

## Encounter at Skunk Cabbage Creek

I stashed the Spotted Owl carcass—fresh, the blood not yet dry—off the trail in dense brush. Mere minutes into our day of field work for the Humboldt County Breeding Bird Atlas, it was already a day Susan Petersen and I would never forget. And to think: It all started with a Virginia Rail...

Spring 1997 marked Year Three of the five years of data collection for the atlas. Those of us committed to the project were doing our best to draft the slipstream of energy and knowledge accrued by those California counties that had come before us: Marin, Monterey, Orange, and Sonoma. Bird aficionados both professional and amateur had unlocked a treasure trove of Humboldt's avian secrets over the past 100 or so years. However, the atlas project represented the first systematic survey of the entire county according to established protocols.

Before the surveys could begin, our GIS data steward had divided the county—2,287,000 acres in size—into 425 blocks, each of them covering 25 square kilometers. Owing to Humboldt's size—larger than the state of Rhode Island—the atlas steering committee instituted a system of priority and non-priority blocks. This system resulted in intensive surveys in one out of every four blocks. Atlas projects in other locations had developed a hierarchical system of qualifying evidence of breeding bird activity, ranging from "confirmed" to "probable" to "possible". Confirmed, for example, included seeing a nest with young, a nest with eggs, a parent bird carrying a hatchling's fecal sac away from the nest, or fledged young.

Following the March 1995 orientation meeting attended by 60 data collection volunteers, we began our field work in earnest. Even the county's

more-experienced birders were humbled, as a different set of skills came into play: Instead of field marks, we were now looking at behavior and ecology. "Did you see that hummingbird?" "Yeah, it looked like an Anna's." "Good. Did you get onto the tiny speck of willow down it was carrying to build its nest?" "Say what?" We learned to study the bill first, *then* identify the species. Once we realized that for all but a few species, carrying anything—nest material, food, a fecal sac—confirmed nesting, jokes germinated around the "CS" code: carrying something.



In the 1960s, before becoming part of Redwood National Park, a portion of block G5 had been logged of old-growth redwood. Since that time, red alder had colonized an immense clearcut across the creek from the Skunk Cabbage Trail. Ruffed Grouse, not found in California south of Humboldt County, are partial to a variety of hardwoods that include alder. I'd encountered grouse along the trail prior to the atlas surveys, so Susan and I set out on 8 March with the hope of encountering these birds or, at a minimum, hearing their courtship drumming "song".

Once we entered the stream valley, the sunny spring day swiftly became a memory. The air was cool and damp, prompting us to reach for our fleece jackets. Redwood, spruce, and hemlock dominated the hillslope, while wet areas supported moss-festooned big-leaf maples and alders. Several wooden footbridges that spanned tributary creeks were slippery; excepting the bridges, we'd returned to the forest primeval. Tapping, once investigated, turned out to be a Pileated Woodpecker foraging for carpenter ants. His mate was nearby, elevating the sighting to that of prob-

