

# Sedgwick Field Notes

Occasional Ramblings for Volunteers and Friends of Sedgwick Reserve

Editor Andy Lentz

DECEMBER 2011

## Un-Tilting Windmills: Sedgwick Style

The Sedgwick windmill, appropriately located in the Windmill Valley east of the Field Station, was built by the Sedgwick family in the late 1950's. It was constructed to pump water from a shallow well so the water could be stored in one of two abutting water tanks and fed to cattle in nearby troughs. It was operational for a half a century until the fan wheel gyrated off the rusty motor shaft during high winds in 2000.

The windmill was relegated to "ranch ruin" for a decade, but the challenge of restoring this cultural icon intrigued neighbors Christina and Richard Doren who contributed their financial support for the project: getting the windmill operational again. Retired UCSB Police Captain, Dan Massey, volunteered to lead the charge, and he involved a host of machinists at Dempster, manufacturer of the original windmill; at Toby's Machine Shop in Santa Barbara; and in the Physics Department at UCSB. The project required "countless calls to Dempster," ingenuity, elbow grease and the help of several specialists. The "Windmill Restoration Team" who made it happen included Dan, UCNRS stewards, Eric Massey and Brian Guerrero, and UCSB lead electrician, Jim Morrison, and his crew. Many thanks to all for your effort!

Six months and a rebuilt motor later, Dan organized a work party to hoist the rebuilt windmill back into place using a block and tackle and the UCSB high voltage electrician's bucket truck. It was no small feat as the tower is 35 feet high and the new windmill was set in place during gusty 20 mph winds.

But Dan was successful, and water now flows into a holding tank, a trough, and a system of pipes that delivers water to several troughs in the eastern cattle pasture. High school student Grant Canova-Parker recently put a remote sensing camera on the trough to document the return of wildlife to the area.

Although not as commonly seen as Aermotor windmills, Dempster windmills have been produced since 1878, and surprisingly little has changed in windmill technology in the 133 years since: with every wind-driven rotation of the 16-foot fan wheel, a single cup of water is drawn out of the earth and brought to the surface.



# Reverberations from the Reserve

NOVEMBER 2011

By Kate McCurdy

We're all taking our first big sigh relief of the season after a busy autumn. With winter's first rains now behind us, we're nestling into the office to start planning another banner year. We know you've been involved with as many things as we have, but we hope your holiday plans include a visit to the Reserve, if even just to say hello and see our newest addition: three young burros from the Bar-Go ranch, our neighbors to the east. They are pretty much the most adorable animals to ever grace the ranch. And, to answer your question, yes: until I can train them to carry my lunch on public hikes, being cute IS their job.



It's been a pleasure to see the Tipton Meeting House since it opened in March. Over thirty groups have booked the elegantly green building for meetings, workshops, conferences, classes and even a few members-only parties.

You may have noticed that the "Seabloom Plots" around the Ranch House are being dismantled. Oregon State University researcher Eric Seabloom has concluded his work here after eight years and it's time for the plots to come out. Though now an eyesore, these plots contributed to major studies in grassland research; a dozen or more notable publications came out of the research and can be found in the journals *American Naturalist*, *Ecology*, *Molecular Ecology*, and *The Journal of Zoology*.

It's been a season of taking inventory, from "Do we really need that old dump truck?" to "Hey! An Eared grebe on the pond—a Sedgwick first!" Sedgwick birders participated in Audubon California's 3<sup>rd</sup> annual Yellow-billed Magpie Survey on a day in June—a Yellow-billed Magpie count in conjunction with the Audubon California effort. In 2010 we counted 44 Yellow-billed Magpies; in 2011 we saw only 25 individuals. The Solvang sub-population is the southernmost location where Yellow-billed Magpies exist in California. Fred Emerson and Fred Machatanz ("The Freds") continue to conduct weekly bird censuses around the Field

