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## Spring Newsletter 2022

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### *Letter from the UCSB Natural Reserve System Director*

Dear Friends of Sedgwick Reserve,

I hope that this message finds you and yours well, with optimism and vigor for our collective times ahead.

If you have been to Sedgwick Reserve recently, then you know firsthand: Sedgwick is thriving. As Director of the UCSB Natural Reserve System (NRS), along with our UCSB administration and colleagues and the UC NRS across California, I could not be more proud of Sedgwick as it is today, and how Sedgwick Reserve is poised for a brilliant future.

It is springtime at Sedgwick! The vibrant greens of new growth amaze our eyes, the birdsong gloriously drowns most else that we hear, and the smells of life at all stages bathe us with knowing that nature prevails so beautifully and powerfully. The Reserve is buzzing with energetic student and research groups, and our dedicated docents are busy tending to trails, fences, and other land stewardship activities. This spring brings a particularly celebratory milestone for the Reserve, as 2022 marks Sedgwick Reserve's 25<sup>th</sup> anniversary!

At this exciting inflection point for Sedgwick Reserve, I reflect on the amazing progress that has been made over the last 25 years. From the onset, the successes of Sedgwick Reserve have relied on partnership. Committed partners in the Land Trust of Santa Barbara County, Environmental Defense Center, Santa Barbara County, UC Santa Barbara, and numerous supporters helped this special land become part of the UC Natural Reserve System in 1997. The vibrant grasslands, stately oaks, and regional history of Sedgwick presented a landscape of opportunity for UC Santa Barbara to activate the UC Natural Reserve System mission: to contribute to the understanding and wise stewardship of the Earth and its natural systems by supporting university-level teaching, research, and public service. We respectfully acknowledge that we carry out this vision on the lands of the Santa Ynez Band of Chumash Indians. We value the Chumash partnership in our programs, and strive to continually improve our stewardship of these lands, now and for those who will come long after us. We extend our sincere thanks to you - our docents, volunteers, partners, and supporters - for contributing to Sedgwick's reputation as a world-class field station. Your impact can be seen in the students who experience the inspiration of this living laboratory for the first time, in the new growth of oak seedlings as they take root on the Reserve, and through the camaraderie shared during docent and volunteer trail work days or kicking up dust together during the Barn Dance. Our loyal docents and staff inspire countless people to be stewards of nature by sharing the beauty and wonders of Sedgwick Reserve.

The Reserve has also enjoyed the support of numerous faculty and researcher champions from across the UC System and beyond, making important discoveries spanning topics from climate change impacts on grassland environments to “once in a generation” supernovae. The establishment of the La Kretz Research Center at Sedgwick Reserve in 2016 greatly enhanced the ability of Sedgwick Reserve to attract and support leading conservation science initiatives through endowed research support and the steadfast leadership of Center Director, Dr. Frank Davis.

The generosity of individual donors and partner organizations, along with support through State bond funds, have enabled major programmatic and facility enhancements at Sedgwick Reserve over the last 25 years. Thoughtful planning has led to facilities that are in tune with the environment and cultural history of the Sedgwick landscape. The Tipton Meeting House is unique among facilities within the UC Natural Reserve System with its LEED Platinum rating, and the Sedgwick Ranch House and Barn renovations were completed thoughtfully, preserving the cultural history of this storied ranch.

Over the last 25 years, Sedgwick Reserve has been supported by the dynamic leadership of several Reserve Directors—during the last 15 years, Kate McCurdy—in partnership with UC Santa Barbara’s Natural Reserve System leaders including William Murdoch, Susan Swarbrick and Marion Wittmann. We recently embarked on recruitment for the next Sedgwick Reserve Director, and we look forward to the energy and vision that this new member of our community will bring to the Reserve.

Thank you for being part of the dynamic Sedgwick Reserve community. We are hopeful that we will be able to gather together in celebration of Sedgwick’s 25<sup>th</sup> anniversary this year. Communications will be forthcoming from Sedgwick Reserve as festivities are planned. We look forward to recognizing Sedgwick Reserve’s 25<sup>th</sup> anniversary with you, as we honor the past and imagine Sedgwick Reserve’s future together.

With gratitude,  
Patricia A. (Trish) Holden  
Director, UCSB Natural Reserve System  
Professor, Bren School of Environmental Science & Management

## CALENDAR OF EVENTS

Apr 1 - SWEX  
campaign  
begins

Apr 30<sup>th</sup> - Public  
Hike

May 22-28  
Statewide Meeting  
for Various  
Prescribed Burn  
Associations  
led by Matthew  
Shapero (UC ANR  
Santa Barbara



photo by John Evarts

County  
Cooperative  
Extension) and  
Erin Banwell (The  
Watershed  
Research &  
Training Center)

**May 16** - SWEX  
campaign ends

Nov 5 - BARN  
DANCE  
*Mark Your  
Calendars!*

## SEDGWICK RESERVE CONTINUES TO LIVE ITS MISSION IN 2022

**Research \* Education \* Outreach  
Stewardship**

by B. Juarez

Spring is here! The oaks are leafed out, the birds are nesting, and a hive of research scientists and students are abuzz in the field, working in Sedgwick Reserve's 5,896 acre living laboratory learning about our special environment.