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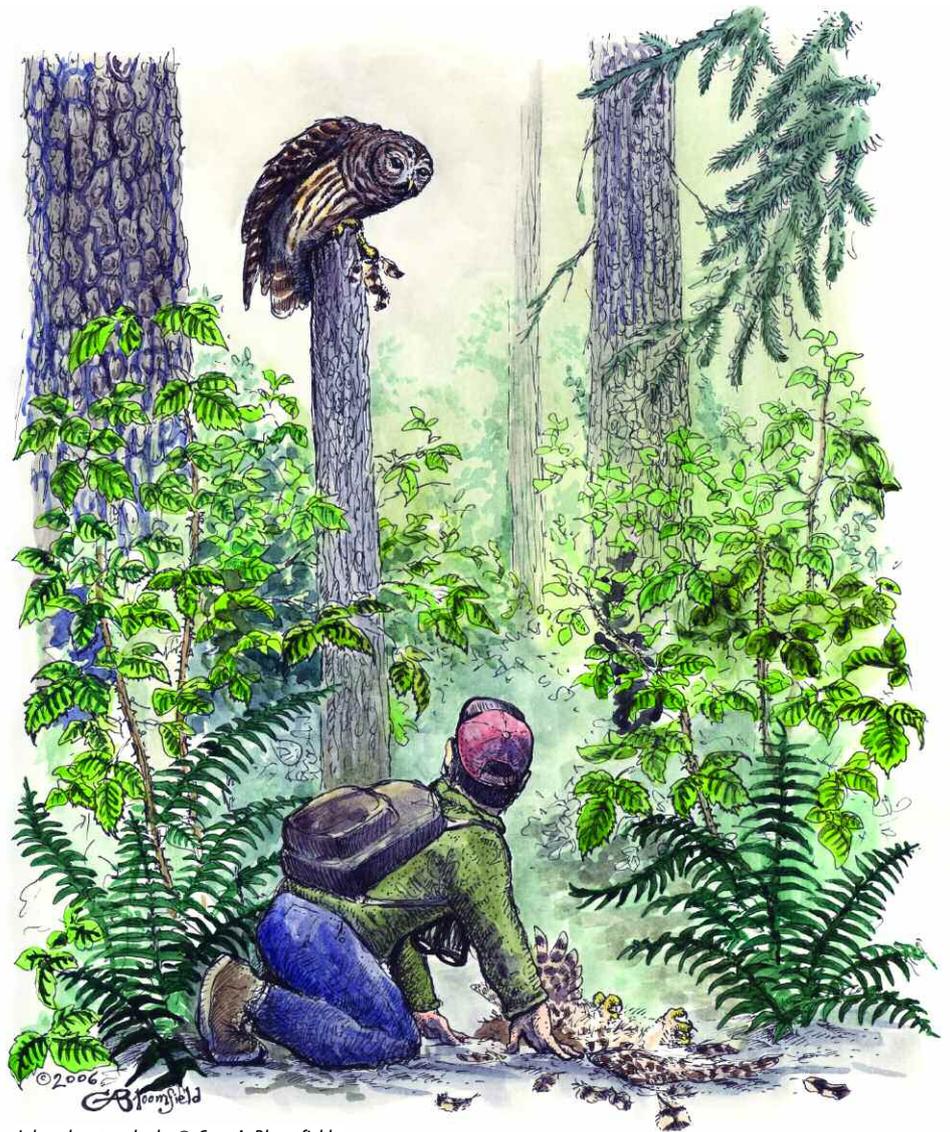
able breeders (a pair in suitable breeding habitat). We tracked down a Hairy Woodpecker excavating a nesting cavity. Yes! Another probable breeder. Marsh and Winter Wrens were tallied, the latter's rich, bubbling song belying his diminutive size. A Northern Pygmy-owl rounded out our detections. After completing the entries in my notebook, we called it a day and headed for home. Downslope from the trail, a series of *kid kid kidick kidick* phrases emanated from the wetland that lay cradled among the spruces, rushes, sedges, and skunk cabbage. "A singing Virginia Rail," I whispered. Not encountering Ruffed Grouse had been a bit of a disappointment, so we contented ourselves with the discovery of the rail.

Behavior deemed to be evidence of probable breeding included a male bird singing in the same location ("on territory") for at least a week. We made plans to return to Skunk Cabbage Creek, with the goal of elevating the rail's breeding status from possible to probable. The next weekend, a leisurely breakfast undermined our intended early start, so we didn't arrive at the trailhead until two o'clock.

During our second visit, we encountered a tuft of mottled, dark, brown-and-white feathers about a quarter mile up the trail. Seventy feet farther lay another cluster of feathers. "I wish I'd paid more attention to my friend's feather collection," I mused. "I'm not sure what species these belong to." Several moments later, I had my answer. A dead adult Spotted Owl lay in the middle of the trail. The owl's head and breast had been partially eaten. "Look, both legs are banded. Man, some owl researcher's gonna want to take a look at this. I know someone with a permit to handle Spotted Owls. We'll take it to him."

