

THE SANDERLING



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Studying Short-Eared Owls in California and Beyond

by Michael P. Montgomery

Here in the western United States, short-eared owls (*Asio flammeus*) are a ubiquitous, if seldom encountered, inhabitant of marshes, grassland, shrubland, and agricultural hinterland. Worldwide, they frequent open habitats from tropical savanna to Arctic tundra and Central Asian steppe. There is even a subspecies in Hawaii.

But for all their wide distribution, short-eared owls are not immune to threats from human civilization. Habitat loss, rodenticide poisoning, climate change, and agricultural expansion have all begun to take their toll. Over the last 40 years, North America's short-eared owl population has declined by as much as 60 percent.



A short-eared owl on in southeastern Oregon.
Photo by Blake Matheson.

To better understand this decline, scientists and state wildlife agencies have initiated an annual, multi-state field survey of short-eared owl breeding populations.

The survey, known as the Western *Asio Flammeus* Landscape Study (WAFLS), relies on citizen scientists to monitor the birds during their spring courtship season.

Now in its fifth year, WAFLS encompasses eight states; fortunately for Monterey Audubon members who might want to participate (and may already be doing so), California is now one of them.

By the time I heard about the study, all 56 of California's 2019 survey routes had been reserved—little surprise in a state with nearly 40 million people and countless bird enthusiasts. As I soon found out from Robert Miller, the WAFLS program director, demographic heft isn't the only thing that sets California apart from the other states in the survey effort.

For one, California presents short-eared owls with a different seasonality than more

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interior portions of the American West. Since the owls nest on the ground, and can only begin nesting once soil has dried out, breeding (and thus surveying) begins earlier in much of low-elevation California, with our winter rain and minimal snow, than it does in Idaho or Montana, where cold temperatures and protracted snowmelt leave ground muddy well into early spring.

California, Miller said, also poses unique logistical challenges. County roads that in other states would be completely accessible are gated and locked. Private property is more of a problem here than in, say, Nevada, where nearly 85 percent of land is federally owned.

Moreover, California's short-eared owl population dynamics are quite different than those in other states. We are a great wintering ground, Miller told me, potentially with the most short-eared owls in the lower 48 states, but are relatively de-populated during the spring breeding season, from March through May.



A short-eared owl near San Diego. Photo by Tom Benson, accessed via Flickr.

To further complicate matters, cyclic population swings make long-term trends difficult to discern. Like snowy owls, short-eared owls are highly irruptive, meaning their numbers rise and fall dramatically with booms or busts in prey populations.

As a consequence, lower-than-usual short-eared owl numbers in an area could indicate general decline, or just a temporary downswing in response to fewer prey animals, particularly voles. Without multiple years of surveying, scientists can't easily tell which is the case.

“We know that Utah is on a cyclic downswing; we don't know where California is,” Miller said. “It could be that California's on the top of their swing; it could be California's on the bottom.... The only state that we really have a picture of cyclic nature is Idaho because we now have four years of data [for it].”

Overall, though, the evidence for a long-term population decrease—amassed from Christmas bird counts, breeding bird surveys, and eBird reports—is convincing. The exact magnitude of that decline and how it varies from state to state remain unclear.

That is why the current WAFLS survey is so important, especially in California, Washington, Oregon, and Montana, all of which joined the effort in 2018 and thus only have one prior year of data. (Miller, who is based at Boise State University, began WAFLS in 2015 with Idaho as the only state included.) It is also why accurate and consistent survey protocol is essential: if the owls are there, scientists need to know.



A short-eared owl in Arcata, California. Photo by Jay Iwasaki, accessed via Flickr.

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The best way to ensure that, Miller explained, is to survey right before dusk, when male short-eared owls perform their courtship display, the aptly named “sky dance.” It is then that the birds are most easily spotted, as the male rises hundreds of feet into the air, collapses his wings, tumbles downward, and suddenly arrests his fall. In open country, such sky dances can be seen from over half a mile away.