Please read on to learn about all the exciting activities occurring at Sedgwick Reserve in 2022.

### Research:

Eighteen (18) research groups have utilized the reserve for their projects thus far this year. They include:

- Professor Hillary Young, UCSB Dept. of EEMB, "Amphibian and Reptile ("Herp") Responses to a Prescribed Burn."
- Ari Kaplan, graduate student, UCSB Dept. of Physics, "Polaris: Low Frequency experiment to measure polarized galactic foreground emission"
- Professor Chandra Krintz and Grant Canova-Parker, UCSB, Dept. of Computer Science, "Where's The Bear (WTB): Automating Wildlife Image Processing Using IoT and Edge Cloud Systems"
- Associate Professor Mark Olson, Universidad Nacional Autónoma de México, "Fire or climate? What makes savannah bark and wood special?"
- Professor Nathan Kraft, UCSB Dept. of EEB, "Higher Order Interactions (HOI's), functional trait changes, and species coexistence in an annual plant community"
- Professor Victoria Sork, UCLA Dept. of EEB, "Phenology of *Quercus lobata* on the Sedgwick Reserve in the Figueroa watershed"
- Mark Holmgren, Ph.D., UCSB, "2022 Breeding Bird Survey"
- Research Scientist Eric Slesslarev, Lawrence Livermore National Laboratory, "Microbes Persist: Tracing soil microbial residues under divergent soil moisture regimes"
- Alicia Fox, Faculty Life and Physical Sciences, Allan Hancock College, "Zoology Field Study Methods"
- Research Scientist Carla Gonzales, UC Irvine, "Role

of the herbivore natural enemies (i.e., insectivorous birds) on patterns of variation of insect herbivory and plant defenses across insular systems and their mainland counterparts."

- Associate Professor Leander Love-Anderegg, UCSB, "California Ecosystem Resilience with Climate Change"
- Professors Leila Carvahlo and Charles Jones, UCSB Department of Geography, "Sundowner Winds Experiment (SWEX)" - See below for a more in depth description of this project.
- Research Scientist Wendy Schackwitz, Point Blue Conservation Science, "Bio-acoustic Monitoring of Tricolored Blackbird Colonies"
- Associate Professor Amanda Sparkman, Westmont College, "Evolutionary Ecology of Reptiles"
- Associate Professor Jennifer Funk, UC Davis, "Grassland Drought Strategies"
- Associate Professors John & Jill Thompson, UCSC, "Geographic Mosaics in Diversifying Plant/Insect Interactions."
- Professor Jennifer Martiny, Alberto Sandoval, Staff, UCI, "Testing a Phylogenetic Trait Framework for Soil Microbiomes."
- Research Scientist Robert Paulson, Las Cumbres Observatory Global Telescope, Recommissioning the telescope in the observatory dome.

### Citizen Science:

Dedicated docent citizen scientists continue their year round weekly avi-fauna surveys.

- **California Phenology Project:** Andy Lentz, Jack Ehmer, Tom Scafide, Jim Summerland, and Nick DiCroce collect phenological data from 24 permanently marked plant specimens found on the Reserve (4 Valley Oak, 4 Toyon, 4 Elderberry, 4 California Buckwheat, 4 Live Oak and 4 Coyote Brush) and they enter the results into **Nature's Notebook**.
- **Bird monitoring:** Bird monitors submit weekly survey results into the **eBird** database. Participants: Guy Tingos, Peter Schneekloth, Laura Baldwin, Tim Matthews, Fred Emerson, Marge Erickson, Ryanne Bee, Margie Popper, Freda Iverson and Brenda Juarez
- **Oak Monitoring:** Since 2009, docent Andy Lentz has been trekking weekly in the fall and spring months to the Figueroa watershed to record *Quercus lobata* or "Valley Oak" phenology data, volunteering as a

research assistant to Professor Victoria Sork, UCLA.

### Education:

- Kindergarten through twelfth grade school students have been exploring and learning in nature's classroom this year, including several school groups led by NatureTrack, and the "Trailblazers Club" a high school hiking and nature club from Santa Maria. In May, Sedgwick docents will lead an interpretive hike for Dunn School high school students.
- On March 5th, Sedgwick Reserve teamed up with the SYV Natural History Society to hold an Oak Workshop for the public led by John Evarts, Margie Popper, Gary Nett and Brenda Juarez.
- Andy MacDonald, Ph.D., of the UCSB Bren School of Environmental Management held three classes at the Reserve for undergraduates titled "Biological Community Survey & Analysis."
- In May, Aaron Kreisberg, a UCSB graduate student, will lead a birding trip to the Reserve for Gold Coast Audubon, a student run Audubon chapter.

