



Madrone LEAVES

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Birds *Can* Smell, After All

by Daphne Smith

There have been some rumors, but now there is hard data to document that birds do indeed have a sense of smell. The latest issue of *Audubon* magazine (January-February 2014), features an article by Nancy Averett entitled “The Sniff Test,” covering extensive research results that contradict long-held notions to the contrary.

No less of an expert than John James Audubon came to a definitive conclusion in 1820, setting up experiments with old vulture carcasses to attract them by the odor. The vultures weren't tempted, and the word was out—birds have no sense of smell.

It seems that even vultures have their preferences. In 1960 Kenneth Stager, an ornithologist in Los Angeles, found that the birds did generally show up to feed if the carcasses were less than four days old. He could also identify the specific scent, the same rotten egg odor as natural gas engineers use to find gas leaks. Still, Stager's work didn't draw much attention.

However, scientific study of bird olfaction was beginning to attract at least a few dedicated researchers in the latter part of the 20th century, and a variety of studies led to more and more species of birds found to have a distinct sense of smell.

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GENERAL MEETINGS

First United Methodist Church
1551 Montgomery Drive, Santa Rosa

April Meeting

“Climate Change and Conservation Reliance Among California's At-risk Birds”

Monday, April 21, 7:00PM

Lists of at-risk species are a common and important conservation tools. But do they go far enough? Tom Gardali, ecologist with Point Blue Conservation Science, will discuss two important considerations of at-risk species lists: climate change and conservation reliance. Using California birds as the example, he will discuss how at-risk lists are developed, what needs to be done to incorporate the threat of climate change, and the need to consider ongoing management for species that are conservation reliant. He will draw from his work on the California Bird Species of Special Concern, a climate change vulnerability analysis, and a recent paper on conservation reliance of California birds.

May Meeting with Annual Awards and Potluck

“The Laguna de Santa Rosa”

Monday, May 19, 7:00PM

The Laguna de Santa Rosa is the largest freshwater wetland complex in Northern California, and the receiving basin of a watershed where most of the Sonoma County's population lives. Its 14-mile channel is the largest tributary of the Russian River, and is of critical importance to the county's water quality and flood control. It is also a unique ecosystem covering 30,000 acres of marshes, grasslands, creeks, and oak woodlands, with an amazing diversity of plants, animals and birds.

David Bannister is the Executive Director of the Laguna de Santa Rosa Foundation. Some of us older folks will remember that he also served as the Chairman of the Sonoma Group of the Sierra Club during the campaign that led to the adoption of the Vineyard Erosion Control Ordinance.

David will give a talk on the importance of the Laguna de Santa Rosa, and the special features that make up a laguna, how to access the area by foot or by boat, and the wildlife that thrives there. He will also have available a new birding checklist for the Laguna.

MAS Annual Potluck Dinner, with Recognition Awards and Election of Officers

Madrone will host our annual potluck dinner at the monthly meeting on Monday, May 19. For the potluck dinner, please bring a dish to share (entree, salad or dessert). We will provide drinks—sorry, no alcoholic beverages allowed at the church.

To help set up before the dinner, please come at 5:30 p.m.; dinner begins at 6 pm, meeting at 7:00 pm (includes annual awards and May presentation). We look forward to seeing you!

**BIRDS CAN SMELL**

Continued from page 1

Bernice Wenzel, a physiology professor at UCLA, gave a paper in 1965 to explain how pigeons' heart rate went up when they were exposed to scented air. For the next 25 years she repeated the tests, using electrodes attached to the birds' olfactory bulbs, on subjects as diverse as "a raven, a turkey vulture, mallards, canaries, bobwhite quail, and black-vented shearwaters." She found that she could attract two seabirds commonly found off the Southern California coast, northern fulmars and sooty shearwaters, by releasing odors of fish oils and bacon fat into the air.

Inspired by Wenzel's passionate conviction, a young researcher named Gabrielle Nevitt took up the cause of how birds smell. She was ridiculed at first—many of her grant applications were rejected on the basis of the lingering "birds-can't-smell" fallacy. Nonetheless, in 1991 she went on an Antarctic research ship to study how birds who spend most of their lives far out at sea—such as petrels, albatrosses, and shearwaters—might use olfaction to locate their food in schools of krill and squid. She put slicks of vegetable oil laced with fishy compounds into the water, and the birds swooped down on her boat. Still Nevitt needed to figure out how, absent her "stinky slicks," the seabirds found their prey in the open sea.

On her second Antarctic trip in 1992, Nevitt met up with an atmospheric chemist from NOAA who was "studying dimethyl sulfide, or DMS, emitted by phytoplankton, microscopic plants that live at the ocean's surface." Something clicked for Nevitt. In later experiments she used aerosols of DMS to attract the seabirds. Who would have thought that krill release a scented gas when they eat phytoplankton, enough scent to draw tube-nosed seabirds to their dinner on the open sea!

