Harry Carter, dean of marbled murrelet researchers and a wildlife biologist with the U.S. Geological Survey and Humboldt State University.

"We want to keep the numbers from getting so low that extinction is likely. We want to keep them high enough so other catastrophes like oil spills or fire won't eliminate the population."

Please see LOGGING — A6

Sentinel

Logging controversy swirls around coastal bird

Continued from Page A1

Pressure is mounting, said Carter, who leads the radio tracking program.

"Researchers are concerned that the species is declining at a rapid rate, and over the next 50 or 100 years there won't be new nesting habitat coming along and some might very well be lost."

Once, dense coastal redwoods covered the coast from the Oregon border to Big Sur. Now original redwood occupies only 3.9 percent of this natural range, according to field work and satellite mapping.

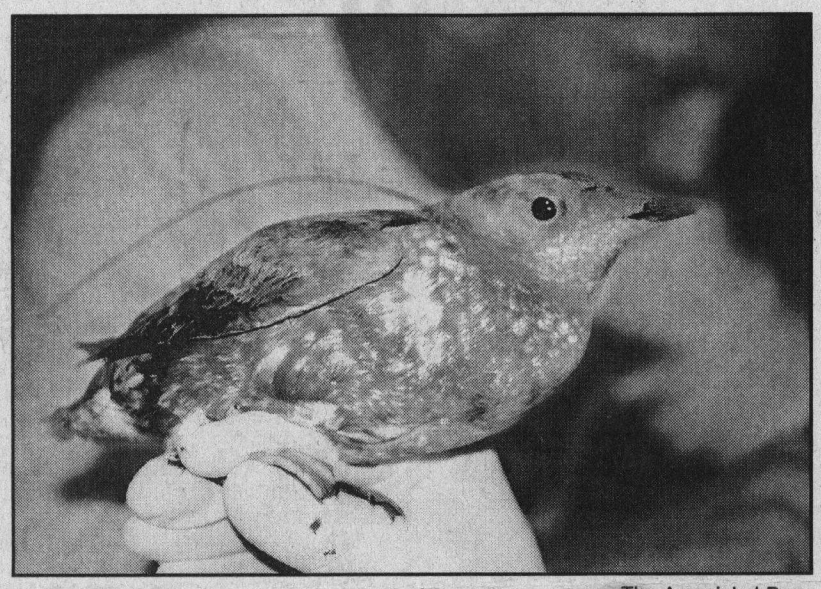
Since the early 1990s, the state and federal endangered species acts have forbidden logging that might imperil the murrelets' survival. Biologists fear that logging not only destroys the ancient trees but also opens the canopy of branches to egg-raiding Steller's jays and ravens.

During the April-to-September nesting period, logging at Pacific Lumber Co. in Humboldt County comes to a halt on a few thousand acres containing 2,000-year-old redwoods, each tree worth up to $100,000. In murrelet territory a few miles from the famed 3,000-acre Headwaters Grove, logging is not allowed at any time of the year.

With so much money at stake, the timber industry has a powerful interest in knowing whether the murrelets, called "fog larks" by early loggers, nest in old growth where cutting has occurred. If the murrelets aren't using disturbed old groves, the companies want to log there.

"We want to learn everything we can about the marbled murrelet because it's on the endangered species list, and it affects our harvest activities," said Mary Bullwinkel, spokeswoman for Pacific Lumber in Scotia, Humboldt County.

To find nests, scientists have relied on an often fruitless method of locating nests: scanning the sky for the birds flying fast and high through thick forest foliage at dusk and dawn.



The Associated Press

The marbled murrelet is at the heart of a logging controversy.

Now they are using telemetry, measuring movement patterns with battery-operated radio transmitters attached to birds. Researchers use receivers tuned to the unique frequency set for each bird.

The team hopes to track the birds to hidden nests high on redwood branches. From there, they would observe via telescopes and time-lapse videos as the birds change their camouflage from an ocean-colored black-on-white plumage to redwood-shaded cinnamon feathers.

The process began in a makeshift surgical room on the Bluefin, a 60-foot state Department of Fish and Game patrol vessel. Department wildlife biologist Esther Burkett watched as Dr. Scott Newman, a UC Davis wildlife veterinarian, attached a transmitter and an antenna to each bird.

After years of scanning the skies for the sight of the shy robin-size bird in the dappled light of old-growth forests, Burkett expressed disbelief at holding a murrelet in her hands.

"They're only 8 inches long from their chubby neck to their little tail," she said.

"Oh, it was just beautiful. You feel a lot for what they go through. The way they make their living in the world. You hope for the best, that they fare well after leaving you."

In the first days after the bird-nabbing, the scientists struggled to pick up telemetry signals.

Carrying portable receivers, they drove in a blue Dodge Ram Charger from Ano Nuevo State Park to Waddell Creek south to Davenport. A plane flew offshore scanning for the signals. Some researchers hiked in Big Basin State Park, where the birds are believed to be nesting.

At week's end, the researchers had located 12 of the 13 tagged birds. All 12 had returned to the ocean to float and feed while the worried scientists watched.

The initial sighting did little to diminish the mystery of the murrelets. Why were the pairs remaining in the ocean and not returning to the forest to feed the chicks?

The birds all had a "brood patch" — a bald spot in the belly feathers where the exposed skin can heat eggs, leading researchers to believe that they were nesting adults feeding in the ocean.

"The worst-case scenario is that we harassed them, and they abandoned their forest nests," Burkett said glumly.

There were other possibilities: Perhaps it was still early in the nesting season and the pairs hadn't yet laid an egg to tend. Or the pairs were not male and female mates but companions, and a male or female was back with the egg. Or the egg was no longer viable, perhaps a victim of such predators as jays, ravens or non-native squirrels. Or the pairs stayed away from their nests longer than scientists had thought.

Last Monday, Burkett stood at the mouth of Waddell Creek and turned her receiver's antenna toward a canyon.

"I heard a 'dee-dee-dee' signal coming from the forest," she said. "The machine was just screaming at me. The bird was racing over my head, and went into the ocean right in front of me. I couldn't see it, but I could tell. Then it began diving and feeding, diving and feeding for 30 minutes. It was very hungry. Then it began moving south, and must have been heading toward a cove, a protected place to hang out."

Burkett, Carter and U.S. Fish and Wildlife Service wildlife biologist John Takekawa, who perfected the spotlight-net trick on Xantus' murrelets in the Channel Islands, hope they can answer dozens of questions through the telemetry project, partially funded with a $60,000 grant from the Fish and Wildlife Service. Among the issues:

Does the bird return year after year to the same trees?

Is the logged-over forest opening murrelet territory to predatory Steller jays, ravens or the Eastern gray squirrels?

Do they feed their young anchovies and sardines?

And the big question:

Is the population stable, growing or declining?

To learn the answers, scientists first must find the nests. Burkett described her frustrations during a two-year search in the Big Basin area.

In 1995, she and her colleagues found no nests. Last year, they found two trees with slim clues: One had marbled murrelet eggshells at the base of the tree and in the nest. Another had egg fragments, but no visible nest.

But many scientists agree that it's still worth it.