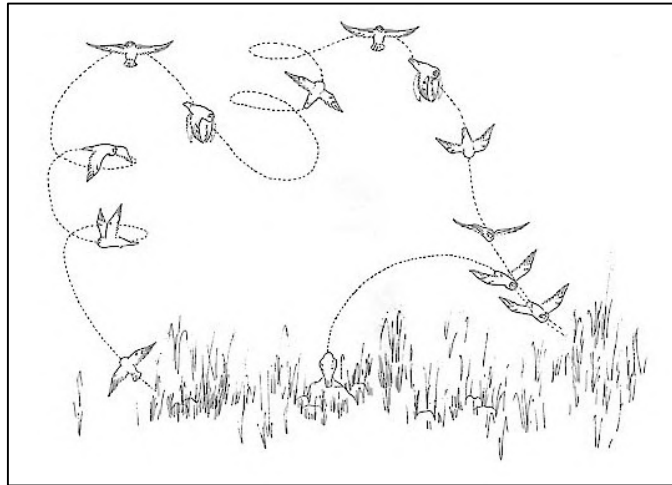
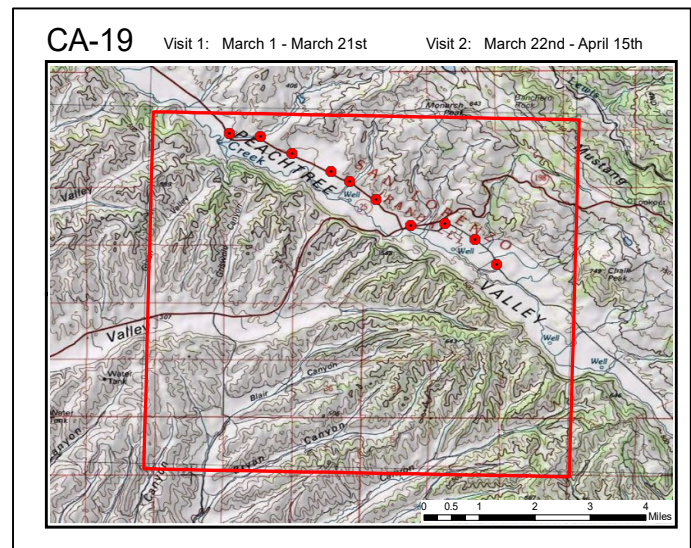
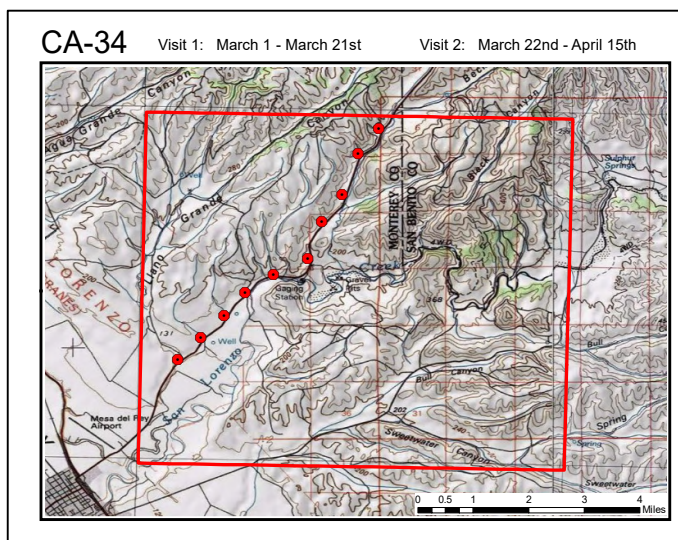


Illustration of a male short-eared owl's courtship display, known as a “sky dance,” from the Cornell Lab of Ornithology's Birds of North America Online. (<https://birdsna.org/Species-Account/bna/species/sheowl/behavior>)

To guarantee that surveyors are most likely to see this behavior (provided there are owls in the vicinity), Miller wrote a computer program that calculates, to the minute, exact surveying windows, each lasting 90 minutes and starting 20 minutes before sundown, for different locations on different days of the year. Survey participants arrive at their preselected grid, record data (primarily the presence or absence of short-eared owls) from up to 11 observation points, and return and repeat the process a second time several weeks later.

Needless to say, coordinating such a study across eight states, with over 400 survey sites, is a massive undertaking. In 2018, volunteers logged \$181,000 in time and mileage getting to and from survey locations.