Though not as obvious as in other animal life, it seems that many birds have tiny structures in the forebrain called olfactory bulbs. A study in 1968 found such bulbs in 108 species. Recent studies in 2008 found that many birds use smell to a smaller or larger extent in combination with visual and auditory clues, to enhance environmental adaptations such as attracting mates, warning against predators, and increasing survival of fledglings in the nest.

Continuing studies, in spite of lingering skepticism, point to some surprising results. Our familiar little garden bird, the dark-eyed junco, distinguishes among the different smells from a gland in the tail base to predict better mates. In juncos, "odor is probably a more reliable indicator of reproductive success than visual cues."

For the full article, go to <http://mag.audubon.org/articles/birds/>.

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Junior Audubon Outings Planned for Spring

Saturday, April 5, 8:00 AM to Noon
SPRING LAKE REGIONAL PARK. Parking fee (\$7) for non-permit holders. From Summerfield Road in Santa Rosa, turn east on Hoen Avenue, then left on Newanga Avenue, and right inside the park entrance gate; meet in the parking lot near the restrooms at the top of the hill. Rain cancels. Leaders: Scott Campbell, 530 828-6115, and Gordon Beebe.

Saturday, May 10, 10:00 AM to Noon
 Junior Audubon will be meeting in the parking lot of Lincoln Elementary School to look at the rookery. Scott Campbell and Moss Henry will be leading the groups. Bring binoculars and Scott will have a scope there as well. Scott: 530 828-6115.

Out and About**Sonoma Ecology Center Hosts Spring Wildflower Walks at Van Hoosear Wildflower Preserve and Sugarloaf Ridge State Park**

The public is invited to attend one of 10 wildflower walks taking place at the Van Hoosear Wildflower Preserve or Sugarloaf Ridge State Park this spring. Wildflower walks are scheduled for the following dates and times:

Van Hoosear Wildflower Preserve, 10:00 AM to Noon

Saturday, March 22; Thursday, March 27; Sunday, March 30; Saturday, April 5; Thursday, April 10; Saturday, April 12.

The Van Hoosear Wildflower Preserve is known for one of the best wildflower displays in Sonoma County. The 162-acre property in the foothills of Sonoma Mountain is protected by a conservation easement made possible by the Sonoma County Agricultural Preservation and Open Space District and the California Wildlife Conservation Board. The property is managed under a partnership with the landowner and Sonoma Ecology Center to protect the Preserve's unique plants, thriving streams, and wildlife habitat.

There is no charge for the Van Hoosear wildflower walks. They are made possible by the voters of Sonoma County who fund the Open Space District's work with a quarter-cent sales tax. Reservations must be made by 5:00 PM on the day prior to the walk. Please note that these popular walks fill to capacity on a first come-first served basis every year, so early registration is encouraged!

Sugarloaf Ridge State Park, 10:00 AM to 12:30 PM

Saturday, March 29; Saturday, April 6; Saturday, April 19; Saturday, May 3

Sugarloaf Ridge State Park is operated by Team Sugarloaf, a coalition of five non-profit partners led by Sonoma Ecology Center. The park includes over 3900 acres,



OUT AND ABOUT

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with a wide array of habitats and a corresponding diversity of flowers in spring and summer. The park includes hillside grasslands with lupines, paintbrush, and iris, wet areas with seep-spring monkeyflower, creeks with western azalea, chaparral areas with ceanothus and chamise, hardwood forests with delicate chocolate lilies, and redwood forests with starflower. These wildflower walks are not to be missed!

Sugarloaf Ridge State Park wildflower walks are free; an entry fee or park pass is required for vehicles. These walks are 1-3 miles long.

For more information about any of these wildflower walks, or to register for a walk, visit the Sonoma Ecology Center website at www.sonomaecologycenter.org.

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2014 Mayacamas Sanctuary Field Trips Sponsored by Madrone Audubon Society

GENERAL INFORMATION FOR ALL EVENTS: *The field trips are free, open to the public and suitable for all levels of interest. Bring your lunch and refreshments for the day; wear layered clothing, hats, and sun protection. Sturdy walking shoes or hiking boots recommended. Be prepared for rain showers, but heavy rain cancels the hikes unless otherwise indicated. No dogs, no smoking; preserve is not wheelchair accessible. Be aware that spring is the season for the emergence of poison oak, ticks and rattlesnakes. Meet on Pine Flat Road between Red Winery Road and the Sausal Creek Bridge. Pine Flat Road begins ¼ mile past the Jimtown Store on Highway 128 East at the first sharp right hand turn. Some may wish to form informal carpools, about a half-hour before the field trip, at the parking area along Russian River Road just west of Highway 101. For more information contact Janet: 526-5883. Reserva-*

tions for the field trips are NOT required. Come with clean boots or shoes: the preserve managers do not want to spread the Sudden Oak Death disease.

Saturday, April 12, 9:00 AM to 3:00 PM
Join naturalist and retired biology professor **Peter Leveque** in a general nature hike. We might find the fawn lily. A moderately strenuous hike on Clark Foss Road; you'll need to get out your hiking sticks and boots. Limited to adults and children 14 years and older.

