Brought to you by
Mike Roa
Mikeroa46@gmail.com

Grapevine



October, 2026

over 1000 subscribers

What is the Grapevine?

The *Grapevine* is a free monthly e-newsletter intended to help inform North Bay Area educators, and others, about science and environmental education resources, events, opportunities, etc. To receive the *Grapevine*, just email me at: mikeroa46@gmail.com

Please share *this information with whomever might be interested, and* ***if you find out about something that should be shared among science and environmental educators, please let me know.***

If you would like to have your event or other science or environmental education opportunity included in the Grapevine, *send me an email with a short announcement that I can cut and paste. Send to: mikeroa46@gmail.com Submissions are usually due on the 25th of the month. I plan to send the Grapevine the around the first of each month.* ***(See Submission Due Date below.)***

***If you represent an organization** and would like to write your own (short) description, that would be GREAT. If you offer opportunities for volunteering or citizen science, please **be sure to note that**.

To unsubscribe, just send me an e-mail asking to be dropped from the Grapevine list.

Past issues of the Grapevine are being archived at the North Bay Science Discovery website at:

https://www.northbayscience.org/grapevine

Please note: I'm converting my email address from mroa@sonic.net to mikeroa46@gmail.com

Submissions Due:

I try to send out the *Grapevine* around the first of each month. Submissions for the next *issue* are due the 27th of each month. The next issue will include events through approximately the 16th of the next month.

Interested in a JOB? Have an opening to advertise? See the JOBS section following the articles.

Other science and environmental education newsletters:

A great free science newsletter and calendar is "SciSchmooze." Contact Kishore Hari at:

bayareascience@substack.com

National Environmental Education Foundation (NEEF)

As its name implies, the National Environmental Education Foundation supports E.E. providers. They have a monthly newsletter in which they share information of interest to environmental educators. Sections include:

- **Educator Resources**
- **Grant Opportunities**: info on grants ranging from $500 to $50,000
- **Professional Development:**

You can sign up to receive the monthly NEEF newsletters at: https://www.neefusa.org/ee-focus-newsletter-sign

The North American Association for Environmental Education (NAAEE)

also has a newsletter : eeNEWS. In addition to promoting NAAEE conferences and other things, it includes information on:

- **Learning** (Professional Development)
- **Opportunities** (Grants, Contests, Publishing)
- **Resources** (For Students and Educators)

They also have an "eePRO" program to help e.e. professionals network

For information or to subscribe, contact NAAEE at: info@naaee.org

Forestry Challenge Teacher Newsletter:

This monthly newsletter is NOT just about forestry education. Each month's issue includes a variety of opportunities for both teachers and students. Including professional development, funding, classrrom activities and more. The author, Diane Dealey Neill also puts out a College and Career newsletter. I recommend signing up for both. Contact Diane at dianedealeyneill@gmail.com

For other opportunities, check out: sciencenearme.org

STAND UP FOR SCIENCE, the ENVIRONMENT, and HUMANITY

Since I started the *Grapevine* in 2008, it has been pretty much apolitical. But I feel that the threats to science, the environment, democracy, and the rule of law posed by Trump and his cronies can not be ignored.

If I find out about any local actions, I'll send out an email to *Grapevine* subscribers. SO…

IF YOU FIND OUT ABOUT ANY LOCAL ACTIONS, PLEASE LET ME KNOW SO THAT I CAN PASS THE INFORMATION ON.

You might be interested in Bill Nye's Stand up for Science speech at: https://www.youtube.com/watch?v=lE92dsS6M3s.

Some sources of information and ideas about actions are:

- **5calls.org (focus is on calling your representatives to express your opinion)**
- **Robert Hubbell (a lawyer's perspective on current events)**
- **Jessica Craven's Chop Wood, Carry Water (information and suggestions. Her Sunday missive focuses on positive happenings during the previous week.)**
- **Indivisible.org has been fighting the fight since 2016**

One source for info on actions is the Mobilize Us / Hands Off website: https://www.mobilize.us/handsoff/

Want unbiased news?

Well, good luck with that! We all have our biases and "confirmation bias" is real. Probably the best we can do is to try to understand both/all sides of issues. Here are a couple of websites that seem to try to present both sides:

***Tangle*:** the author says:

"I'm Isaac Saul, and this is Tangle: an independent, nonpartisan, subscriber-supported politics newsletter that summarizes the best arguments from across the political spectrum on the news of the day — then "my take."

Are you new here? Get free emails to your inbox daily. Would you rather listen? You can find our podcast here."

Here's the link to *Tangle*: https://www.readtangle.com/?ref=tangle-newsletter

Another is ***Ground News***, which, according to the May 23, 2025 issue of *The Week* "aggregates reports from different news outlets and gives them each a bias score on the spectrum of left, center, and right, along with a 'factuality' rating." When you go to the website, there's a bar across the top that lets you select the area(s) of interest. Their approach is pretty interesting. Here's a link: https://ground.news

Demonstrations and Protests:

Indivisible Sonoma County seems to be the main group organizing protests in Sonoma County.

I previously provided a website with lots of **ideas for signs**. So that you don't have to go find that link, here it is again:

https://bedfordvademocrats.org/how-to-make-protest-signs

Got other good ideas for signs? Send them to me and I'll post them!

Lots of Hands Off EPA, Social Security, NEA, VA, etc. How about **(tiny) Hands Off** of your favorite agency?

Orange Lies Matter

Question Autocracy

With a drawing of a rattlesnake: Don't Tread on Science…It'll come back to bite you!

Here's one: Make America Green Again

If you aren't already enraged by what's happening, check out this link:
https://open.substack.com/pub/paulkrugman/p/magas-war-on-science?r=rdcx4&utm_campaign=post&utm_medium=email

Are you retiring, moving, or changing jobs or emails?

Please let me know if you will have a new email address or no longer want to receive the *Grapevine*. You are, of course, welcome to continue to receive it even if you are no longer going to be teaching, but **please let me know if you don't want to keep receiving it.** And if there is somebody else at your school or organization that might want to receive it, please have them contact me. Thanks. Mikeroa46@gmail.com

Sharing…resources, information, opportunities

Stewards of the Coast and Redwoods…

Upcoming classes and more:

Free Guided Walks at Armstrong Redwoods State Natural Reserve
Saturdays and Sundays ongoing, 10 a.m. start time
Learn about the redwood forest during this easy guided walk for groups of 4 or less.

More Info

2026 Western Monarch Count with the Xerces Society
Register for exact survey dates
10:00 am – 12:30 pm

Help this important community science opportunity!
More Info

Birding along Willow Creek Road
Saturday, October 3, 2026 8:30 am – 11:30 am

Welcoming bird enthusiasts of all experience levels to learn, connect, and enjoy the wonderful world of birding!
More Info

Birding at Bodega Dunes
Friday, October 9, 2026 8:30 am – 11:30 am

Welcoming bird enthusiasts of all experience levels to learn, connect, and enjoy the wonderful world of birding!
More Info

Redwoods Reset – A Contemplative Forest Immersion
Sunday, October 11, 2026 9:00 am – 11:30 am

A contemplative experience—rooted in nature connection, gentle movement, and quiet reflection with Tara Taylor.
More Info

U.C. California Naturalist Certification Fall 2026
Wednesday, October 14, 2026 – Thursday, December 17, 2026 6:30 pm – 8:30 pm

Sorry, this course is sold out. Waitlist available.
More Info

Coastal Nature Journaling at the Coast November
Saturday, November 7
10:00 am – 12:30 pm

Nature journaling for everyone with Sarah Reid!
More Info

Redwoods Reset – A Contemplative Forest Immersion
Sunday, November 8, 2026 9:00 am – 11:30 am

A contemplative experience—rooted in nature connection, gentle movement, and quiet reflection with Tara Taylor.
More Info

2026 Free Thanksgiving docent-led walk in Armstrong Redwoods
Thursday, November 26
11:00 am – 12:30 pm

Spend your Holiday in the redwood forest, connecting with nature.
More Info

Redwoods Reset – A Contemplative Forest Immersion
Sunday, December 13, 2026 9:00 am – 11:30 am

A contemplative experience—rooted in nature connection, gentle movement, and quiet reflection with Tara Taylor.
More Info

2027 U.C. Cal-Nat Oceans Intensive at Bodega Marine Lab
Friday, January 8, 2027 – Sunday, January 17, 2027
Learn about California's natural history through a marine lens & become a certified California Naturalist
More Info

National Science Teachers Association Webinars

The NSTA offers webinars on a variety of science education topics. Check them out at: https://webmail.sonic.net/?_task=mail&_caps=pdf%3D1%2Cflash%3D0%2Ctiff%3D0%2Cwebp%3D1%2Cpgpmime%3D0&_uid=102616&_mbox=INBOX&_action=show

2026 Forestry Challenge Request for Volunteers

2026 Forestry Challenge Request for Volunteers
By Diane Dealey Neill

Hello Grapevine readers! We are gearing up to have six Forestry Challenge events this fall, and we hope you will be able to join us. Approximately 25 to 30 volunteers are needed per event. The event dates are:

- Santa Cruz, Session 1, October 7 – 10 at Redwood Glen near Loma Mar
- Santa Cruz, Session 2, October 10 – 13 at Redwood Glen near Loma Mar
- El Dorado – October 28 – 31 at Leoni Meadows Camp near Grizzly Flats
- San Bernardino Session 1, November 11 – 14, at Hume SoCal near Lake Arrowhead
- San Bernardino Session 2, November 18 – 21, at Hume SoCal near Lake Arrowhead

If you are able to spend as little as a few hours or as much as a few days, please visit the website and follow the link to the volunteer registration form at the top of the homepage. You can be reimbursed for mileage at the volunteer rate of 14 cents per mile, and meals and housing are provided. Volunteers also receive a event t-shirt! You are welcome to volunteer for any "job" that is best for your schedule and interest. A list of jobs, including the duties and hours for each, is linked on the volunteer form.