These maps show the two WAFLS survey locations in Monterey County, both in the county's far southeast. The site on the left lies just east of King City, near San Lorenzo Creek; the site on the right is in Peachtree Valley, south of Pinnacles National Park on Highway 25. Both locations—rugged, rural, and remote—are indicative of much of California's short-eared owl habitat. Survey points are marked by red circles. The designations “CA-34” and “CA-19” refer to their numeric listing among California's 56 survey locations. “Visit 1” and “Visit 2” refer to the three-week windows in which successive visits are supposed to take place. Images from the WAFLS webpage, www.avianknowledgeinorthwest.net/citizen-science/short-eared-owls/31-survey-resources.

What is remarkable about this level of volunteer involvement, beyond its sheer scale, is that without it, no thorough study of short-eared owls could occur in the first place. Living at low population densities in remote regions, and rarely returning to the same nest site year after year, short-eared owls are inherently difficult to study; to get an accurate picture of a population, huge areas must be surveyed. Thus, volunteers, many from local birding organizations, school groups, and naturalist societies, are needed to step in where government agencies and national research funding fall short.



This short-eared owl was photographed in marshland in eastern England. Europe's subspecies is the same as North America's, Asio flammeus flammeus. Photo by Paul Blathwayt, accessed on Flickr.

For someone like me, however, who missed the window to sign up for this year's survey, there are still plenty of ways to get involved in short-eared owl conservation. eBird is perhaps the easiest and most important; in fact, according to Miller, eBird short-eared owl sightings play a big role in determining potential WAFLS habitat locations.

In addition, facilities such as UC Davis's California Raptor Center provide various educational and outreach opportunities related to owls and other birds of prey. And if all else fails, there is always next year's WAFLS survey.

(For more information on the program, visit www.avianknowledge-northwest.net/citizen-science/short-eared-owls.)

In the meantime, all we can do is await and interpret the incoming data. The population trend might be disheartening. But we can only hope that with continued surveying, a more positive picture, or at least a path to recovery, may emerge, and that, like a sky-dancing male, the species will gracefully arrest its fall and remain our enigmatic, ever-present, open-country neighbor.

SPRING CALENDAR OF EVENTS

LECTURE SERIES

Tues., May 14 –Birds and Bird Conservation on Midway Atoll, with Jan Loomis

Jan Loomis went to Midway Atoll to have an adventure and be surrounded by the seabirds with whom she had recently fallen in love. What better way to do that than with the U.S. Fish and Wildlife Service's annual nesting albatross census team, of which Jan enthusiastically became a member!

Jan's background and profession are in nursing, specifically emergency and travel nursing. She has worked for over 30 years to keep everyday travelers (including birders!) safe on their trips, as well as to help traveling members of foreign governments and of the U.S. Departments of Defense and Homeland Security to avoid contracting diseases while away on foreign assignments. Immediately after Hurricane Katrina, Jan deployed to the New Orleans airport, where, as leader of a triage team, she treated over 3,500 patients in just seven days.

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A black oystercatcher at Point Pinos. Photo by Blake Matheson.

Here on the Monterey Peninsula, Jan is about to start her second year as part of the California Central Coast Black Oystercatcher Monitoring Project. She also works as a volunteer naturalist for the Monterey Bay National Marine Sanctuary.

While Jan's main job on Midway was to census nesting albatrosses, her training as an observer and emergency responder would not allow her to ignore the twin slow-moving crises of climate change and plastic pollution, which she saw actively impacting the birds, even there on one of the most remote islands on the planet.

In her talk for Monterey Audubon, Jan will describe her work on Midway and give her assessment of the situation and prescription for continued good health of the albatross colony.

The event begins at **7:30 p.m.** at the Pacific Grove Museum of Natural History. Doors open to the public at 7 with refreshments and socializing. Our monthly board meeting will convene from 6-7 beforehand. Please visit Monterey Audubon's website (<https://www.montereyaudubon.org/calendar-of-events/>) and Facebook (<https://www.facebook.com/monterey.audubon/>) for updates and details.



Often, the very same black-footed albatrosses that breed on Pacific islands like Midway Atoll are the ones that visit Monterey Bay.