### Public Outreach:

- Sedgwick held its first public hikes since 2020 on March 12th and April 16th with sixty (60) public hikers and twelve (12) docent guides participating on each date. One more public hike is scheduled for April 30th. On these hikes experienced docents share their knowledge of the history, geology, flora, and fauna of the reserve. Join the Sedgwick mailing list to receive upcoming hike notifications.
- In May, the UCSB Walter H. Capps Center for the study of Ethics, Religion and Public Life will hold their Spring 2022 retreat for staff, Mendell Graduate Fellows, and the McCune Interns at the Sedgwick Reserve.
- Also in May, Matthew Shapero (UC ANR Santa Barbara County Cooperative Extension) and Erin Banwell (The Watershed Research & Training Center) are holding a statewide meeting for various prescribed burn associations from around the state.

### Vegetation Management and Fire Preparedness:

- Sedgwick continues to lease cattle grazing to the Drummond Cattle Company. A herd of 30 calf and cow pairs are used for fuel reduction and fire mitigation. Rotational grazing is employed to prevent over-grazing.
- Extensive vegetation removal by a dedicated group of volunteers and docents (Thank you!) has helped to make sure our roadways and other

areas of the Reserve have reduced fire risk. And, mowing season is on! Sedgwick staff have been hard at work reducing vegetation that pose risk as we come up upon fire season.

### **Stewardship:**

- Thanks to our generous donors and supporters, Sedgwick Reserve continues to thrive! Some of our donor-supported efforts include our land stewardship and native plants activities, educational and training opportunities for students of all ages, Sedgwick's docent and volunteer programs, and infrastructure upgrades like the Sedgwick barn renovation project happening this year. Speaking of the barn, save the date for the Annual Barn Dance on November 5th!
- Director of Sedgwick Operations Lyza Johnsen and Land Stewards Angela Giordani, Sam Spaulding, Valentin Navarro and Dennis Beebe have worked diligently to maintain the buildings and grounds this year for the benefit of all the users of the Reserve. Brenda Juarez is at the helm of the Reserve use scheduling and administration. And, of course, we could not make anything work without our dedicated group of docents and volunteers who have been a tremendous support to the Stewards by maintaining trails, repairing fences, tree trimming, potting oaks, weeding, and watering. Thank you all!

***Sedgwick Reserve is a complex living organism always moving forward and always with an eye on the next challenge. Thank you all for being part of its evolution.***

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## **Sundowner Winds Experiment - SWEX (April - May)**

The Sundowner Winds Experiment (SWEX) campaign is a collaborative project led by UC Santa Barbara Professors Leila Carvahlo and Charles Jones. This National Science Foundation (N.S.F.) funded project involves five universities in the U.S. and the National Center for Atmospheric Research Earth Observatory Laboratory (NCAR/EOL). The main goal of the SWEX campaign is to enhance ground observations with an adequate network of surface flux towers, integrated sounding systems, wind profilers, and mobile measurement to test specific hypotheses about boundary layer structure, mountain wave activity and Sundowners. The Sedgwick Reserve is located in a key place in the Santa Ynez Valley where models indicate that contrasts in winds and atmospheric profiles of temperature, humidity and stability are extremely relevant to explain the onset and variability of Sundowners. This project has significant broad impacts as it will significantly contribute to improving the lead-time forecast of Sundowners (particularly important during the fire season), as well as educate the population about fire weather in mountain regions, Sundowners, fire spread in the wild-land urban interface and natural disasters. Check out



Research Scientists William Brown and John Sobtzak from the National Center of Atmospheric Research (NCAS) work at the Instrument site



SWEX Instrumentation Hub on Sedgwick Reserve

Photos by Brenda Juarez

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First launch of SWEX radiosonde - April 4, 2022. Photo by Lyza Johnsen

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## PUBLIC HIKE MARCH 12, 2022

Pictured below are hikers on the Heartland Trail with docent guides Jeff Lahr, Dan Rohr, Tom Juarez,







Nature Track students from Los Berros School, Lompoc in Q&A session following the interpretive nature hike led by docents Dennis and Carole Nord. Photo by Brenda Juarez

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Gary Nett demonstrates oak planting techniques Oak Workshop, 3/5/22  
Photo by John Everts

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*Sedgwick Reserve depends on the support of our donors to fund our **docent program**, support **researchers**, and offer community-focused **public events**. Your gift ensures our ability to continue supporting world-class research and education with global impact. Click **here** to support Sedgwick today!*

***Every Gift To Sedgwick Reserve Helps!***