The Forestry Challenge is an academic event for high school students in technical forestry and current forestry topics. Participants spend four days in the forest learning about the ecology and management of the forested landscapes that provide communities with water, recreational opportunities, wood products, and wildlife habitat.

For more information, please visit www.forestrychallenge.org
Call or email: Diane Dealey Neill 916- 417-1950
Dianedealeyneill@gmail.com

Educators Invited to Select Books for Free on Monday, October 5 from 4 – 6pm

Note: "Educators" includes non-formal educators, not just classroom teachers!

Friends of the Santa Rosa Libraries invites educators to select books for free on Monday, October 5 from 4 – 6pm at Veterans Memorial Hall in Santa Rosa. These are the last two hours of the "2026 Big Book Sale" hosted by the Friends on October 2 – 5, 2026. Eligible educators include teachers, librarians and other staff members serving Pre-K, K-12, and post-secondary learners. Educators should check in at the sale entrance **at 4pm or later on Monday, October 5**. After checking in, educators can select unsold items for free, including books in any genre, DVDs, CDs, Cliffsnotes, sheet music, etc.

Location: Veterans Memorial Hall, 1351 Maple Avenue, Santa Rosa. Free parking on site.
- Book Sale information: Please see sonomalibrary.org/friends.

Questions about the Free Book Program: Please email SRFriendsBookProgram@gmail.com.

CNPS Milo Baker Chapter Speaker Series/General Meetin

Tuesday, October 20, 2026, at 7:30 pm (in-person and on Zoom)
Luther Burbank Art and Garden Center
2050 Yulupa Avenue, Santa Rosa, CA 95405

Zoom link: www.chapters.cnps.org/milobaker/events-and-activities/general-meeting-speaker-series/
(see monthly Speaker Series post for Zoom registration)

Speaker: Co-Author of *Dragonflies (Anisoptera) of California*
Presentation by Sandra von Arb
Learn about the colorful and interesting Dragonflies and their unique biology with field biologist Sandra von Arb, co-author of Dragonflies (Anisoptera) of California with Kathy Biggs. Sandra will share her knowledge of the 47 species that occur here, how to identify them, what the Dragonflies need for survival, where to find them, and their migratory habits.
Sandra von Arb has been a professional wildlife biologist for 30 years, focusing on sensitive and endangered species in northern California, southern Oregon, and northern Illinois. She is a co-founder of Biodiversity Education and Research Foundation, whose mission is to foster ecological stewardship through science and education.

BAY AREA SCIENCE FESTIVAL

Our North Bay Science Discover Day got started as part of the Bay Area Science Festival. The 2027 NBSDD will be held on Sunday May 2, 2027. Meanwhile, the BASF will be held on Saturday, October 17 See below.

Mark your calendars! The Bay Area Science Festival returns on **Saturday, October 17,** transforming several blocks, buildings and plazas at UCSF's Mission Bay campus into a celebration of science. Among 120+ exhibitors, BASF 2026 will include a mix of beloved fan-favorite exhibits like the Robot Zoo, alongside brand new ones like Johan Fredrik Källman's work noted above. Whether you're fascinated by space, biology, robotics, chemistry, engineering, or the natural world, you'll find memorable hands-on exhibits to explore, experiment, and discover. Bring the whole family for a full day of unforgettable STEM fun. Stay tuned for more exhibitor highlights!

North Bay Science Discovery Day

The 2027 NBSDD will be moving to May rather than March. Watch future Grapevines for more information. The date is Sunday, May 2.

PETALUMA WETLANDS ALLIANCE 2027 VOLUNTEER TRAINING

Volunteering with the Petaluma Wetlands Alliance is a fun and rewarding way to give back to the community while helping protect and restore one of Petaluma's most valuable natural resources. Volunteers play a vital role in preserving local wetland habitats, learning about

and supporting native wildlife, and helping the public connect with and appreciate this important ecosystem.
For those looking to get involved, the Petaluma Wetlands Alliance will hold its **2027 Volunteer Training** on five consecutive Thursday mornings—January 7, 14, 21, 28, and February 4, 2027—from 9:00 a.m. to noon each session. Training will take place at the Lucchesi Community Center, 320 N. McDowell Boulevard, Petaluma. **Those interested in learning more or signing up for the training should contact Joanne Figone at jfigone@petalumawetlands.org**

2026 Sonoma County Master Gardeners Children's Jamboree & Marketplace Come Grow, Learn, Play, and Shop with Us!

This fun, free event for children and adults is Sunday, October 11 from 11 a.m. to 2 p.m. at Nokhnoma Teaching and Demonstration Garden* in Santa Rosa.

- **Activities for children** will include items they can make and take home such as corn husk dolls, sun catchers, gratitude banners, seed pots, garden art rocks, and more!
- **Marketplace** will feature an assortment of 4-inch and 1-gallon succulents, succulent containers, succulent topped pumpkins in assorted sizes, small and medium wreaths crafted with flora, cones and/or succulents, oyster shell succulents and decoupage oyster shell ornaments, beaded light catchers, and gardening books. All proceeds benefit the UC Master Gardener Program of Sonoma County. Cash, checks and credit cards accepted.
- **Information tables** will be staffed with Sonoma County Master Gardener volunteers who will share home gardening information, answer your home gardening-related questions and provide information about our programs and projects.
- **Partner organizations** on site will include the Girl Scouts, Sonoma County Bee Association, Children's Museum of Sonoma County, Master Food Preservers, Zero Waste, Sonoma County 4-H, and others.

Register to attend: Go to https://tinyurl.com/5dk8nw7r or sonomamg.ucanr.edu/ Upcoming Events to complete your registration. After registering, you will receive a confirmation email containing information about attending the event.

General information

- ADA-compliant porta potty on site.
- ADA parking will be available.
- Water available for filling water bottles.
- Wear comfortable, closed-toe shoes suitable for walking on unpaved, uneven paths
- Bring a hat if desired.
- No animals allowed, except trained service dogs.
- Food and beverages will not be available, bring your own snacks or picnic lunch.

**Formerly Los Guilicos Demonstration and Teaching Garden*

California Native Plant Society:

55th Annual California Native Plant Sale

When: Saturday, October 10, 2026 (10 am – 1pm)
Where: Laguna de Santa Rosa Foundation (900 Sanford Rd., Santa Rosa, CA 95401)

Fall is the very best time of year to add habitat-friendly plants to your garden! The Milo Baker Chapter of California Native Plant Society invites members of the public to visit our propagation nursery and shop from a wide selection of trees, shrubs, ground covers, grasses, ferns, and succulents. All plants are locally-grown and have been tended for months by dedicated nursery volunteers. Attendees can preview our extensive plant list in advance (https://chapters.cnps.org/milobaker/2026/08/26/fall-fall-plant-sale-october-10/), which includes several selections of manzanita, ceanothus, coffeeberry, penstemon, monkeyflower, fuchsia, sage, daisy, buckwheat, yarrow, and so much more! Alternatively, simply show up and ask one of our knowledgeable horticultural volunteers which plants would do best in your garden.

Our shared nursery partner, the **Laguna de Santa Rosa Foundation**, will lead guided garden walks at 11 am and 12 pm, as well as showcase their newest exhibit, "*Spirit of My Homeland*", which features the artistic works of Gloria Armstrong (inside Heron Hall).

This **one-day only event** is an important fundraiser for the Milo Baker Chapter, as well as a fun and festive celebration of community, art, nature, and the start of autumnal planting. 4-inch plants are priced at $6.50; gallons are $13.00 (*plus sales tax*). Seed packets, bulbs, books, posters, yard signs, t-shirts, and hats will be priced individually.

Come early for the best selection!

What: California Native Plant Trivia Night

When: Thursday, November 5, 2026 (6:30 – 8:30 pm)
Where: Laguna de Santa Rosa Foundation (900 Sanford Rd., Santa Rosa, CA 95401)

Test your knowledge and have fun learning about native plants with CNPS-Milo Baker Chapter, the Laguna de Santa Rosa Foundation, and Sonoma County Ag + Open Space.

Whether you're a seasoned naturalist or just curious about what's growing around you, this interactive and social trivia event has something for everyone. Join us for four rounds of friendly competition, test your knowledge, and discover fascinating facts about the native plants that support local wildlife and resilient landscapes.

We hope you'll join us for a fun, informative, and inspiring evening where curiosity meets nature! Come solo or bring a team and enjoy the chance to connect with fellow plant enthusiasts. This event is family- and beginner-friendly. Refreshments will be provided and prizes will be awarded at the end.

Free to attend! Please RSVP: https://www.eventbrite.com/e/community-in-bloom-native-plant-trivia-night-tickets-1996705032502?aff=ebdsoporgprofile

Marin Water

"Join One Tam staff for our summer Rooted in the Watershed guided hike series, where we travel from peak to Pacific through the forests of Marin County. Starting on Mt. Tamalpais, we will follow the water all the way out to Lagunitas Creek, stopping at several forest types on the way. This series encourages folks to reflect upon how our parks are connected through the watershed they share, and how, through collaborative management, we can foster more resilient landscapes.

Follow the link to our google sign up form. There, you can read more about the events in more detail and get your name on the sign up. We will reach out a couple weeks before your hike to provide more logistics about specific location, parking, and trail distance.
We hope you will join us!
https://forms.gle/siA7KFwewgPDaGdu6"

From the Forestry Challenge Newsletter:

Forestry Institute for Teachers

Enhancing Environmental Literacy since 1993!