FIELD TRIPS

Sun., April 28 – Laguna Grande Park

This city lake is one of our best locations for seeing a variety of birds, from vagrant warblers in the willows and eucalyptus to marsh species like the sora and Virginia rail. **Meet** at the Chili's parking lot by Embassy Suites in Seaside at **8 a.m.** We will spend a couple hours birding around the park. Bring water and a snack. **Leader:** Paul Fenwick. **No RSVP** required. Rain cancels.

First Saturday of each month (May 4 and June 1) – Elkhorn Slough Reserve Bird Walk

As always, Monterey Audubon offers birders the opportunity to start each month with a walk around the Elkhorn Slough watershed. Depending on timing and conditions, we'll explore one or several areas within the watershed, such as the Reserve proper, Kirby Park, Moonglow Dairy, Moss Landing State Beach and Harbor, and Zmudowski

State Beach. We'll traverse these areas looking for resident and migrant birds that make use of this dynamic ecosystem. **Meet** at the Elkhorn Slough Visitors Center, 1700 Elkhorn Road, Castroville, CA 95076. The walks start at **8:30 a.m.** sharp. **No RSVP** needed. **Contact** Rick Fournier, 831-633-0572, or the reserve office, 831-728-2822, with questions.

Sat., May 4 – Exploring the Nesting Birds of Asilomar State Beach and Conference Grounds

Join us as we check out the nesting birds of Pacific Grove's Asilomar, both in the pine forest and (possibly) onto the coast. We will discuss nest building, incubation, chick rearing, and general natural history of the nesting bird species. Bring binoculars and warm clothes.

Meet at 8:30 a.m. at the Asilomar Conference Grounds (online link: <https://goo.gl/maps/FCaEn6iodbS2>). Parking is available anywhere on the grounds; no permits are necessary. We will gather at the Phoebe A. Hearst Social Hall. (Signs direct visitors to "Guest Check-In"). The Social Hall has restrooms and water fountains, as well as a café if anyone needs a hot drink before setting out. Please **RSVP via email** to the trip leader, Amanda Preece, at apreece24@gmail.com.



Two sanderlings on Asilomar State Beach. Like other shorebirds, this is a species that begins its breeding season in spring. Photo by Michael P. Montgomery.



A Wilson's warbler, a classic riparian resident from spring into summer, by the Carmel River. Photo by Blake Matheson.

MESSAGE FROM THE PRESIDENT

The change from winter to spring in our region is subtler than in many places in North America. Instead of a rapid transition from frigid blizzards to glistening green, ours is a less conspicuous transformation of color and sound.

By late March, electric-yellow Wilson's warblers have returned from the Neotropics, filling every willow thicket and patch of rank, wild growth with their emphatic trills. Mid-April witnesses the return of olive-sided flycatchers to our coniferous forests, sounding out their unmistakable cry of "Quick, Three Beers!" from the top of pine saplings.

Birdsong, of course, is about more than aesthetics. It is about the survival of species. Springtime marks the start of birds staking out territories to rear their chicks—and not just common songbirds, but threatened and declining species as well. Western snowy plovers, for instance, continue to persist in spite of innumerable threats, inconspicuously hunkered down on the less trafficked stretches of Monterey Bay's shore. Around Roberts Lake in Seaside, the United States' only population of breeding Heermann's gulls is once again endeavoring to fledge offspring away from their climate-threatened traditional breeding grounds in the Gulf of Mexico.

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MESSAGE FROM THE PRESIDENT (continued)

Not coincidentally, spring is also a busy time for Monterey Audubon. On **April 13**, Monterey Audubon will install and launch a breeding island for the **Robert's Lake Heermann's gulls**, the goal of which is to provide a breeding venue away from the commercial rooftops of Seaside.

Meanwhile, our bird banding and education projects, in partnership with the Ventana Wildlife Society and Fort Ord National Monument, will continue at Toro Creek, expanding our understanding of that site's importance to resident and migratory songbirds, as well as inspiring a new generation of conservationists through close encounters with native birdlife.

Indeed, thanks to an energized, growing, and talented volunteer base, Monterey Audubon is accomplishing more for the birds and birders of the Central Coast than it has in decades. To sustain these efforts, we need your help. Please consider making a donation or volunteering your time and expertise. Our birds, wildlife, and wild places need all the help they can get.