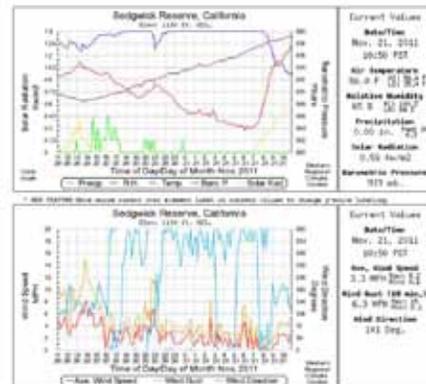
Station; they are now in their 5<sup>th</sup> year. For birding, Sedgwick rarely disappoints. For example, those here in August bore witness to a rare Santa Barbara county birding phenomenon: congregating White-tailed Kites. An average of 40 kites a night were seen roosting together in one or two trees near the surplus barn for several months. What a treat!



Photo credit: Mark Oliver

We've had a season happily devoid of major mishaps, fires or floods, though we are experiencing a rodent explosion which has kept both our land stewards and a plethora of raptors busy trying to catch them. We've also had some enjoyable work parties and events: pulling exotic goat grass in Windmill Valley, kicking up dust the 2<sup>nd</sup> annual Barn Dance, star gazing parties, and several spectacular public hikes. Thank you to everyone who participated in one or all of our 2011 events!

Two large projects have been undertaken this season: renovation of the art studio and apartment, and the installation of a new internet-based weather station. You can now monitor Sedgwick's weather online at: <http://wrcc.dri.edu/weather>.



And finally, we have two new media outlets hot off the press: a new brochure and a revised website. Look for both soon!

# Bird Walks

By Fred Machetanz  
The Bushtit, Bird of Wonder



*Bushtit, Psaltriparus minimus*

I have long wanted to write a few lines about the Bushtit, *Psaltriparus minimus*. Those of you who enjoy the pleasures of nature perhaps have seen, at Sedgwick, a flock of 15-20 small, long-tailed, nondescript gray birds flowing from bush to bush or tree to tree like wisps of smoke. One after another, they fly, and, in about five minutes, the flock, composed of several families, will have passed. Intensely gregarious, Bushtits often travel in the company of kinglets, titmice and other small fellow travelers.

Active foragers, these birds pick small insects and spiders from leaves and twigs. You may note that many birds are clinging upside down to the foliage, in order to glean. Those of you who watch with binoculars, and are really curious folks, will discern that some birds have pale yellow eyes. These are the females whose eye-color turns from dark to light about a month after fledging.

When breeding season arrives, Bushtits pair up and build long pendant nests in the skirts of trees, especially Coast Live Oaks. These remarkable nests are crafted, by both sexes, of spider webs and plant material and adorned with leaf fragments and twigs. The nest is heavily lined with soft insulating material like feathers and hair. The opening of the nest is typically near the top of the sock-like structure. The strong flexible neck extends down to suspend a more heavily lined bowl. Once the exterior of the nest is constructed, the pair may roost in it at night.



*Bushtit nest.*

Many small birds conserve energy at night by allowing their core temperature to drop. Foraging Bushtit flocks also

keep warm on cold nights by roosting in dense foliage and huddling shoulder to shoulder.

Some birders know that if you are patient and watch a pair of Bushtits during breeding season, within ten to twenty minutes, one of the pair will often show you where their nest is located within the restricted dimensions of their territory. In the course of his oak tree research, Andy Lentz found an abandoned Bushtit nest and brought it for display to the studio.

Bushtits keep in contact within the flock with a gentle high-pitched twittering which increases in intensity if the flock is disturbed or threatened. Those of you who on longer hear the meadow voles running in their burrows will perhaps miss these high-frequency Bushtit communications.