Explore California's forest resources with fellow educators for a week of in-woods curriculum training. TK-12+ credentialed educators, preservice teachers, nonformal educators, administrators, and program leads are invited to attend and learn about Forest Ecology, Career Pathways, Forest Resilience, Forest Management, Reforestation Practices, Wood Products, Wildlife Biology, and more! Join FIT's team of credentialed instructors and natural resource experts to expand your teaching practice with environmental education curricula and unique forestry field experiences!

Register by December 31, 2026 for the $200 early bird Rate ($250 regular)

Registration includes all on-site lodging, meals, and curriculum materials for this week-long training.

On completion, participants will receive receive:

- Common Core Standards-aligned pedagogical support, curricula, and teaching resources
- Certification in Project Learning Tree and Project Water Education Today
- Eligibility for 3 Continuing Education Units
- Eligibility for $200 stipend post-session
- A personalized Curriculum Project for use in the classroom!

November 6, 2026 - 9:00am - November 8, 2026 - 5:00pm

California Association of Science Educators Statewide Conference Dive into Water Literacy with Project WET

Location: Safe Credit Union Convention Center, Sacramento, CA
Sponsored By: Water Education Foundation; California Department of Water Resources
Register: Click here for more information and to register.

- Read more

2026 California Science Education Conference

Join us in **Sacramento, November 6-8, 2026**, for an inspiring weekend of learning, collaboration, and connection. CASE's **California Science Education Conference** is back—and you won't want to miss it!

This year's theme, *Science in Action*, celebrates high quality science education that empowers and engages every learner.

✅ Dynamic workshops
✅ Inspiring keynote speakers
✅ An expansive exhibit hall
✅ Countless ways to connect and grow

We are partnering with Ten Strands and a select group of environmental scientists to run a very special Environmental Literacy & Advocacy Pre-conference Day, open to all educators, on Thursday, November 5. Get all the details on registration, registration rates, hotel information and more by visiting the **CASE Conference Website**.

REGISTER TODAY

BODEGA MARINE LABORATORY
invites you to join us for public tours on Friday afternoons!

IMPORTANT:
Due to limited capacity, you must reserve a date and time to take part in a tour. Additional dates will be added soon. To reserve your spot visit:
https://www.eventbrite.com/e/public-tours-of-bodega-marine-laboratory-registration-622690533147

About the Event:
When: Fridays, starting at 2pm
Where: 2099 Westshore Rd. Bodega Bay, CA 94923

What will I see?
These tours are led by our wonderful crew of ocean-loving docents, and visitors will learn about ongoing marine and coastal science research at Bodega Marine Laboratory and its history on the Sonoma Coast. Plus, you'll get to meet a variety of colorful and diverse ocean creatures.

Who's invited?
Although we welcome all ages, these tours are best for people who are school-aged and above. Dogs and other pets are not allowed, with the exception of service animals.
Public tours are only available by reservation. If your preferred tour time is already full, you can place your name on a waitlist through Eventbrite to claim a spot if one becomes available.
If you are interested in arranging a tour for a school or other group of 10 or more people, please contact alcarranza@ucdavis.edu instead of booking through the public tour reservation system.

What else should I know?
As you drive up to the lab, please be mindful that we are on the Bodega Marine Reserve, a protected home for many marine and terrestrial creatures. We ask that you reduce your speed to the posted limits and watch out for wildlife.
While on the tour, please stay with your group and do not explore on your own, as parts of the laboratory and reserve contain sensitive organisms and research data that are easily damaged.

Does the tour cost money?
We provide our public tours free of charge, but donations are encouraged and appreciated. Donations are critical to supporting the care and maintenance of the aquaria and animals you will see during your tour.
If you would like to make a gift, you can do so by selecting the donation option when you reserve your tour spot or visit our website to learn about more ways to give: marinescience.ucdavis.edu/give

Some interesting reading:

National Geographic magazine now opens with a series of outstanding photographs called "In Focus." The photos typically include images from the oceans, wildlife, culture, and nature. They would be great to share with students by posting or possibly or removing the captions and then passing them around the class asking the students to try to figure out what they show.

The October ***National Geographic*** magazine has articles on:

- "Africa – The Fight for the Wild" (cover article)
- "Building NASA's Moon Rover of the Future"
- "The Hidden Toll of Extreme Heat on Pregnancy"
- "Glimpsing Nature's Unseen Current" (how tiny electrical charges guide animals to flowers)
- Global increases in jellyfish

The September/October issue of ***Smithsonian*** includes articles on:

- Mollusks
- Long Covid
- The White-Headed Duck
- African Wild Dogs

Science in the News from Sigma Xi

Sigma Xi is a science honor society. You can sign up to receive their **bi-weekly** science e-newsletter at: https://www.sigmaxi.org/news/newsletters

Some recent stories:

- High school teacher finds N.D. T-rex trackway
- Corals can "remember" infections and develop vaccine-like protection
- Many infection-related hospital sepsis cases (are) preventable
- Social tech use doesn't affect life satisfaction
- Insect-killing fungi can help crops withstand stress
- LGBTQ+ youth have higher rates of vaping
- Artificial whiskers help drones navigate by touch
- Dogs' self-control mirrors humans' brain activity

Sci Tech Daily

Sci Tech Daily is a (you guessed it…) **daily** brief summary of current events in a variety of science fields, including general science, health, space, technology and others. https://scitechdaily.com/

Among many others, the October 1 edition included:

- The more ultra-processed foods people ate, the higher their risk of disease and death
- NASA's SpaceX Crew-134 could reach the ISS in record time…watch live
- Researchers uncover a hidden molecular machine that parasites need to survive
- Memory decline may start sooner than scientists once thought
- Nearly 1 in 6 chiodren taking GLP-1 drugs develop nutritional deficiencies
- And much more

• *TED Talks: Science Worth Knowing:*

- New science-related talks are frequently posted.
- check it out at https://www.ted.com/topics/science

Hot (Cool?) Links:

The Sonoma Environmental Education Collaborative (SEEC) is a group of organizations that provide environmental education in the North Bay Area. SEEC has recently created a Google Group that will serve to facilitate communication about environmental education. Only members of SEEC in good standing can post to the website, but anybody can access it to find out about what's happening in local environmental education. Here's the link to the Google Group: https://share.google/XnZj06qJczW1bPqrl

Live and Learn

(in which Mike shares something that he's recently learned.)

Blue crabs are considered a delicacy in the Maryland area, but they apparently they are an invasive species in Europe's Adriatic Sea. There they shred fishing gear and overfeed on clams, mussels, and young fish.

In an effort to try to control the invasive blue crabs, local officials are releasing baby octopuses. They recently released over 130,000 of the larval cephalopods. They expect only about 1% to reach adulthood, but since each adult octopus can eat up to four blue crabs a day, they hope that the blue crab population will be reduced.

It would be interesting to know whether this works.

(Source: *The Week* magazine, September 25, 2026)

See also Science Humor below

Science Humor:

Each week *The Week* magazine has a contest related to one if its articles. The September 25 contest asked readers to come up with a snappy headline for the article about blue crabs and octopi. The top three were:

- 1,040,000 Legs Under the Sea
- Blue Crabs Lose Arms race
- Monsters, Ink

Jobs:

Click HERE for a list of job boards.

Job Hunting? Curiously perusing? Have a career in mind but want to know the qualifications? Either way, we have something for you!

Lake Tahoe Ambassador Program

Who are the Ambassadors?

The Lake Tahoe Ambassador Program is a paid summer internship for youth, led by college-level crew leaders who also gain introductory leadership and team-building experience. This program educates students on how to serve as environmental ambassadors for Lake Tahoe. Participants engage directly with the public, sharing information about Lake Tahoe's natural environment and ways to protect it.

During the summer, Ambassadors are stationed at various popular beaches, trailheads,

and visitor centers around Lake Tahoe during peak times. Additionally, Ambassadors receive training in a variety of environmental protection methods and personal development skills. This training includes communication and presentation skills, identification of native and invasive species, trail building, ecosystem restoration, cultural and historical education, wildfire prevention, and more.
The role of Ambassadors:

- Motivate and inspire community members and visitors to recreate responsibly while enjoying Lake Tahoe's parks and beaches
- Share information about ways to recreate in Tahoe, favorite hikes and bike trails, and more
- Model good stewardship by picking up trash, calling city maintenance when trash cans are full, and handing out pet waste bags as needed
- Track observations and interactions with the public using a Citizen Science app
- Present natural history information
- Attend additional trainings outside of public work days on related skills like natural history, trail maintenance, species identification, public speaking, research techniques, and more

CONSERVATION COUNCIL ACCEPTING APPLICATIONS

Sonoma Lans Trust's teen program, Conservation Council, is accepting applications for the 2026-2027 cohort. Conservation Council is open to Sonoma County high school students entering 9-12 grade next school year. Students participate in weekly workshops and field experiences, build scientific and leadership skills, and complete primary research in a team setting. Participants receive a $1,500 stipend, a $250 gear allowance, and can earn 255+ community service hours.

Watch our 3-minute video to hear directly from past participants about what the program meant to them.

Learn more: sonomalandtrust.org/conservation-council

Apply directly at: https://bit.ly/3OQw0q7

Tree People: We are Hiring!

Turn your love for the environment into a career at TreePeople! We're looking for passionate environmental enthusiasts to join our growing team. Now hiring for multiple positions: including roles in community forestry, mountain restoration, administration, communications, and more. Working at TreePeople isn't just a job, it's an opportunity to build a career making a difference in the world. If you share our vision of a greener world, apply today!

VIEW JOBS & INTERNSHIPS

Science and Environmental Education Organizations

These organizations offer science or environmental education opportunities and/or **volunteer** or **citizen/community science** opportunities.

If I know of **volunteer** or **citizen/community science opportunities**, I've indicated that, but some may have opportunities about which I don't know.