Saturday, April 19, 9:30 AM to 3:00 PM
A day of discovering the splendid diversity and ecology of land plants: mosses, ferns, trees, shrubs, and those photogenic wildflowers. Your guide will be **Peter Warner**, botanical and ecological consultant and teacher. Peter leads botanical field trips throughout California, engaging the faithful in the myriad sensual delights of our photosynthesizing friends—without whom we would wither away. The pace will be deliberate, with frequent stops. Tote field guides, hand lenses, and cameras. Children okay with supervision. A plant list for the Sanctuary and environs is available by contacting Peter @ phytopagan@sonic.net.

Sunday, May 4, 9:00 AM to 3:00 PM
A geology hike will be led by **Iain Jamieson**, a retired geologist. He worked at the Geysers in the 1970s. Joining David Self, Mayacamas' new naturalist, on a hike recently, Iain shared his geological knowledge of the area. Iain is a current Bouverie Preserve docent, which has expanded his interest in nature. Be prepared for a moderate hike with many stops to discuss the rock formations and geological history. Bring magnifiers and binoculars. Early teens may find this of interest.

Thursday, May 8, 8:30 AM to 3:00 PM
Birdwatchers' Walkabout led by **Tom McCuller**. We'll explore the varied habitats of the preserve for the many species that can be seen in the Mayacamas in the spring. We will travel by car and make stops along the road. Carpool at the

Are you a National Audubon member?

Please consider joining our local chapter, Madrone Audubon (see membership form, back page)

meeting spot on Pine Flat Road. Bring binoculars, field guides, and lunch.

Saturday, May 10, 9:30 AM to 2:00 PM
Grasses - Join ACR's Bouverie Preserve resident biologist **Jeanne Wirka** for a hike to appreciate our local native grasses and understand some of the non-native species with which they compete. As a former board president of the California Native Grasslands Association (cnga.org), Jeanne brings a grass-lover's perspective to the herbaceous landscape. The walk will amble at a botanist's pace, with frequent stops to learn key characteristics of certain common species. Bring a hand lens and camera. Handouts on basic grass anatomy and ID cues will be available at the hike.

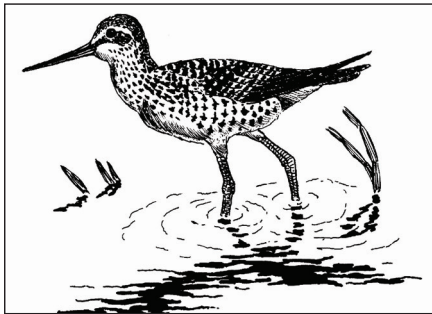
Saturday, May 17, 8:00 AM to 3:00 PM
A bird-rich outing. We will meet at the first bridge on Pine Flat Road, just east of its intersection with Highway 128, north of Healdsburg. We will combine into as few cars as possible, driving to the top and working our way back down. Bring lunch. Leaders: **Gordon Beebe**, gdbeebe@earthlink.net 583-3115, and **Bill Doyle**, 483-8773.





Festivals!

Godwit Days Spring Migration Festival,
Arcata, CA. April 16-22, 2014.
<http://godwitdays.org/>



Greater Yellowlegs Illustration by Steven D'Amato

Petaluma Spring Feather Fest for Kids
Saturday April 19, 9:00-Noon,
Shollenberger Park, 1400 Cader Lane,
Petaluma. Co-sponsored by the Petaluma
Wetlands Alliance, a committee of Madrone
Audubon, and the City of Petaluma Parks
and Recreation Department.

Join us for a docent-led morning bird and nature walk designed for kids 6-12. Observe nesting behavior of birds in the habitats of the Petaluma Public Wetlands. After the check-in at the picnic tables near Shollenberger Park's main entrance, we will observe nesting birds in teams of six kids, with each team accompanied by experienced adult birders. Afterwards we'll meet back at the picnic tables for a tailgate party: pizza, cookies, and sodas provided for \$2.50 per person (kids and parents). This is an alcohol-free event.



Virginia Rail Illustration by Steven D'Amato

Space is limited. To sign up, please call Al Hesla at 765-9411, or email at a.hesla@comcast.net no later than 4/24.

Bird Rescue Center of Sonoma County - Festival of Feathers
Saturday, April 26, 11:00 AM to 4:00 PM
3430 Chanate Road, Santa Rosa, CA
95404

Point Reyes Birding & Nature Festival.
April 25-27, 2014.
<http://eacmarin.org/point-reyes-birding-festival/>

Heron Days in Lake County, California
A celebration of birds, wildlife, and springtime on beautiful Clear Lake. Saturday, May 3, 2014. Lakeside County Park, Lakeport. www.heronfestival.org/

Lincoln School Bird Festival
Volunteers are needed to help at Madrone Audubon's annual Lincoln School Bird Festival. This year's event is on **Wednesday, May 14**, and runs from early morning to early afternoon. Individuals are needed to help with and lead the many activities that take place that day. Most importantly, we need people to help with observations at the heron and egret rookery near the school on West Ninth Street. This event is always greatly appreciated by the students, staff, and parents of the school community. If you want to volunteer or need more information, contact Janeann Erickson at 795-2498 or erickson@ap.net.