Bushtits usually lay 5-9 white, unmarked eggs. Both sexes incubate the eggs for 12 days and feed the altricial young, which are fledged in 14-15 days. Though rare in the coastal regions of California, in some areas of the Southwest, extra individuals, outside the breeding pair, serve as “helpers at the nest”. These helpers aid in the brooding and feeding of the young and tend to be unmated males or breeders whose nests have failed. In *Birds of North America*, Sarah Sloan notes that Bushtits were the first species to be described as having “helpers at the nest” (Skutch, c. 1935).

Since some nests contain over twenty eggs, there is the indication of cooperative breeding in Bushtits. Sloan suggests that research is needed to find why cooperative breeding evolved in this species and not in other small birds like kinglets. My thought is that it may have to do with Bushtits’ intense gregariousness.

In closing, I’m curious about the generic handle, *Psaltriparus*, which translates loosely “lute-playing titmouse”. I think the individual who named this bird had a nifty imagination. The “lute-player” has adapted well and is not an endangered species.



*Distribution of the Bushtit.*

All images and map courtesy: *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the *Birds of North America Online*: <http://bna.birds.cornell.edu>

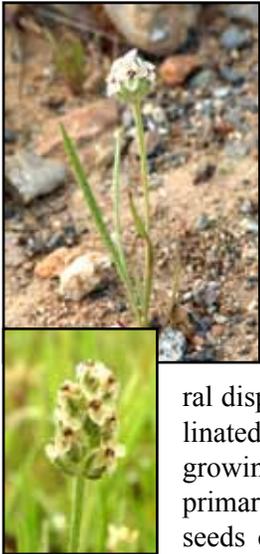
# Life on the Edges

By Larry Ballard

In lower Pine Needle Valley, three diminutive annuals grow in inconspicuous profusion: California Plantain, Slender Cottonweed and Elegant Silverpuffs. All three are endemic to the California Floristic Province and are fairly widespread. Densities of these and other annuals on the reserve, including Goldfields, Lotus species, and a native Fescue are incredible with as many as ten different species and 200 individual plants within a single square foot. It's likely that these high densities are even greater in favorable areas where a single species dominates.

The three featured plants are considered "edge specialists," as they grow on the edges of trails, beaten paths, vernal pools, serpentine outcrops, or other ephemeral habitats where there is sufficient vernal moisture. They avoid the shade of taller plants and the harshness of rocky soils, and are not quick to colonize disturbed areas, including gopher mounds. With a short and simple life style, they seldom grow more than a few inches tall on the reserve. To see excellent photos of these plants, visit the CalPhotos website at [calphotos.berkeley.edu/flora](http://calphotos.berkeley.edu/flora).

The seeds of annuals, including weedy non-natives, are dispersed by a variety of small rodents, but the greatest disperser of all is an invertebrate: the native Harvester Ant, *Messor andrei*. Like the edge specialists, the Harvester Ant colonies are commonly found in sunny, dry areas, which makes them good places to look for Coast Horned Lizards.



## California Plantain

*Plantago erecta*

For a few months in the spring, California Plantain may be the most numerous native on the reserve. The flower corolla consists of four persistent grayish-tan, translucent sepals that are best appreciated with a hand lens. If the flowering stalk of this plant were two feet tall, they would likely be valued as dried floral displays. California Plantain is wind pollinated, which must be a challenge for a plant growing so low to the ground. Gravity is the primary means of seed dispersal, with fewer seeds carried off by Harvester Ants. South of San Francisco where California Plantain

grows on serpentine, it is the larval host plant for the federally threatened butterfly, the Bay Checkerspot, *Euphydryas editha bayensis*. Declining populations of the host plant due to human influence there have pushed the butterfly towards extinction.

Despite its small size and lack of colorful petals, genetic studies within the past decade have placed *Plantago* in

the same family as Penstemons, Snapdragons and Chinese Houses.