Check their web sites for more information.

American Cetacean Society

Description: As the name implies, the ACS works to protect cetaceans (whales, dolphins, porpoises), and also supports research.
Web site: The San Francisco Bay chapter's website is: https://www.acs-sfbay.org/

Aquarium of the Bay:

Aquarium of the Bay has opened their programming for the 2023-2024 school year. K-12 schools can book either Aquarium-Teacher lead classroom programs (fee-based) or Self-Guided Tours (free, extra chaperones are not included).
Available Programs:
Kinder – Between the Tides: Learn about the animals that live in the tidepool and the adaptations they have to survive their changing world.
1-3rd – Salmon!: Follow the salmon lifecycle from egg to the end and discover how human impacts affect its life journey.

3-5th -Sensational Sea Lions: This outdoor, sense-based program guides students on the scientific journey of wildlife observation. Learn about and observe the World-Famous Pier 39 sea lions. How did they get here, why they stay here, and above all, what makes them such amazing animals.
6-8th – Kraken Lab: Our newest program is quickly becoming very popular with Middles Schools. Come and participate in a squid dissection and learn the ins and outs of this unique animal.
9-12th – 3D Printing Lab: This brief introduction to 3D printing enables your students to learn a little history on 3D printing as well as help print plates that will be used to aid the non-visual community. Note: This program is limited to a maximum of 28 students (2-Sessions of 14 students each, on the same day)

K-12th – VIP School Group Tour: This special tour of the building is held before the Aquarium opens and enables students to see the work that is often not seen by the public. This tour is limited to 25 participants and is not bookable on the website. Please email us for more information

K-12th – Self-Guided Tour: While this tour is booked on 20-minute intervals, the tour length is 1 hour. Your class will be able to go as fast or as slow as you would like which makes it perfect if you only have a limited amount of time.

Email education@bay.org for more information on any of these programs
Visit https://www.aquariumofthebay.org/ and under the Education tab, find K-12 programs, teacher resources, eLearning modules, Plastic Free Campus, and Professional Learning Courses.
Aquarium Education Programs Webpage: https://www.aquariumofthebay.org/teachers/k-12-programs/

Audubon Canyon Ranch

Our Mission

Connecting nature, people and science in a rapidly changing world

Our Vision

Inspired and informed communities use scientific knowledge to build a resilient, sustainable society that respects the intrinsic value of our natural world.

They have several sites:

- Bouverie Preserve, Glen Ellen
- Cypress Grove Preserve, Marshall
- Martin Griffin Preserve, Stinson Beach
- Modini Preserve, Healdsburg

Volunteer Opportunities: http://www.egret.org

Audubon Society

(Madrone Audubon Society Chapter)

We promote public education, enjoyment, study and protection of the natural world, especially birds.

Check out the Madrone Audubon Society's schedule of walks and other events at: www.madroneaudubon.org

The *Madrone Leaves* newsletter has information about coming events and a variety of conservation issues.

Citizen Science Opportunities
Volunteer Opportunities

Bay Area Teen Science

This site posts opportunities for teens to get involved in science in a variety of ways. Although many of the postings are now outdated, they can still provide ideas and sites for teens to check back with later.
http://bayareateenscience.org/

Bay Nature

This locally produced (Berkeley) magazine has many interesting articles, great illustrations, and an event calendar. Check kit out at: https://baynature.org/

Bird Rescue Center of Sonoma County

The center usually has an open house the first Saturday of the month.

They have an education program…You can arrange a visit to the Bird Rescue Center, or they can come to your school. Request by their online program request form

The Web site has added a "Virtual Resources" section. In it you can find links to many resources on birds, bird identification, and other interesting resources.

Volunteer Opportunities

Check out their web site at: https://www.birdrescuecenter.org/

Bodega Marine Lab

invites you to join us for public tours on Friday afternoons!

IMPORTANT:

Due to limited capacity, you must reserve a date and time to take part in a tour.
https://www.eventbrite.com/e/public-tours-of-bodega-marine-laboratory-registration-622690533147

About the Event:

When: Fridays, starting at 2pm
Where: 2099 Westshore Rd. Bodega Bay, CA 94923
They also have a **webcam** focused on Horseshoe Cove

Web site: http://bml.ucdavis.edu/

Cal Academy NightLife lectures

The California Academy of Sciences is now open daily. They require times reservations.
Website: https://www.calacademy.org

California Coastal Commission

Mission: Protecting & Enhancing California's Coast

The Commission is committed to protecting and enhancing California's coast and ocean for present and future generations. It does so through careful planning and regulation of environmentally-sustainable development, rigorous use of science, strong public participation, education, and effective intergovernmental coordination.

Check out these resources from the California Coastal Commission:

Environmental Education Events Calendar
The California Environmental Education Interagency Network maintains a calendar of events and opportunities relating to environmental education. Find an event or submit yours to the calendar.

California Coastal Voices

A project-based learning guide and online toolkit for middle and high school teachers. Consisting of six units (or "projects") that introduce students to coastal conflicts, challenges, and scientific and policy issues, the emphasis is on problem solving and communication. This learning guide was designed to address California's Next Generation Science, Common Core, and History-Social Science standards. Download teacher resources and student activities and access slideshows, videos, articles, and much more.

Find Lots More Educator Resources online.

website: https://www.coastal.ca.gov/publiced/pendx.html

CA. Native Plant Society

The Milo Baker Chapter of the California Native Plant Society (CNPS), named after the famous Santa Rosa Botanist, is located in Northern California's beautiful Sonoma County. CNPS is a statewide organization whose goals are to increase understanding and appreciation of California's native plants, and to preserve them and their natural habitats for future generations. Membership is open to all.

Citizen Science Opportunities

Volunteer Opportunities

For information go to: https://milobaker.cnps.org/

California Naturalist Program

The UC California Naturalist Program is designed to introduce Californians to the wonders of our unique ecology and engage the public in study and stewardship of California's natural communities. The California Naturalist program uses a science curriculum, hands-on learning, problem-solving, citizen science, and community service to instill a deep appreciation for the natural communities of the state and to inspire individuals to become stewards of their local resources.

The mission of the California Naturalist Program is to foster a diverse community of naturalists and promote stewardship of California's natural resources through education and service.

The California Naturalist Program promotes environmental literacy and **stewardship** through **discovery** and **action**. Many other states have similar naturalist programs, but this is the first statewide program in California. To become a certified California Naturalist, participants need to enroll in a 40+ hour course with one of our partner organizations.

We work with over 45 partner organizations that deliver the course and have certified a community of over 2800 Naturalists around the state who have, in turn, volunteered over 175,000 hours in service to nature in the areas of education and interpretation, stewardship, citizen science, and environmental program support. Courses combine classroom and field experience in science, problem-solving, communication training and community service. Students are taught by an instructor and team of experts who are affiliated with a local nature-based center or natural resource focused agency. Upon completing certification requirements, participants are eligible for four academic credits through UC Davis Extension for an additional nominal fee.

Some CalNat programs are offering online or hybrid programs. See below.

Citizen Science Opportunities

Visit the Web site at: http://calnat.ucanr.edu

Center for Climate Protection

has a high school program called eco2school. Check it out at: http://www.eco2school.org

Children's Museum of Sonoma County

http://www.cmosc.org/

Mission

The Children's Museum of Sonoma County inspires curiosity and creativity through joyful, transformative experiences.

About Us

The Children's Museum of Sonoma County (CMOSC) was founded in 2005. Rooted in current early childhood research, CMOSC engages children in joyful discovery experiences that develop foundational skills, create lasting memories, and spark a lifelong love of learning.

Designed for children and their caregivers, the Children's Museum's experiential exhibits emphasize hands-on engagement and learning through play with a focus on art, nature, and science.

The Children's Museum proudly supports the work of parents, caregivers, and educators in raising happy, healthy, and strong children. Since opening its doors in 2014, it has become a valuable cultural resource and destination for Sonoma County.

website: https://www.cmosc.org/

Clean River Alliance

The mission of the Clean River Alliance is to remove trash from the Russian River watershed and to educate citizens about the problem of trash in our waters by creating more public clean-up events.

Volunteer Opportunities

https://russianriver.com/business-directory/clean-river-alliance/#:~:text=The%20mission%20of%20the%20Clean,more%20public%20clean%2Dup%20events.

The Climate Center

The Climate Center's work is guided by 3 core principles. All of our climate-safe policies and programs must be based on the latest science, help secure a Just Transition for fossil fuel workers, and prioritize Climate Justice for frontline communities. These principles inform our Climate-Safe California campaign.

www.theclimatecenter.org

Coastside Land Trust

THE COASTSIDE LAND TRUST IS DEDICATED TO THE PRESERVATION, PROTECTION AND ENHANCEMENT OF THE OPEN SPACE ENVIRONMENT, INCLUDING THE NATURAL, SCENIC, RECREATIONAL, CULTURAL, HISTORICAL, AND AGRICULTURAL RESOURCES OF HALF MOON BAY AND THE SAN MATEO COUNTY COAST FOR PRESENT AND FUTURE GENERATIONS

The Coastside Land Trust, in Halfmoon Bay, sponsors webinars that may be of interest to you.

Their Web site is www.coastsidelandtrust.org

Coastwalk California

Mission

To ensure the right of all people to reach and responsibly enjoy the California coast. We are a California–wide non–profit volunteer driven organization that advocates for public access to our coast via the California Coastal Trail and offers educational & fun Coastal Trail guided hiking and camping adventures.

Vision

A well-stewarded California coast, highly prized as an irreplaceable commons, open for responsible use to all.

www.coastwalk.org phone: 707-829-6689

Community Resources for Science

CRS helps teachers build on that enthusiasm and bring meaningful science learning experiences to life in their classrooms. Children have a natural curiosity and a craving to learn. CRS works to nurture that learning by connecting classroom teachers with scientists, museums, enrichment providers, and professional development programs in order to bring more science learning experiences to students. CRS also helps individuals and organizations involved in science education to work together and become stronger partners for teachers and schools.