Mountain Bird Festival, Ashland, OR
May 30-June 1, 2014.
<http://www.klamathbird.org/education/mountainbird>

Volunteer Opportunities with the Modini Mayacamas Preserves. If interested, contact david.self@egret.org and submit a "Volunteer Intake Form."

Hiking Patrol: We're seeking folks that will hike here a day each week or two, or monthly (especially Sundays, Mondays, Tuesdays), in order to maintain a regular presence and thus discourage inappropriate uses. Please indicate a schedule

or dates you or your team would like to patrol.

Native Nursery & Garden: 226A Center Street, Healdsburg. Assist with planning, planting, weeding, etc. Please indicate a preferred schedule or on your Volunteer Intake Form, and Susan Maxwell will contact you.

Preserve Stewardship: Wednesday, Thursday, and Friday afternoons, working with David. These activities will be posted on the Meetup at least a week ahead of time, and drop-ins are welcome. We usually start at 12:30 PM at Ferguson Spring, though we might work anywhere on the preserve, and finish by 3:00 PM or so. Activities include invasive plant removal, seed collecting, planting natives, trail work, sign maintenance, mapping of plants and habitats, vegetation data collection, etc.

Public Realitions, Research, Database, etc: 226A Center St. Healdsburg. Tuesday through Saturday mornings, by arrangement with David. Help with information tables, open house, research (history, horticulture, ethnobotany, etc), developing field guides, iphone apps and databases, or other projects that you'd like to propose; submit a "Volunteer Intake Form", and contact david.self@egret.org or call 431-8184.

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Updates on Legal Challenges

Cliff Swallows Litigation: On January 16, 2014, plaintiffs (Veronica Bowers, Native Songbird Conservation & Care, Madrone/Marin/Golden Gate Audubons, and Center for Biological Diversity) and defendant CalTrans reached a Settlement Agreement related to our litigation. The Federal Highway Transportation Administration defendant also settled with plaintiffs in March 2014. Terms of the Settlement include removal of exclusionary netting from both Petaluma bridges; use of hard surface



April 2014 calendar

All walks and meetings are open to the public. Bird walks are recreational and educational in purpose, and all levels of expertise are welcome. Bring field equipment and wear comfortable shoes and layered clothing for variable weather conditions. Please carpool whenever possible. Forecasted heavy rain cancels. There is no charge for activities unless otherwise specified, but some parks have day-use fees.

CONSERVATION COMMITTEE exchanges information by phone and email as soon as possible when an issue surfaces. Please contact Diane Hichwa at 785-1922 or dhichwa@earthlink.net.

Wednesday, April 2, 7 PM

BOARD MEETING. Sonoma County Environmental Center, 55A Ridgeway Avenue, Santa Rosa. For agenda information, contact Susan Kirks at susankirks@sbcglobal.net.

Wednesday, April 2, 8:30 AM - 2:30 PM

POINT REYES. Bird Walk. Meet in the parking lot across from the Bear Valley Visitor Center, which is just west of Olema. Bring lunch. Information: Tom McCuller, sisyphus@sonic.net, 546-1812.

Saturday, April 5, 8:00 AM to Noon

SPRING LAKE REGIONAL PARK. Parking fee (\$7) for non-permit holders. From Summerfield Road in Santa Rosa, turn east on Hoen Avenue, then left on Newanga Avenue, and right inside the park entrance gate; meet in the parking lot near the restrooms at the top of the hill. Rain cancels. Leader: Gordon Beebe, 583-3115.

Saturday, April 5, 8:00 AM to Noon

JUNIOR AUDUBON. We will join Gordon Beebe's walk at Spring Lake Regional Park. Rain cancels. Leaders: Scott Campbell 530-828-6115 and Gordon Beebe. See page 2.

Thursday, April 10, 8:30 AM till Noon

RIVERFRONT REGIONAL PARK. Bird Walk. Meet at the innermost parking lot of the Sonoma County Riverfront Regional Park, 7821 Eastside Road, west of Windsor. The parking lot is 0.4 mile from the park entrance. For those without a Sonoma County Park Permit, parking is \$7. Information: Tom McCuller, sisyphus@sonic.net or 546-1812.

Saturday, April 12, 9:00 AM

SHOLLENBERGER PARK. Petaluma Wetlands Alliance/Madrone leads a nature walk. Meet at the first kiosk. Rain cancels. Contact Gerald Moore at 763-3577.

Saturday, April 12, 9:00 AM to 3:00 PM

MAYACAMAS MOUNTAIN AUDUBON SANCUTARY FIELD TRIP
Join Peter Leveque in a general nature hike. See page 3.