Susan nodded and spoke. "Remember the couple at the trailhead with the mountain bikes and a dog? We'd best make sure their dog doesn't find it."

I considered our options before speaking. "Redwood National Park has its share of law enforcement folks. Packing around the carcass of an animal protected under the Federal Endangered Species Act undoubtedly violates a law or twelve. I think I'll just stash it off the trail until we're done atlasing and retrieve it on our way back to the car."



Ink and watercolor by © Gary A. Bloomfield.

I buried the owl under some fallen alder leaves and returned to the trail. It was then that I noted several feathers suspended from the limb of a nearby tree. Even more exciting was a six-foot arc in the leaf litter, indicating that a struggle had taken place on the ground. "Wow, look at this..."

We knelt down to examine the scene more closely. In my

mind's eye, I saw the predator swoop in and knock the Spotted Owl off a tree limb onto the ground. Then, a struggle. I saw the killer's actions clearly, but its identify was veiled, anonymous. We continued hiking, atlas as we went, but it was hard to concentrate on the ritual of data collection when we'd narrowly missed witnessing a murder.

Adult Spotted Owls were known at the time to have two main predators: Great Horned Owls and Northern Goshawks. I more closely studied our surroundings. "Hmm, past logging here has resulted in a 'dog-hair' stand of dense regrowth. Goshawks require an open understory for foraging. And as for Great Horned Owls: They're active only at dawn or dusk or at night, as a rule. This bird's blood hasn't dried. It was probably killed no earlier than 11 this morning." Could there be a third species? Barred Owls *are* active during the day, and they're known to drive Spotted—*their smaller cousin*—out of their territory. I had never heard of an outright killing, but I suspected a Barred Owl was involved here.

After a while, we called it quits on our atlas effort. Besides, I had an owl to deliver. I retrieved the carcass, and we started back to the trailhead. About 500 feet behind us—back at the kill site—a Barred Owl hooted. We froze in our tracks before retracing our steps. The Barred Owl continued hooting, about 100 feet upslope from the trail. Moments later, it was answered by another Barred Owl to the west. Some researchers have voiced concerns about imitating the calls of Spotted Owls while surveying for them, because it might attract both a Spotted Owl and the larger, more-aggressive Barred Owl. I imitated a Spotted Owl contact call and a Barred Owl promptly flew in, landing in a tree 15 feet away. Several mottled brown feathers—looking suspiciously like they belonged to a Spotted Owl—were clinging to its left talon! The Barred Owl glared down at me, as it continued a series of hoots and otherworldly nasal, baby-like crying. Its primal screams were unsettling; I felt the hair rise on the back of my neck. The interpretation of owl invectives was clear: *Somebody took my lunch! It's mine, you scumbag.* Both owls were still hooting up a storm when we decided it was time to go.

I turned the carcass over to biologist and owl researcher Rocky Gutiérrez, who coauthored the Spotted Owl species account for *The Birds of North America*. I knew I could count on him to objectively interpret what had transpired. His necropsy revealed the following: The bird's head had been removed by disarticulation of the cervical vertebrae. The absence of broken bones ruled out predation or scavenging by

## Barred vs. Spotted Owl Science and Politics

The year 2005 marked the tenth anniversary of the Northwest Forest Plan, designed to forge a compromise in the timber production vs. preservation of old-growth debate. The amount of logging on National Forest lands in the Northwest has declined by nearly 90 percent, compared to the peak harvest in the 1980s. However, a recent analysis reveals that the Northern Spotted Owl population continues to decline, at a rate of 3.7% per year during the years 1990 to 2003. Meanwhile, the Barred Owl's range expansion southward into California continues unimpeded. Ominously, the phenomenon of Barred Owls outcompeting Spotted Owls for nesting territories is no longer confined to fragmented forest sites. Northern Spotted Owls have disappeared from many previously occupied sites, including undisturbed habitat in Olympic and Mount Rainier National Parks. Similarly, Redwood National Park (where we made our discovery) has experienced a sharp decline in the number of Spotted Owls—and a corresponding increase in Barred Owl numbers—in old-growth habitat.