We have compiled some resources for teachers that we thought might be useful as we face school closures and move to more online learning opportunities while we practice "social distancing" in the wake of the spread of COVID-19.

https://www.crscience.org/

Community Soil Foundation

Student-Grown Farm Stand

Community Soil Foundation's mission is to cultivate the wellness of Sonoma County communities by offering land-based education, creating access to organic produce, and regenerating habitat and natural resources. We invite you to come to the Larkfield Community Garden & Learning Center every Wednesday afternoon for your weekly supply of nutritious, organic produce. All fruits, veggies, and flowers are grown by Mark West students and community volunteers using biodynamic and sustainable methods, with proceeds helping fund the garden. All sales are by donation. Look for our Farm Stand at 450 Noonan Ranch Lane and check out other happenings at www.communitysoil.org.

Volunteer Opportunities

CREEC

The California Regional Environmental Education Community (CREEC) Network is a program of the California Department of Education. The CREEC Network fosters regional partnerships throughout the state of California to promote environmental education and environmental literacy by providing teachers with access to high quality professional learning opportunities and education resources.

Along with statewide sponsors and partners, each of the 11 California CREEC Regions provides professional learning opportunities and resources to educators as well as foster communications among schools and organizations interested in supporting the environmental literacy of California's teachers and students. More information on the CDE's CREEC Network program is posted on the CDE website.

Different areas of the state have different CREEC Regions. For information about events in your region, go to: www.creec.org, and select "regions" at the top

Daily Acts

Who We Are

We are a holistic education nonprofit that takes a heart-centered approach to inspiring transformative actions that create connected, equitable, and climate resilient communities. We believe in the power of our daily actions to reconnect people to self, community, and place, which helps to heal our society and planet.

Our Mission is to inspire transformative action that creates connected, equitable climate resilient communities.

Our Vision is to create healthy, just and sustainable communities built upon the daily actions of many people.

Volunteer Opportunities

https://dailyacts.org/

East Bay Regional Park District

The East Bay Regional Park District is a system of beautiful parklands and trails in Alameda and Contra Costa counties to the east of San Francisco. The system comprises nearly 125,000 acres in 73 parks, including over 1,250 miles of trails and 55 miles of shoreline. We acquire, manage, and preserve natural and cultural resources for all to enjoy now and into the future. Our parks are ideal for healthful recreation and environmental education. We invite you to enjoy hiking, biking, picnicking, horseback riding, camping, fishing, boating, golfing, and nature study in our parks. General Brochure [PDF]

https://www.ebparks.org/

Education and the Environment Initiative

Who We Are

The California Education and the Environment Initiative is a program of CalRecycle's Office of Education and the Environment (OEE). Our mission is to foster environmental literacy among all California students as part of a high-quality K-12 education. Environmental literacy builds critical thinking and analytic skills that prepare students to make informed decisions about issues affecting our world, and readies them for college and career success.

Our key environmental literacy implementation partners include the California Department of Education's California Regional Environmental Education Community Network and Ten Strands, a nonprofit organization that supports environment-based learning

https://www.californiaeei.org/

Environmental Forum of Marin

At Environmental Forum of Marin (EFM), we're all about education for action. Our founders started by protecting Marin's natural beauty and wild shorelines.

Web Site: https://marinefm.org/

Exploratorium

The Exploratorium isn't just a museum; it's an ongoing exploration of science, art, and human perception. Explore our vast collection of online experiences to feed your curiosity and education resources supporting online teaching and learning. Subscribe to our weekly newsletter and get fresh learning resources and virtual programming delivered to your inbox.

https://www.exploratorium.edu/

Forestry Challenge

The Forestry Challenge is an academic event for high school students in technical forestry and current forestry topics. Since its inception in 2003, the program has grown from one event to five, a complete buildout of the program in California.

Participants spend four days in the forest learning about the ecology and management of the forested landscapes that provide communities with water, recreational opportunities, wood products, and wildlife habitat. Youth benefit by better understanding the relationship of the forested environment to their community, by exposure to natural resource management as a potential career option, and by undertaking a rigorous critical thinking

exercise which is timely and addresses current forestry topics such as wildfire, insects, and forest health.

Watch a one-minute introductory video!

http://forestrychallenge.org

Friends of Five Creeks

All-volunteer Friends of Five Creeks works hands-on for clean water, healthy watersheds, and natural areas that welcome both wildlife and people, from Berkeley to Richmond on the urbanized east side of San Francisco Bay.

Volunteer Opportunities

http://www.fivecreeks.org/

Friends of the Petaluma River

WHO WE ARE

In 2005 Friends of the Petaluma River was formed to connect our community with the wonders of the Petaluma Watershed. While much of our work is focused on conservation and education surrounding this sensitive habitat, we also believe that celebration plays a large role in our mission. Through events at the River Heritage Center, family programming around the Watershed and access opportunities for the public we bring our Watershed to life.

Our Mission

Our mission is to celebrate the Petaluma Watershed through education and stewardship; because every great River needs a true Friend.

Our Goals: Access, Education, and Conservation

- To pursue outreach and educational activities that will nurture enthusiasm and commitment in the watershed for long term sustainable stewardship.
- To monitor conditions and engage in activities that will reduce or prevent pollution and lessen other harmful impacts on the River and its wetlands.
- To foster a River Heritage Center as a community resource. A place to archive information, host events, administer programs, and coordinate river related activities.
- To promote access to the Petaluma River and Marsh for all community members to experience the beauty of this resource for themselves

Are you incorporating environmental education into your classroom?
Or would you like help developing and implementing a project about the Petaluma Watershed?
Let the Watershed Classroom support you!

Volunteer Opportunities

For more information visit us at www.watershedclassroom.org

For information about Watershed Classroom or Friends of the Petaluma River, go to: http://friendsofthepetalumariver.org/

Green Schoolyards America

Green Schoolyards America seeks to transform asphalt-covered school grounds into park-like green spaces that improve children's well-being, learning, and play while contributing to the ecological health and resilience of our cities. We are working to change the norm for school ground design, use, and management so that all children will have access to the natural world in the places they already visit on a daily basis.

Our programs support the living school ground movement, build relationships that help it succeed, and work to embed this perspective in our existing institutions and policy and regulatory frameworks.

http://www.greenschoolyards.org/

Headwaters Science Institute

The Headwaters Science Institute provides science and environmental education through student-driven research. It is headquartered in Soda Springs. They offer some high school programs for which they charge, butr also provide some free online learning opportunities.

https://headwatersscienceinstitute.org/

IGNITE
(Inspiring Girls Now In Technology Education)

IGNITE is an organization focusing on achieving gender equity in STEM fields.

www,igniteworldwide.org

iNaturalist :

iNaturalist is a citizen science project and online social network of naturalists, citizen scientists, and biologists built on the concept of mapping and sharing observations of biodiversity across the globe.

No matter where in the world you are, **iNaturalist** brings people together. Whether you have a PhD or just love the outdoors, **iNaturalist** will bring you closer to nature and many fellow naturalists.

https://www.inaturalist.org/

Laguna De Santa Rosa Foundation

Founded in 1989, the Laguna Foundation is a place-based organization focused on the Laguna de Santa Rosa and the surrounding wetland communities. **We are a 501(c)3 non-profit with the mission to restore and conserve the Laguna de Santa Rosa, and to inspire public appreciation of this Wetland of International Importance.**

For details on Laguna Environmental Center events, go to their Web site and check out the Public Education section.

/

Volunteer Opportunities

http://www.lagunadesantarosa.org

LandPaths Outings and Events

LandPath's mission is to foster a love of the land in Sonoma County by creating ways for people to experience the beauty, understand the value, and assist in healing the land in their local communities.

Volunteer Opportunities

Lawrence (Hall of Science) at Home:

Welcome to The Lawrence at Home! On this site we will be sharing fun things for you to do at home or outdoors. Kids and families can look forward to exploring, investigating, discovering and inventing through DIY projects, meeting animal friends, science demonstrations and shows, astronomy and nature walks - PLUS, ways for parents to connect with each other and us.
(Includes live streaming programs (schedule posted), videos, science apps and activities, and a section on the science of COVID-19.)

https://www.lawrencehallofscience.org/lawrence-at-home

Marin County Parks Department

The Marin County Parks Department offers a variety of opportunities, including volunteer days and naturalist outings. They often partner with the nonprofit One Tam.

Volunteer Opportunities

Check them out at: http://www.marincountyparks.org/depts/pk/calendar.

Marin Municipal Water District

The Marin Municipal Water District sometimes has volunteer and citizen science oipportunities.

Citizen Science Opportunities
Volunteer Opportunities

volunteerprogram@marinwater.org.

Marin Treks

Marin Treks Natural History Museum offers after school science classes, field trips, and classroom visits to elementary schools and preschools, as well as full and half-day camps during school vacation periods.

http://www.marintreks.com/index.html

Marine Mammal Center (Marin County)

The Marine Mammal Center is a wonderful field trip destination for schools and organized community groups such as scouts, camps, and after-school programs. They have a variety of classes available in their lab, have a "Sea to School" program with programs for all grade levels available to come to your school or site, an "Ocean Ambassadors" program for middle schoolers, information on marine mammals, and a variety of other resources.

Join them on the 2nd and 4th Sundays of each month for Marine Science Sunday - a FREE engaging ocean-inspired classroom series from our education experts. These interactive classroom programs are great for all!