Wednesday, April 16, 8:30 AM - 2:30 PM

ANNADEL STATE PARK. Bird Walk. We will search for returning passerines, mainly along Channel Drive. Meeting place: from Montgomery Drive in Santa Rosa, go 0.6 miles on Channel Drive to an unpaved parking lot on the left side of Channel Drive. For those without a Sonoma County Park Permit, parking is \$7 inside the park. Bring lunch. For information, contact Tom McCuller, sisyphus@sonic.net, 546-1812.

Saturday, April 19, 8:00 AM to Noon

SANTA ROSA CREEK AT WILLOWSIDE ROAD. A short walk, but an intense birding experience. Meet at the bridge over Santa Rosa Creek, on Willowside Road, mid-way between Hall Road and Guerneville Road. Park off the pavement. Rain cancels. Leader: Gordon Beebe, 583-3115.

Saturday, April 19, 10:00 AM

SHOLLENBERGER PARK. Petaluma Wetlands Alliance leads two children/family nature walks. One-to-two hours, dependent on age of children. Meet at the first kiosk. Rain cancels. For the children/family walk in English, contact Gerald Moore at 763-3577; for the walk in Spanish, contact Connie Peabody at 338-2237.

Saturday April 19, 9:00 AM-Noon

PETALUMA SPRING FEATHER FEST FOR KIDS

SHOLLENBERGER PARK.

1400 Cader Lane, Petaluma. Co-sponsored by the Petaluma Wetlands Alliance, a committee of Madrone Audubon, and the City of Petaluma Parks and Recreation Department. Join us for a docent-led morning bird and nature walk designed for kids 6-12. Observe nesting behavior of birds in the habitats of the Petaluma Public Wetlands. After the check-in at the picnic tables near Shollenberger Park's main entrance, we will observe nesting birds in teams of six kids, with each team accompanied by experienced adult birders. Afterwards we'll meet back at the picnic tables for a tailgate party: pizza, cookies, and sodas provided for \$2.50 per person (kids and parents). This is an alcohol-free event. Space is limited. To sign up, please call Al Hesla at 765-9411, or email at a.hesla@comcast.net no later than 4/24.

Saturday, April 19, 9:30 AM to 3:00 PM

MAYACAMAS MOUNTAIN AUDUBON SANCUTARY FIELD TRIP

Botany and ecology with Peter Warner. See page 3.

Monday, April 21, 7:00 PM

GENERAL MEETING. "Climate Change and Conservation Reliance Among California's At-risk Birds," presented by Tom Gardali, ecologist with Point Blue Conservation Science. First United Methodist Church, 1551 Montgomery Drive, Santa Rosa. Please see the front page announcement. The public is always invited to attend these programs.

Thursday, April 24, 8:30 AM - 2:30 PM

BODEGA BAY. Bird Walk. From the center of the town of Bodega Bay, drive north on Highway 1, turn left at East Shore Road (the Bodega Head turnoff), then turn right at the stop sign, and continue 0.3 miles to the unpaved parking lot on the right. Bring lunch. Information: Tom McCuller, sisyphus@sonic.net, 546-1812.

Saturday, April 26, 9:00 AM

ELLIS CREEK WATER RECYCLING FACILITY, PETALUMA. Petaluma Wetlands Alliance leads a walk at the Ellis Creek ponds. Go to the end of Cypress Drive and through the gates. Parking lot is on the left. Rain cancels. Contact Bob Dyer at 763-2934.

Wednesday, April 30, 8:30 AM till Noon

SPRING LAKE REGIONAL PARK. Bird Walk. For those without a Sonoma County Park Permit, parking is \$7. From Summerfield Road in Santa Rosa, head east on Hoen Avenue, turn left on Newanga Avenue, right inside the park entrance gate; meet in the parking lot near the restrooms at the top of the hill. Information: Tom McCuller, sisyphus@sonic.net, 546-1812.



May 2014 calendar

CONSERVATION COMMITTEE exchanges information by phone and email as soon as possible when an issue surfaces. Please contact Diane Hichwa at 785-1922 or dhichwa@earthlink.net.

Saturday, May 3, 7:15 AM to 3:00 PM

NORTH GEYSERS ROAD. This trip visits a very rich and under-appreciated area of Sonoma County. We expect birds not seen on other trips, with lots of breeding activity. Meet at the Park and Ride lot adjacent to the PG&E substation on River Road, just west of Highway 101. We will need to combine into as few cars as possible, as parking is very limited along the road. Bring lunch, rain cancels. Leader: Bill Doyle, 483-8773.

Sunday, May 4, 9:00 AM to 3:00 PM

**MAYACAMAS MOUNTAIN AUDUBON SANCUTARY
FIELD TRIP**

Geology with Iain Jamieson. See page 3.

Wednesday, May 7, 7:00 PM

BOARD MEETING. Sonoma County Environmental Center, 55A Ridgway Avenue, Santa Rosa. For agenda information, contact Susan Kirks at susankirks@sbcglobal.net.