## Elegant Silverpuffs

*Microseris elegans*

The single known population of Elegant Silverpuffs on the reserve is in lower Pine Needle Valley, where their numbers are few. Despite its bright yellow petals, the small

flower isn't easy to see, opening for as little as a few hours. That's because the species is self-pollinated (autogamous) and doesn't need a showy display to attract insect pol-

linators. The seeds or cypselae of Silverpuffs can be seen as they're carried away by Harvester Ants. It's likely that a Harvester Ant colony, which can persist for over a decade, may reduce the abundance of nearby Silverpuffs.

Long distance dispersal by the attachment of the cypselae to the feathers of migratory birds, especially plovers, explains the presence of single species of *Microseris* in Chile, New Zealand and Australia. Genetic studies have shown that the Australian species is derived from a North American ancestor.



## Slender Cottonweed

*Micropus californicus*

Slender Cottonweed is the most conspicuous of the three, as the single narrow stalk and terminal cluster of flowering heads are densely covered with white, wooly hairs, a likely adaptation to the dry and open habitats where it thrives. A microscope (Micropuscope?) and a dissecting needle will expose the flower, which is reduced to a corolla tube little more than a millimeter in length. Like Elegant Silverpuffs, the plant is self-pollinating. A few wooly plants may be taken by

birds, presumably for nesting material, which would assist in short distance dispersal.

When out in the field, it's easy to gaze up at a Valley Oak and be oblivious to the smaller plants at your feet. It's also easy to gaze down at the smaller plants and be oblivious to a Valley Oak. The challenge when out in the field is to regularly divert your gaze from the oak to the ground and back again and be oblivious to nothing.

# Amy's Amblings

by Amy Miller

The past eight months running Sedgwick's outdoor education program have been instructive, engaging and a lot of fun. Working with Reserve Director, Kate McCurdy, and Public Outreach Coordinator, Nick Di Croce, is worth waiting for – even if we only have one day a week together. Our 'administrative Thursdays' are always a blur of brainstorming, prep work and eager communication, but within them we've accomplished a tremendous amount. We are privileged to expose students to the splendor of Sedgwick and witness them outside, learning in nature. I look forward to working more with docents and students in the coming year, when I'm happy to report that I will be working at Sedgwick more often.

The second Saturday Public Hike program has resumed after a hot Sedgwick summer. We continue to offer three hike options and always find an eager audience to explore the Reserve.

The second annual Barn Dance was my first opportunity to get to know many of you, and it was great fun. More than 100 people attended the event which included a BBQ and a live caller at the decorated barn. (Photos on the last page.)

Students from the Dunn Middle School in Los Olivos helped to clear and extend the Arroyo Willow Trail this fall so that it could be used by the 2011-2012 Outdoor Classroom program. The two mile long trail now makes a circuitous loop to a lookout north of the field station where students can see and identify peaks in the San Rafael Wilderness.



*Taking advantage of the new trail cleared by Dunn Middle School students.*

The Outdoor Classroom continues to introduce youth to the wonder and importance of nature. In 2011, 30 classes visited Sedgwick. In the coming year, the program seeks to provide schools an opportunity for their students to immerse themselves in nature and have them learn about ecology, entomology, geology and cultural history. We would love to have additional docents join us. If you're interested in helping with the Outdoor Classroom, please just let me know.

Don't miss the barn's newest resident. Track him live on a new owl box camera: <http://128.111.126.25:8000>

The new Walking Ecology lecture series and docent training class began with a successful open house on October 28th. Biweekly classes commenced November 4th and will continue through May 18th. Classes are open to the public so bring your friends and neighbors to hear your favorite speakers and brush up on the ins and outs of Sedgwick Reserve.

## Upcoming dates:

### December

Trail maintenance work day . . . . .	8	9:00 a.m.
<b>Walking Ecology</b>		
Geology and Landforms . . . . .	16	9:00 a.m.
Docent Christmas party . . . . .	16	2:00 p.m.

### January

<b>Walking Ecology</b>		
Astronomy . . . . .	6	9:00 a.m.
<b>Walking Ecology</b>		
Sedgwick Hikes, GPS Usage . . . . .	20	9:00 a.m.