Volunteer Opportunities

Go to http://www.marinemammalcenter.org/ or phone 415-289-7325

NAAEE
(North American Association for Environmental Education):

NAAEE works to accelerate environmental literacy and civic engagement through the power of education.

https://naaee.org/our-work/programs/covid-19-resources-tips-and-support

EE News:

The NAAEE's monthly EE News includes articles or links to articles on environmental education topics. It also includes listings of Professional Development opportunities, Grants and Contests, and Resources for Students and Educators

https://webmail.sonic.net/?_task=mail&_caps=pdf%3D1%2Cflash%3D0%2Ctiff%3D0%2Cwebp%3D1&_uid=23501&_mbox=INBOX&_safe=1&_action=show

NOAA

What can NOAA do for you? NOAA Needs Your Input!

NOAA wants to know what type of STEM multimedia and distance learning educators would like to use with students, and for their own professional development.

National Marine Sanctuaries Webinar Series

The National Marine Sanctuary Webinar Series provides educators with educational and scientific expertise, resources and training to support ocean and climate literacy in the classroom. This series targets formal and informal educators that are engaging students (elementary through college) in formal classroom settings, as well as members of the community in informal educational venues (e.g. after school programs, science centers, aquariums, etc.).

Past Webinars are archived and can be accessed from the site.

https://sanctuaries.noaa.gov/education/teachers/webinar-series.html

Novato Space Station Museum

Prior to COVID-19, the museum was open most Thursdays-Sundays, and often offered "telescope nights" and daytime solar telescope viewing.

Volunteer Opportunities

Go to http://www.thespacestationca.org/ to find out about the Novato Space Station Museum and the events that they offer, including:

Occidental Arts and Ecology Center

Sometimes offers courses and events, especially in gardening and permaculture

Go to https://oaec.org/events/

OneTam

One Tam is a group that works to protect and enhance the Mount Tamalpias area. See also Marin County Parks Department.

Citizen Science Opportunities
Volunteer Opportunities

For more information, go to: http://www.onetam.org/

The Petaluma Wetlands Alliance

OUR MISSION

In addition to preserving habitats, with particular emphasis on birds and overall biodiversity, the Petaluma Wetlands Alliance also works with the schools, governments, environmental organizations, and our community. We educate the public about the ecology, wildlife, and the value of wetlands. The PWA is dedicated to the stewardship, restoration, and expansion of publicly accessible wetlands and associated wildlife habitats. We are active in Shollenberger Park, Alman Marsh, and the Ellis Creek Wetlands.

Citizen Science Opportunities

Volunteer Opportunities

Find out more about PWA at https://petalumawetlands.org/

Pepperwood Preserve

Pepperwood's mission is to inspire conservation through science.

Pepperwood's 3,200 acre preserve serves as a refuge for over 900 species of plants and animals. We are leaders in ecosystem-climate research, producing critical science to help guide our region's natural resource management and conservation planning. Pepperwood also offers environmental education opportunities for all ages to cultivate an ethic of conservation in our North Bay region.

Citizen Science Opportunities
Volunteer Opportunities

https://www.pepperwoodpreserve.org/

Petaluma Wetlands Alliance

OUR MISSION: In addition to preserving habitats, with particular emphasis on birds and overall biodiversity, Petaluma Wetlands Alliance (PWA) also works with the schools, governments, environmental organizations, and our community. We educate the public about the ecology, wildlife, and the value of wetlands. The PWA is dedicated to the stewardship, restoration, and expansion of publicly accessible wetlands and associated wildlife habitats. We are active in Shollenberger Park, Alman Marsh, and the Ellis Creek Wetlands.
For Citizen Science Opportunities, other Volunteer Opportunities, and to find out more about PWA: https://petalumawetlands.org

Planet Bee Foundation

Planet Bee Foundation is a 501(c)(3) environmental education nonprofit currently offering **virtual E-STEM lessons** centered around bees at **NO OR VERY LOW COST** in response to the pandemic**.** We have virtual live lessons with certified teachers or interactive asynchronous video lessons. We served over **20,000 students** around the country in 2020**.** Watch our trailer on YouTube.
Our comprehensive distance-learning program can be tailored to the needs of your classroom curriculum with differentiated activities that align with the **NGSS and the Common Core.**
99% of our virtual lessons have been provided at no cost in our dedication to social justice. Our pricing (if any) and sliding scale are listed here.

Volunteer Opportunities

Please feel free to reach out with questions to programs@planetbee.org.

Point Reyes National Seashore

Point Reyes National Seashore Association's *Science at the Seashore* field trip program for school groups.

Join Us for Hands-On Discovery in Point Reyes!

Students have the opportunity to experience the excitement of discovery in natural habitat, improve science skills, increase awareness and inspire stewardship of our environment. Field trips are held in the restored Giacomini Wetlands, surrounding watershed creeks, or Point Reyes bays and beaches. Study equipment and waterproof footwear are provided; Minimum group size is 10 students; Some activities are season, tide, and group-size dependent; A fee is requested, but scholarships are available!

Hands-on activities include: Aquatic macroinvertebrate sampling, Wildlife tracking, Terrestrial invertebrate sampling, Water quality testing, Fish sampling, Bird surveys, Wetland plant studies, Soil and sediment studies, Habitat restoration, Creek profiling and hydrology, Sandy Beach Mole Crab Monitoring (LiMPETS), Marine debris surveys, Drakes Estero paleo geology and biology.

For information: www.ptreyes.org

Project Learning Tree

Project Learning Tree has developed some new curriculum resources that are available online. Check out the Winter Newsletter at: http://ucanr.edu/sites/PLT_UCCE/

***The Branch* is Project Learning Tree's e-newsletter. The March issue includes an article on "10 hands-on Science Projects to Teach About Pollution." Check it out at:**

https://www.plt.org/educator-tips/science-projects-pollution/?utm_medium=email&utm_source=sharpspring&sslid=MzU2MbE0NrK0MLM0BAA&sseid=M7QwNbUwNzc0MgYA&jobid=d392442b-e64c-44f0-bdc5-cd1ea040889c

Project WET

(Water Education for Teachers)

The Winter California Project WET Gazette is 'live' on the Water Education Foundation website. Go to:

https://www.watereducation.org/california-project-wet-gazette

Redwood Region Ornithological Society

Redwood Region Ornithological Society was organized in 1962 to encourage the study and conservation of birds, other wildlife, and their natural habitat.

http://www.rros.org/

(Russian) Riverkeepers

Our Mission: to Inspire the Community to Protect the Russian River Forever.

Russian Riverkeeper has been fighting since 1993 to ensure a thriving river system and your rights to fishable, swimmable and drinkable waters.

Unfortunately, clean water is under new attacks from a rapidly warming climate, big agriculture and our government. Now, more than ever, your river needs vigilant enforcement of environmental laws and the care and commitment of people like you.

Volunteer Opportunities

https://russianriverkeeper.org/

Russian River Watershed Association

The Russian River Watershed Association (RRWA) is a coalition of eleven cities, counties and special districts in the Russian River watershed that have come together to coordinate regional programs for clean water, habitat restoration, and watershed enhancement. RRWA was formed in 2003 to create opportunities for our member agencies to expand their stewardship role in the watershed.

Download an RRWA Brochure

Volunteer Opportunities

Please visit www.rrwatershed.org to stay up-to-date on any upcoming environmentally friendly events and workshops around the watershed during the year.

San Francisco Bay Model Events:

For information on opportunities available at the Bay Model in Sausalito, including an events calendar, go to:

http://www.spn.usace.army.mil/Missions/Recreation/BayModelVisitorCenter/StudentExploration.aspx

City of Santa Rosa

The Park-A-Month Volunteer Program gives people the opportunity to help improve and clean parks in Santa Rosa.

Volunteer Opportunities

https://srcity.org/1028/Park-A-Month-Program

Science Buzz Café

The Science Buzz Café is dedicated to the night science tradition. It is for professional scientists who do it for the money and for the amateurs who do it for love. for info: http://www.sciencebuzzcafe.org/

BRINGING SCIENCE & CURIOSITY BACK INTO CULTURE ...

www.sciencebuzzcafe.org **(707) 292-5281** *daniel@sciencebuzzcafe.org*

School Garden Network

MISSION

School Garden Network grows healthy students, families, schools, and communities through garden-based education.

https://www.schoolgardens.org

Shape of Life

Shape of Life offers classroom media and resources depicting the evolution of the animal kingdom on planet earth. Explore animal adaptation, animations, and behaviors along with the amazing scientists who bring their stories to life. Discover a rich selection of NGSS materials including lesson plans, readings, illustrations and activities that inspire a deeper dive into animal phyla. Shape of Life content is FREE to students and educators all over the world.

https://www.shapeoflife.org/

Sierra Club

The Sonoma Group of the Sierra Club meets Monday evenings at the Environmental Center, 55A Ridgway, Santa Rosa. The Conservation Committee meets at 5:30; the Executive Committee meets at 6:30. The public is welcome to attend. The chapter is also looking for volunteers, including outings leaders to lead hikes on a regular basis around the area. We are looking for volunteers throughout the chapter, including outings leaders.

http://www.sierraclub.org/redwood/get-involved

Volunteer Opportunities

Also see the Sierra Club's Green Life:

https://www.sierraclub.org/sierra/green-life

Slide Ranch (Marin County)

The mission of Slide Ranch (on the Marin Coast in Muir Beach) is to connect children to nature. We cultivate healthy bodies and minds and foster future generations of environmental stewards. By farming, cooking, caring for animals and exploring wilderness and the coast, we teach people of all ages to see the connection between their own health, a healthy food system and a healthy environment.

Go to: http://slideranch.org/

Sonoma Birding

Mission Statement – Sonoma Birding ∞ Sonoma Nature was founded in 2004 in Sonoma Valley, CA. as a volunteer "citizen science" based conservation organization that establishes sustainable bird and nature related festivals, activities, and programs for all ages, through a variety of partnerships in Northern California and throughout the United States and Canada.