Thursday, May 8, 8:30 AM – 3:00 PM

**MAYACAMAS MOUNTAIN AUDUBON SANCUTARY
FIELD TRIP**

Birding with Tom McCuller. See page 3.

Saturday, May 10, 9:00 AM

SHOLLENBERGER PARK. Petaluma Wetlands Alliance/Madrone leads a nature walk. Meet at the first kiosk. Rain cancels. Contact Gerald Moore at 763-3577.

Saturday, May 10, 9:30 AM to 2:00 PM

**MAYACAMAS MOUNTAIN AUDUBON SANCUTARY
FIELD TRIP**

Grasses with Jeanne Wirka. See page 3.

Saturday, May 10, 10:00 AM to Noon

JUNIOR AUDUBON. We will view the rookery at Lincoln Elementary School. Scott Campbell, 530-828-6115, and Moss Henry will be leading the groups.

Wednesday, May 14, 8:30 AM – 2:30 PM

SUGARLOAF RIDGE STATE PARK. Bird Walk. From Kenwood on Highway 12, head east on Adobe Canyon Road to the park entrance and parking lot (\$8 parking fee). Bring lunch (we will lunch away from cars). For information, contact Tom McCuller, sisyphus@sonic.net or 546-1812.

Saturday, May 17, 10:00 AM

SHOLLENBERGER PARK. Petaluma Wetlands Alliance leads two children/family nature walks. One-to-two hours, dependent on age of children. Meet at the first kiosk. Rain cancels. For the children/family walk in English, contact Gerald Moore at 763-3577; for the walk in Spanish, contact Connie Peabody at 338-2237.

Saturday, May 17, 8:00 AM to 3:00 PM

**MAYACAMAS MOUNTAIN AUDUBON SANCUTARY
FIELD TRIP**

Birding with Gordon Beebe. See page 3.

Monday, May 19, 7:00 PM

GENERAL MEETING. “The Largest Freshwater Wetland Complex in Northern California,” presented by David Bannister, Executive Director of the Laguna de Santa Rosa Foundation. First United Methodist Church, 1551 Montgomery Drive, Santa Rosa. Please see the front page announcement. The public is always invited to attend these programs.

Thursday, May 22, 9:00 AM - 3:00 PM

CLEAR LAKE STATE PARK IN LAKE COUNTY. Bird Walk. Note 9:00 AM start time. Meet at the park entrance, 3.5 miles northeast of Kelseyville on Soda Bay Road, north of Calistoga. There is an \$8 park entrance fee. Bring lunch. Information: Tom McCuller, sisyphus@sonic.net, 546-1812.

Saturday, May 24, 9:00 AM

ELLIS CREEK WATER RECYCLING FACILITY, PETALUMA. Petaluma Wetlands Alliance leads a walk at the Ellis Creek ponds. Go to the end of Cypress Drive and through the gates. Parking lot is on the left. Rain cancels. Contact Bob Dyer at 763-2934.

Wednesday, May 28, 8:30 AM – 2:30 PM

SALMON CREEK ROAD/BODEGA BAY. Bird Walk. Meet in Bodega at the junction of Bodega Highway and Salmon Creek Road (on north side of Bodega Highway, opposite the Bodega Post Office). Bring lunch. We will bird Salmon Creek Road in the morning and Bodega Bay in the afternoon. For information, contact Tom McCuller, sisyphus@sonic.net or 546-1812.

Saturday, May 31, 8:00 AM to 3:00 PM

WILLOW CREEK ROAD AND DUNCAN’S MILLS. One of our most productive bird walks. Meet at the parking lot of Sizzling Tandoor Indian Restaurant in Bridgehaven at the south end of the Russian River Bridge on Highway 1 (Coast Highway). Informal carpools meet at 7:00 AM at Sonoma County Agricultural Preservation and Open Space District Office, 747 Mendocino Avenue, Santa Rosa. The parking lot is behind the office (access from Carillo Street). Bring lunch; rain cancels. Leader: Bill Doyle, 483-8773.



LEGAL CHALLENGES

Continued from page 4

exclusion and other safe materials for 2014 exclusionary measures; pre-nesting, during nesting and post-nesting monitoring visits (including a visit by Cliff Swallows expert Dr. Charles Brown); and funding for outreach to Petaluma property owners and residents who may observe nesting behavior on their structures as Cliff Swallows are excluded from nesting this season on the bridges. Terms of the Settlement are also enforceable through the 9th Circuit Court. We are grateful to the Animal Legal Defense Fund and the Meyer Glitzenstein & Crystal legal team for negotiating these satisfactory terms of settlement. Our monitoring team will assess the process at the Petaluma bridges, as well as the exclusionary methods and activities of CalTrans.

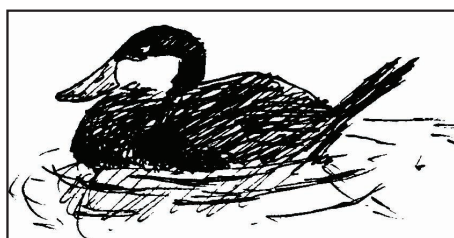
Thank you, Madrone and National Audubon members, who supported our effort with donations and moral support during this process. We will provide updates as the next phase unfolds.