### February

<b>Walking Ecology</b>		
Chumash History, Culture, and Native Plant Usage . . . . .	3	9:00 a.m.
<b>Walking Ecology</b>		
First Aid, Safety, and CPR . . . . .	17	9:00 a.m.

## Trish Holden Named to Head UCSB NRS



On July 1, 2011 Dr. Patricia Holden was appointed to the leadership of the UCSB to Natural Reserve System replacing Dr. William Murdoch, previous director, who retired in 2010. Dr. Holden is Professor of

Environmental Microbiology at the Bren School of Environmental Science and Management. She received her training in civil/environmental engineering and in soil microbiology and has been a member of the UCSB faculty since 1997. We've been pleased to welcome Trish to several events at Sedgwick Reserve during her first months as NRS Director. We look forward to seeing more of her here and we congratulate her on her appointment. Welcome aboard, Trish!

## Sedgwick Endowment Challenge

### *What will Sedgwick look like in 20 years? 100?*

Thanks to a group of dedicated supporters who are thinking about the long term, the Reserve will be thriving, and the investment that we make now will ensure it for posterity!

Sedgwick became part of the UCSB Natural Reserve System in 1996 after a successful campaign spearheaded by members of the Land Trust of Santa Barbara County. That campaign raised funds to acquire the remaining tract of 600 acres that had been left by Duke Sedgwick in his estate to his heirs. Some of the prudent people involved in that campaign began talking about a Sedgwick Operating Endowment Fund and in the first 15 years of Sedgwick Reserve, they and others began contributing to that fund to make it a reality, amassing a total of \$450,000.

**Fast forward to 2011:** Some of those same supporters, led by Professor Emeritus and former NRS Director Bill Murdoch, got together to build on the fund with the goal for this year of raising an additional \$550,000 in order to bring the Fund to \$1 million, or one-quarter of the overall goal of \$4 million. A few of them dug deep in their own pockets to offer a matching challenge to build the Operating Endowment so that Sedgwick continues to stand out as a world-class research, outreach and education facility for decades, indeed for centuries, to come.

**The Details:** Three friends have offered a challenge that totals \$275,000. If we match that challenge, dollar-for-dollar, we will have \$550,000 which, added to the \$450,000 in the endowment, will get us to \$1 million. The deadline is December 31. If you'd like to help us meet the challenge and support the Sedgwick endowment (the fund's principal is invested and the earnings help to support the annual operational needs of the Reserve), please let us know. Gifts of appreciated stock and bequests can also be used to match the challenge.

**THANK YOU** to the donors of the matching challenge for their initiative.

**THANK YOU** to the donors who have already contributed \$100,000 to the match!

We're on our way!

Questions? Contact Gay Larsen, [larsen@msi.ucsb.edu](mailto:larsen@msi.ucsb.edu) or 805-893-3423 or any of the members of our Sedgwick Endowment Committee: David Anderson, Bob Bason, Muffy Casberg Deats, Tom Harriman, Dick Jensen, Bill Murdoch, Peter Schuyler, Judy and Jack Stapelmann.

## Docent Graduates 2011



The 2010-2011 Docent Training program graduated 12 new docents. They contribute to the Reserve by giving of their time and talents. Some have laundered sheets for the ranch house, others have stepped in to provide administrative support and we are always grateful for the docents who join us in the Outdoor Classroom Program. Congratulations and thank you to the 2011 docent class.

*Top row: Dana Anderson, Jens Agergaard, Dan Rohr, Tom Small, Gene Math, and Reserve Manager Kate McCurdy.*

*Front row: Margot Doohan, Brenda Juarez, Beth Sprague, Diane de Avall-Arce, Ina Brittain, and Marge Erickson.*

*Not pictured is Sue Sundholm*

# Second Annual Barn Dance

For those who missed the party here are a few photos.