Citizen Science Opportunities
Volunteer Opportunities

For information, go to www.sonomabirding.com

Sonoma Co. Agriculture & Open Space Preservation District

The District partners with several environmental and outdoor education organizations. For more information, go to the District Web site (https://www.sonomaopenspace.org/) and select Education and Outreach in the Get Involved tab.

Some of the programs are:

- FARMS Leadership (with Sonoma Resource Conservation District)
- Learning Laguna (with the Laguna Foundation)
- In Our Own Back Yard (with LandPaths)
- Teaching Environmental and Agricultural Memories (with Gold Ridge Resource Conservatin District)
- Wildlife Defenders (with Sonoma Ecology Center)

Sonoma County Astronomical Society

The Sonoma County Astronomical Society is an amateur astronomy club. They have telescope viewing programs and a variety of public outreach programs.

https://www.go-astronomy.com/astronomy-club.php?ID=479

Sonoma County Library

The Sonoma County Library often has programs that are science related. Select the Events tab at:

https://sonomalibrary.org/
Under that tab they have a "calendar" and a "list" choice. I find the list easier to use. Note that you can also search by **location** or by the *title* of the program.

Upcoming events include such things as the following, most of which occur at different branches throughout the month.

- presentations by Sonoma County Master Gardeners
- Lego Club
- Hour of Code (Maker Studio)
- Build Club
- gardening for kids

Sonoma County Office of Education Science Ed. Offerings

SCOE occasionally science-related classes for teachers on their Web site (www.scoe.org):

Sonoma County Regional Parks

The Sonoma County Regional Parks offer a wide variety of activities, many of which are science or nature-related. Go to: http://parks.sonomacounty.ca.gov and scroll down to "Upcoming Events".
Some activities are purely recreational, some provide opportunities for community service, and all are educational!

Environmental Discovery Center Drop-in: Every Wednesday-Sunday

Volunteer Opportunities

Sonoma County Water Agency

They have a redesigned Web site and increased resource listings. go to:

https://www.sonomawater.org/education

Sonoma Ecology Center and Sugarloaf Ridge State Park's Team Sugarloaf

Sonoma Ecology Center works to address challenges related to water supply and quality, open space, rural character, biodiversity, energy, climate change, and a better quality of life for all residents.
Since 1990, we've worked to increase appreciation and stewardship of Sonoma Valley's natural heritage and create measurable benefits in areas of land, water, climate change and biodiversity.

Vision

We envision a future where people, land, water, and wildlife thrive.

Mission
Our mission is to work with our community to identify and lead actions that achieve and sustain ecological health in Sonoma Valley.

Robert Ferguson Observatory:
Robert Ferguson Observatory is continually looking for new docents and volunteers of all ages to help bring the universe to the public. The Observatory is run by the Valley of the Moon Observatory Association, a 501(3)(c) non-profit, and has offered outreach-based astronomy and science programs to the public for almost 25 years. RFO is almost all-volunteer run and typically serves about 9,000 visitors annually. The observatory is located in Sugarloaf Ridge State Park and houses a 40-inch reflector telescope, the largest telescope in Northern California that is accessible to the public; a robotic 20-inch research-grade, "CCD" telescope; and an 8", two-meter long refractor telescope. Prior experience or knowledge in astronomy is not necessary. Please go to rfo.org, click on "Volunteer" and fill out the volunteer application form online to get on the list for our next docent orientation and training! Questions? Contact Stephanie Derammelaere at 707-333-1331 or at sd@rfo.org.

Volunteer Opportunities

Sonoma Land Trust

The Sonoma Land Trust offers a variety of educational outings and volunteer opportunities for the public on protected lands. Check them out at: https://sonomalandtrust.org (select the "Explore" tab for the calendar)

Volunteer Opportunities

Citizen Science Opportunities

Sonoma/Petaluma State Historic Parks

While the Sonoma/Petaluma area state Parks primarily focus on history, they do have some science/environmental events and offerings such as twilight nature hikes.

For info, go to www.sonomaparks.org

Sonoma State University:

The Sonoma State University School of Science and Technology has a periodic online newsletter that gives news about the school and includes a link to the various department public speakers and events.

The link for the **speakers/colloquia** is: http://www.sonoma.edu/scitech/pls/.

SSU Center for Environmental Inquiry:

The Center's mission is to create an engaged and environmentally ready society, one where everyone has the skills to find solutions to the challenges facing the earth.

With the complex issues before us, such as climate change, overuse of resources, and declining biodiversity, we need to be awake, prepared and engaged. We need to know how to work across sectors and find innovative ways forward.

There is good evidence that we are not ready. Intuitive understanding of ecosystem processes is at an all-time low, and many professionals entering the workforce are not prepared to problem-solve or aware of the impact of ecosystems on economy and culture.

Citizen Science Opportunities
Volunteer Opportunities

https://cei.sonoma.edu/

- Full calendar of events: cei.sonoma.edu/calendar
- Recordings of past events: cei.sonoma.edu/calendar/past

Stewards of the Coast and Redwoods

Docent and Community Education Program

The Stewards of the Coast and Redwoods is the "Cooperating Association" that provides interpretive services for Armstrong Redwoods State Reserve and the Sonoma Coast State Park. Check their website for more information about these great opportunities for you and your students, **or call 707-869-9177**

Citizen Science Opportunities
Volunteer Opportunities

General Volunteers in Parks Orientation: August 28

www.stewardscr.org

Teen Tech San Francisco

Our mission is to inspire and empower the next generation of tech innovators.
TeenTechSF is an interactive tech community for teens to innovate, collaborate, and create.
Run by and for teens, all our events are free.

Since launching, TeenTechSF has connected 1,600+ teens on five continents with more than 100 tech leaders from Apple to Zynga offering presentations and workshops on design thinking, coding, app

creation, robotics, 3-D printing, entrepreneurship, professional networking, tech careers, and global tech trends.

Like the TeenTechSF Facebook page for the latest news & events.
See the TeenTechSF@MarchFor Science video and TeenTechSF March For Science Facebook recap/photos.

website: https://teentechsf.org/#teentechsf

Water Education Foundation

https://www.watereducation.org/

Wildcare

Wildcare is a (primarily) Marin County organization dedicated to the care and protection of wildlife. They have a variety of programs for teachers and volunteers.

Volunteer Opportunities

Check out Wildcare at: www.discoverwildcare.org

Wildlands Conservancy/Jenner Headlands Preserve Events

Relatively few people know about the Jenner Headlands Reserve on the Sonoma Coast. It is a beautiful place, and they provide some great opportunities.

Volunteer Opportunities

http://www.wildlandsconservancy.org/preserve_jenner.html

RESOURCES:

Bay Area Teen Science

this site posts opportunities for teens to get involved in science in a variety of ways. Although many of the postings are now outdated, they can still provide ideas and sites for teens to check back with later.
http://bayareateenscience.org/

Bay Model Visitor Center

The San Francisco Bay Model, in Sausalito, is a scale model of the San Francisco Bay. It is used for scientific research and modeling, and is also available for school tours. They also offer a variety of events and programs. Go to: http://www.spn.usace.army.mil/Missions/Recreation/BayModelVisitorCenter.aspx

Brain Pop

Subscription based lessons on a wide variety of topics. https://www.brainpop.com/

California Academy of Sciences

The CalAcademy has a variety of programs that would be of interest to youth who are interested in science. They include

- Teen Science Night Digital Learning Tech Teens
- Careers in Science Intern Program
- Teen Advocates for Science Communication (volunteer program)
- Teen Think Tank Science Action Club

Find out more at: https://www.calacademy.org/youth-programs

CA Department of Fish and Wildlife Hatchery Education Program

The Hatchery Education Program offered by California Department of Fish and Wildlife's has opened their Fall enrollment period. Apply now for a free one hour session of multimedia learning about fish, watersheds & more! Dynamic activities illustrate key concepts and encourage critical thinking with subject matter aligned with learning standards specific to grade level. The application for Fish Academy, a guided activity based learning day at Don Clausen Fish Hatchery at Warm Springs Dam in early 2017, is also available now. Contact Sastra McGinley at sastra.mcginley@wildlife.ca.gov or (707) 280-3084 or visit www.wildlife.ca.gov/Regions/3/HEP

CA. Department of Parks and Recreation

The California Department of Parks and Recreation has several "Guides for Educators" available that may be of interest to *Grapevine* subscribers. These include resources for teaching about both historic parks and natural parks. Some are available for downloading, including some that I (Mike Roa) wrote. I can provide workshops/staff development on those that I wrote. You might be interested in taking a look at:

The Conifer Connection: A Resource for Learning and Teaching about Coniferous Forests and Watersheds

A Guide to the Side of the Sea: A Teacher's Guide for Field Trips to Rocky Intertidal Areas

Redwood Ed: A Guide to the Coast Redwoods for Teachers and Learners

} I wrote these three.

A Teacher's Guide to Sonoma State Historic Park

Allensworth: A Piece of the World, A Teacher's Guide with Student Lessons and Resources

California State Capitol Museum School Packet (Teacher Version) (Student Version)

Governor's Mansion State Historic Park Teacher's Guide

Indian Grinding Rock State Historic Park and Chaw'se Regional Indian Museum School Tour Information

Tijuana Estuary High School Teacher's Guide

Check them out at: https://www.parks.ca.gov/?page_id=25535

Climate Change Educational Materials from the U.S. E.P.A.

Find climate education teaching tools (http://go.usa.gov/3AVx9) and introduce your class to a A Student's Guide to Climate Change. (http://go.usa.gov/3AV3G

Environmental Protection Agency Resources

The U.S. E.P.A. has a variety of resources that you may find useful. Check them out at: usaepa@service.govdelivery.com

U.S. E.P.A.