Dutra Asphalt Factory Litigation: On February 28, 2014, the 1st District California Court of Appeals denied plaintiffs' appeal (Madrone Audubon is one of multiple plaintiffs) and affirmed the Sonoma County Superior Court's original decision in favor of the Dutra Group and Sonoma County, approving the environmental review and Dutra asphalt factory project. This decision would set in motion the Dutra Group's ability to apply for and potentially receive permits to then construct the long-opposed asphalt factory just 200 feet from Petaluma's sensitive wetlands and tidal marsh and the nationally recognized Shollenberger Park. Such a facility would be in close proximity to Alman Marsh, Shollenberger Park, and Ellis Creek.

Any birder or wildlife enthusiast who visits these areas understands the gravity of this decision. The long established

and growing Petaluma Wetlands education program, voluntarily provided by Petaluma Wetlands Alliance, could be seriously and negatively impacted. Discussions are underway as we go to press of possible next steps to address this disappointing decision. The multiple plaintiffs must come to consensus on a best next course of action.

At the March meeting of our Madrone Audubon Board of Directors, we discussed the possibility of a conservation acquisition of the Dutra property of 40+ acres—with establishment of a gateway welcoming stopover for visitors to Sonoma County, a low-impact parking area with permeable materials, interpretive kiosks featuring Sonoma County tourism information, a low impact trail for viewing nearby wetlands and marsh wildlife just across the river, replanting of the grove of trees (removed by CalTrans for the highway widening project interchange) to facilitate the return of nesting egrets, and wetland restoration on the property. The California Coastal Conservancy and Sonoma County Agricultural Preservation and Open Space District are both invested in conservation funding for Alman Marsh and Ellis Creek. Protecting these investments, as well as protecting public health and natural resources, continues to be a high priority for us. Our Board expressed agreement that a conservation acquisition could be the most appropriate resolution to the environmental and health concerns. The property owners would need to agree to become willing sellers for this to move toward a reality and a combination of funding sources would also be required.



Ruddy Duck

Illustration by Kirsten Munson

MADRONE BIRD-A-THON 2014 Please Support Our Teams

Our largest fund raiser is still going, supporting, among other activities, Junior Audubon, Lincoln School Bird Festival, the Christmas Bird Count & Audubon Adventures which supplies all 3-5th grade students in Sonoma County with environmental classroom kits.

We have four teams this year, please support them by pledging a set amount, or so much per species. Teams include:

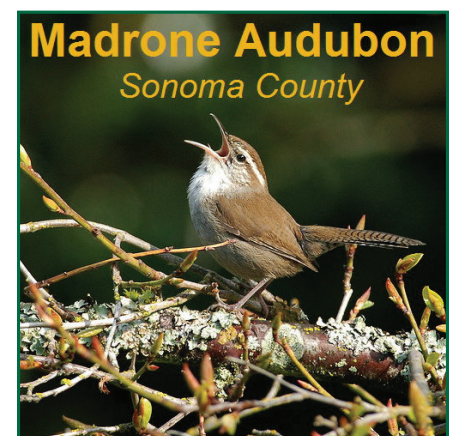
FEATHER QUESTERS: Diane Hichwa & friends

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ZONOTRIPIAS: Bill Doyle, Helen Kochenderfer, Don Kirker & Gene Hunn

GREY-HEADED SEERSUCKERS: Ken Wilson, Becky Olsen, Ian Morrison & Ted Eliot

Please contact Marcia Johnson if you have any questions, or if you would like to form your own team at owlsnesttwo@att.net.



Find us on Facebook for conservation alerts, birdwalk reminders, special announcements and more.



Madrone Members Can Support Saving Tidal Marsh



Pelican

Photo by Rick Lewis

"We have a chance to etch a legacy, for future generations to see "wings in a blur," to discover for themselves something beyond the horizon, something wild and sane and so stirring as to take the observer beyond the outer limits where the sound of feathers scraping the wind will be the norm and still exceptional."

*-Rick Lewis,
Bird photographer and Bay enthusiast*

Save the Bay has begun a campaign to gather petition signatures to support restoration of tidal marsh around San Francisco Bay. Such restoration would be of great benefit to local resident and migratory birds. The San Francisco Bay Restoration Authority will soon vote on a November 2014 ballot measure for a nine-county local funding measure for this very purpose. **Save the Bay** has reached out to multiple non-profits, including Madrone Audubon, to coalesce in support of the potential doubling of tidal marsh habitat around the San Francisco Bay. To support this campaign today, please visit online: www.saveSFbay.org/ForTheBirds. Alameda birder and wildlife photographer Rick Fisher has prepared a stirring slide show for viewing, and you can sign the petition calling on the Restoration Authority to make the measure happen. With 90% of the Bay's original wetland habitat destroyed, Save the Bay requests that supporters act quickly in support of restoration of as much open shoreline as is possible for the birds and for all of us.