Barred Owls have been invading the range of the Northern Spotted Owl since at least the 1960s. However, many wildlife biologists now realize that they underestimated the threat posed by this recent invader. Eric Forsman, a wildlife biologist with the U. S. Forest Service in Oregon, opines, "Barred Owls may ultimately be as big or bigger a threat than [sic] habitat loss."

The California Academy of Sciences has applied for, and received, a permit from the U. S. Fish & Wildlife Service to collect up to 20 Barred Owl specimens from Klamath National Forest in California. In summer 2005, biologists collected three Barred Owls. The academy will take tissue and blood samples, check for parasites, and compare DNA and body characteristics with Barred Owls in the East to search for clues as to their rapid range expansion. Fish & Wildlife Service scientist Brian Woodbridge heard about the collection plan and decided he could use the opportunity to monitor what the Spotted Owls do once the Barred Owls are removed. This led to a story written by Associated Press reporter Jeff Barnard stating that "If the experiment shows removing Barred Owls allows Spotted Owls to reclaim lost territory and is duplicated on a larger scale, it could lead to shot-gunning thousands of Barred Owls in Washington, Oregon, and California."

Joan Jewett, a spokesperson with the Fish & Wildlife Service, responded. "Nobody is getting ready to go out there and start blasting away at them. We have no plans for large-scale killing of Barred Owls." Scientists met in June of 2005 in Arcata, California to talk about the overall Barred Owl / Spotted Owl dilemma.

a mammal. No primary, secondary, or contour feathers were plucked, as would have occurred if a Northern Goshawk or Cooper's Hawk had killed it. The diameter of the puncture wounds ruled out teeth and was the same diameter as the talons of a Spotted or Barred Owl. The Spotted Owl had been banded on 7 July 1993 as an adult male, during a distribution study conducted by Rocky and by Richard Tanner.

Surveys subsequent to the bird's banding indicated that

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the owl had moved to or was visiting the territory when it was killed. There were no known Northern Goshawk territories in Redwood National Park, and the Great Horned Owls detected during 1993 surveys had been some distance away, in the more-open habitat on the ridge. Furthermore, Rocky confirmed that Barred Owls are far more likely to hunt during the day, and they aren't known to scavenge prey killed by other birds. The verdict was that, although we didn't observe the Barred Owl directly killing the Spotted, there was strong circumstantial evidence to suggest that it had.

A good benchmark of the rapidity of the Barred Owl's range expansion into the Pacific Northwest can be found in Roger Tory Peterson's *Field Guide to Western Birds*. The 1961 edition states that this species is found no closer to northwestern California than northern British Columbia or eastern Montana. There are several theories that seek to explain the rapid range expansion of the species. Because Barred Owls are generalists, using a variety of habitats in both disturbed and undisturbed conditions, many biologists have opined that logging throughout the Pacific Northwest probably favored their range expansion. Another factor that is believed to have played a part is tree planting and fire suppression in the Great Plains, enabling the owls to "leapfrog" westward.

For years, I'd heard it said that Spotted Owls were being impacted by the larger, more-aggressive Barred Owl. Because the Spotted Owl's precipitous decline continues throughout the West, I'd assumed that evidence of outright predation had been obtained.

I was wrong: What we witnessed that May day remains the strongest documented evidence to date. Although I'd done several Spotted Owl surveys "back in the day", I certainly don't consider myself a Spotted Owl biologist. To me, the rigorous ritual—early wake-up calls, occasional catnaps *sans* sleeping bag on steep hillsides—remains the province of younger biologists. Recently, I came across a paper that mentioned that well over 100,000 surveys for Spotted Owls have been conducted. That it would require one additional "survey", by someone not even searching for owls, for us to learn something so critical about the ecology of the Spotted Owl underscores just how reluctant Nature can be to disclose her secrets. Furthermore, it stresses how repetition, repetition, repetition—in addition to chance encounters—is often a necessary component of the discovery process. That this Cain-and-Abel-esque insight into the world of sibling species would be discovered by Susan and me is as amazing as it is humbling.

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