—Blake Matheson

Fundraiser for Elkhorn Slough

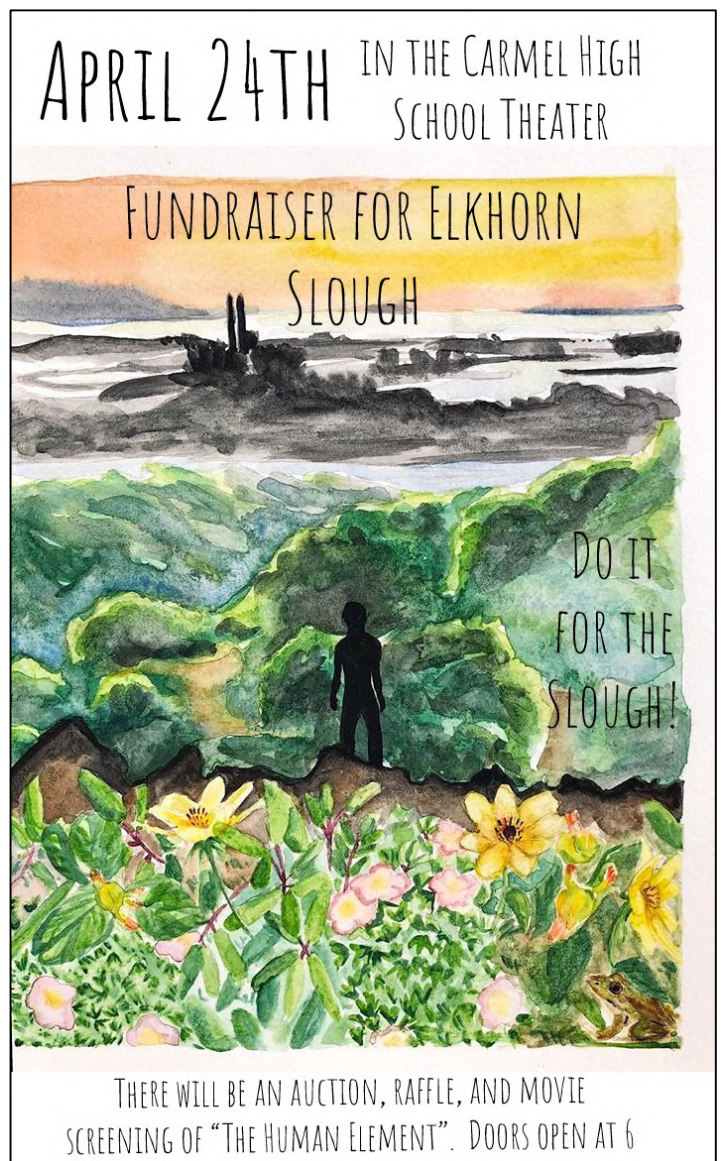
If you are one of the many birders and wildlife lovers in love with Elkhorn Slough, don't forget to check out the **"Do It For the Slough"** fundraiser at the Carmel High School Center for the Performing Arts.

The event, hosted by Carmel High's Environmental Club, is being held Wednesday, **April 24**, at 6 p.m. It will include an auction of nature-oriented student artwork, a raffle with prizes donated by local businesses and restaurants, and a film screening.

The film will be *The Human Element*, a 2018 documentary about the work of photographer James Balog as he explores relationships between people and their environment in the face of climate change and extreme weather. The screening will be followed by a panel of local professionals discussing the issues the film raises, many of which are relevant to vulnerable wetland ecosystems like Elkhorn Slough.

Entry is free and open to the public. All proceeds from the auction and raffle go toward native plant restoration at the Elkhorn Slough Reserve Visitor Center, with Environmental Club members personally helping in the planting.

For more information, visit <https://www.facebook.com/doitfortheslough/>.



Monterey Audubon Society Membership

Monterey Audubon and National Audubon are separate but affiliated 501c3 charities. You can join either or both by clipping and mailing this membership card with your dues and any additional Monterey Audubon donation to our PO Box Below. You can also donate to MAS online at our website, montereyaudubon.org.

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