Precision Formation Flight Astounds Scientists

Flocks accomplish a feat of coordination to save energy during migration.

by Chelsea Wald

Migratory birds coordinate their wing flaps with much more finesse than previously thought, so as to reap the best energy savings from flying in formation, suggests a new study. In 2011, as part of a reintroduction program, captive-bred ibises following an ultralight aircraft to their wintering grounds arranged themselves in the shape of a V. Data loggers on their backs captured every position and wing flap, yielding the most compelling experimental evidence yet that birds exploit the aerodynamics of the familiar formation to conserve energy.

Theoretical models had previously shown that the V formation, seen in other migratory birds such as geese, could enable trailing birds to save energy. But the models also indicated that the birds' coordination would have to be exceptionally precise to make a difference, and many scientists had doubted that the animals could achieve such a feat during flight, says ecophysiologicalist Steven Portugal at the Royal Veterinary College in Hatfield, UK.

To take maximum advantage of the V's aerodynamics, each bird would have to position its wing in the upward-moving part of the vortex of air swirling off the end of the wingtip of the bird in front. But that vortex moves up and down because the bird in front is flapping. So the bird behind must not only put itself in the right place, but must also flap at just the right time — which changes depending on the distance between the birds — to keep riding the upwash. Faced with this complexity, scientists posited alternative reasons for the formation, suggesting that it might protect the birds against predators or let a flock put better navigators up front.

Tracking the V

For the new study, Portugal and his colleagues wanted to put the aerodynamics hypothesis to the test. They used specialized data loggers they had developed over several years, which record Global Positioning System (GPS) data five times per second in sync with an accelerometer for counting wingflaps.

But one problem remained: how to access a flock of free-flying birds that were tame enough to catch repeatedly? The answer came from a conservation project in Austria. There, a team led by biologist Johannes Fritz, recently awarded major funding by the European Commission, was reintroducing the northern bald ibis (*Geronticus eremita*), which had been extinct in Europe for about 400 years. Since 2003, the conservationists had trained the birds to follow human foster parents, who led them from breeding areas in Austria and Germany to wintering grounds in the Italian region of Tuscany, using an ultralight aircraft. At Fritz's invitation, in August 2011 Portugal fitted 14 young ibises in Salzburg with his data loggers.

Portugal collected data for three flight days of the 36-day paraglider-led migration. From that, he selected a problem-free seven-minute segment to analyze. To his surprise, the analysis showed that the birds' formation fitted the theoretical predictions of aerodynamics. "They're placing themselves in the best place and flapping at the best time," he says.

But that did not seem to be all that was going on. Portugal and his team also reported that the birds frequently shifted into seemingly less-optimal positions, such as directly behind the bird in front, adjusting their flapping to avoid downwash. It is not clear why they would leave the energy-saving V position, says behavioral ecologist Martin Wikelski of the Max Planck Institute for Ornithology in Radolfzell, Germany. The answer



PRECISION FORMATION

Continued from page 8

may come with better GPS technology that can measure the birds' vertical positions as well as their horizontal ones, says biologist Ty Hedrick of the University of North Carolina at Chapel Hill.

Whatever their reasons, the birds clearly have a better ability to sense and respond to airflow than researchers gave them credit for. "In general, we know much less about the sensory system than the motor system in animal flight," says biologist Bret Tobalske of the University of Montana in Missoula. One possibility, suggests Portugal, is that they use special feathers.

"They are just so aware of where each other are and what the other bird is doing," Portugal says. "And that's what I find really impressive."

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Our Outgoing President's Message

Dear Members,

Serving for the past 2 years has been an honor—and full of challenges and positive memories. I plan to remain involved with our Renewable Energy Committee, the West 9th Street egret and heron nesting support project, and the two lawsuits our Chapter entered to protect migratory birds and the Petaluma wetlands from an asphalt plant. Your incoming Board will be a wonderful one. I encourage you to consider serving on a committee, chairing a committee, and serving Audubon by being a Board member. Thank you for the opportunity to serve an historic Audubon Chapter that continues to adapt and grow.

- Susan Kirks



Madrone Audubon Society

Post Office Box 1911
Santa Rosa, California 95402

April/May 2014

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MADRONE LEAVES



Madrone Audubon Society meets on the third Monday of each month, except in June, July, August, and December. Meetings start at 7:30 PM at First United Methodist Church, 1551 Montgomery Dr., Santa Rosa. All meetings and walks are open to the public. Information: telephone answering service - 546-7492, e-mail - madroneaudubon@um.att.com.

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Please complete this form if you wish to join Madrone Audubon, renew your Madrone membership or make a contribution to Madrone.

Please note: We are a chapter of National Audubon, but membership in and donations to Madrone Audubon are separate and support our local chapter. Membership and donations are tax deductible.

- New member Renewal Petaluma Wetlands Alliance
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