Activity Book for Elementary Age Students

How do you describe to students what the EPA does?
Use our newest activity book for elementary age students to help introduce them to EPA. Kids can learn about the different ways the EPA works to protect our environment and our health. It's a simple, straightforward guide suitable for children of all ages.

Download the PDF. (https://go.usa.gov/xn946)

Find more downloadable and hardcopy resources at the National Service Center for Environmental Publications. (https://www.epa.gov/nscep)

Evolution Videos

Shape of Life offers FREE classroom videos depicting the evolution of the animal kingdom on planet earth. Students and educators from all over the world explore animal adaptation, animations, and behaviors along with the amazing scientists who bring their stories to life. We also offer a rich selection of NGSS materials including lesson plans, readings, illustrations and activities that inspire a deeper dive into the phyla that explain so much of our existence.
http://www.shapeoflife.org/

Geothermal Education Resources

The Geothermal Education Office, in Tiburon, has a wealth of teacher resources on geothermal energy, including slide shows, videos, classroom materials, maps, lists of web sites, and more. go to: http://geothermaleducation.org/ or contact them at: 24hrcleanpower@gmail.com

Headlands Institute/Naturebridge…Sausalito

A variety of environmental science opportunities for grades K-12 are available at the Headlands Institute.
They also have professional development workshops for teachers (formal and non-formal), and a variety of classroom resources. Go to: http://www.naturebridge.org/golden-gate

iNaturalist

iNaturalist is a Web site that allows **citizen scientists (like you and your students!)** to post pictures and information about plants, animals, and other science that they see in their yards and travels. It is a GREAT site for your students to not only explore but to contribute to. Go to: www.iNaturalist.org

An example of the use of iNaturalist at the Jenner Wildlands Preserve can be seen at:

http://www.inaturalist.org/projects/jenner-headlands-preserve-inaturalist-notebook?utm_source=Jenner+Headlands+Community+Meeting+2015&utm_campaign=JHP+Analytics&utm_medium=email

and another example can be found at: **www.protecthabitat.com**

Resources from the Marin Co U.C. Cooperative Extension Service

The Marin County U.C. Cooperative Extension Service has teaching materials on a variety of topics, including sudden oak death, trees/forestry, stewardship, agriculture, and more.. Go to:
http://cemarin.ucanr.edu/Programs/Custom_Program816/Environmental_education_resources/

Marin Co. Resource Links:

The County of Marin has compiled a list of environmental education resource links for adults and for kids. Go to:
http://www.marincounty.org/depts/pw/divisions/mcstoppp/archive/resources-for-schools

Marin Master Gardeners

Dig It. Grow it. Eat it. A workshop

A one-day workshop on edible plants and nutrition for third and fourth graders, led by UC Marin Master Gardeners and held at the Marin Art and Garden Center. Students will learn to identify edible plant parts and about how plants grow, including the science of pollination and propagation.

- **Station 1 - Edible Plant Parts**
- **Station 2 - How Plants Grow**
- **Station 3 - Plant Seed Science**
- **Station 4 - Plant Propagation**
- **Station 5 - Get in the Dirt**
- **Station 6 - Plant Pollination**

If you are interested in this program, please contact UC Marin Master Gardeners Help Desk.
Email: HelpDesk@MarinMG.org, or call: (415) 473 – 4204

Marin – Sonoma Mosquito Abatement District

Free Science Presentations

The Marin/Sonoma Mosquito & Vector Control District offers free presentations about vectors (mosquitoes, yellowjackets and ticks) to any school in Marin and Sonoma Counties. The presentations focus on the biology of vectors and how students can protect themselves from these critters. Visit http://bitly.com/educationdept for more information, or contact Eric Engh at erice@msmosquito.com to be added to our scheduling list.

Mystery Science (a.k.a. Mystery Doug)

Lessons based on searching for answers to questions on a variety of topics.
Schools or teachers can try out some of these lessons for free. Fee for unlimited access.

www.mysteryscience.com

Ocean Currents Radio Program

The first Monday of every month Cordell Bank National Marine Sanctuary produces a live radio program on Community Radio for West Marin called Ocean Currents. Hear from ocean experts as you learn about the importance of a healthy ocean.

Broadcast live in the West Marin listening radius and live online at www.kwmr.org, 1-2 pm. The shows are all archived on the Cordell Bank sanctuary website here, or you can subscribe to the podcast.

Looking for a good resource online to get ocean wildlife photos for educational use?

Check out the National Marine Sanctuaries online media library
Download photos and video footage for free for educational use and check out the marine sanctuaries online encyclopedia. There are 4 National Marine Sanctuaries in CA. Do you know which ones are closest to you?

NOAA Resources for you

The folks at the Cordell Bank National Marine Sanctuary and the National Oceanographic and Atmospheric Administration (NOAA) have a variety of resources and opportunities available. Check the opportunities out at http://cordellbank.noaa.gov

Planet Bee Foundation

Planet Bee Foundation is a Bay Area nonprofit dedicated to creating a green-minded generation through environmental stewardship, using the lens of the struggling honey bee to teach the power of individual action. We have expanded our offering of hands-on educational programs, each of which can be individually tailored to fit a school's needs, wants, and location. Every lesson is in line with Next Generation Science Standards and grounded in the philosophy of E-STEM learning. We are now taking sign-ups for the 2018-19 school year! Our calendar fills up quickly, so check out our website at planetbee.org and sign up now!

Planet Bee now offers one-day and year-long programs. The school program overview page on our website lays out each program offering, their alignment with E-STEM and NGSS, and our updated pricing structure. Need-based discounts and sponsorships are available.

All of our programs are developmentally appropriate and designed to address all learning styles. Most programs involve observation of (contained) live bees, games, hands-on activities, and plenty of room for inquiry, creativity, exploration, and discussion. We focus on conservation techniques and environmentalism in every program.

One-day workshops include: Humble Honey Bee, Bee-ometry, Native Bees of California, Wanna-Bee an Engineer?, Hive Dive Live
Year-long programs include: ZomBee Watch, Adopt-A-Hive, Wanna-Bee an Engineer?, Honey Bee Series, Native Bee Series, All Bees Series

We have also added a new format for High School Programs!

Please email our Program Director, Sarah Thorson, at programs@planetbee.org if you have any questions, or sign up for programs via the online registration forms on our website, www.planetbee.org. Together we can change the world - one bee and one student at a time!

Point Blue (Point Reyes Bird Observatory)

At Point Blue, our mission is to advance the conservation of birds, other wildlife, and ecosystems through science, partnerships, and outreach. Our 140 scientists work to reduce the impacts of habitat loss, climate change, and other environmental threats while promoting nature-based solutions for wildlife and people, on land and at sea.
In addition to the scientific work done by the folks at Point Blue, they have a variety of educational programs. Go to:
http://www.pointblue.org/

Sonoma County Wildlife Rescue

Presentations

We love to give educational presentations to groups of all ages! We make each presentation to match your group's unique needs. We can talk on a variety of subjects, including ecology, wildlife rehabilitation, and cohabiting peacefully with wildlife. Presentations may include Powerpoint, skits, games, or specimens.

Tours

Each presentation at SCWR includes a tour of our Educational Wildlife Community. Our community is comprised of non-releasable wildlife in natural enclosures. Animals include mountain lions, coyotes, raccoons, and many more!
If you would like to sign up for one of our presentations, please call (707) 992-0274 or email us at education@scwildliferescue.org.

Web site: http://www.scwildliferescue.org/presentation-at-scwr.html

For information, contact Linnaea Furling at: education@scwildliferescue.org or 707-992-0274

Sonoma Resource Conservation District:

Education

LandSmart Education® creates connections and inspires conservation through a series of engaging educational opportunities for community members of all ages. Youth programs offer innovative hands on learning experiences at local farms. A distinctive public outings series highlights local protected agricultural properties and the importance of conservation as a tool in working landscapes in partnership with local landowners. Our annual workshops are designed to deliver cutting edge information and resources about land management techniques available through RCD and partner programs with topics including water management and conservation, fish and wildlife habitat enhancement, erosion control, soil health, and carbon sequestration.
Education programming includes:

- FARMS Leadership Program- high school youth
- TEAM Program field trips- elementary school students
- Agricultural Heritage Series- for members of the public

- LandSmart Workshops- designed for landowners and managers

The California Academy of Sciences, the Exploratorium, and other organizations periodically offer free "Teen Science Night" events. Partners include Space and Science Museum, de Young Museum, Oakland Zoo, San Francisco Zoo, Marine Mammal Center, NASA and others. Do (or have your students do) an Internet search for "Teen Science Night" for upcoming events.

Teen Tech San Francisco

Our mission is to inspire and empower the next generation of tech innovators.
TeenTechSF is an interactive tech community for teens to innovate, collaborate, and create.
Run by and for teens, all our events are free.

Since launching, TeenTechSF has connected 1,600+ teens on five continents with more than 100 tech leaders from Apple to Zynga offering presentations and workshops on design thinking, coding, app creation, robotics, 3-D printing, entrepreneurship, professional networking, tech careers, and global tech trends.

Like the TeenTechSF Facebook page for the latest news & events.

See the TeenTechSF@MarchFor Science video and TeenTechSF March For Science Facebook recap/photos.

This Week in California History…

is a new site for learning about California history, including California's science and environmental history. ThisWeekinCaliforniaHistory.com is a digital playground for California history and geography. It posts what happened in California over 500 years a week at a time; from natural history to LGBT milestones and including science events like 19th century patents by women in California. The site is free, non-commercial and full of interesting content.

U.S. Forest Service:

You may now order FREE sets of scientist cards from our web site! The cards feature Forest Service scientists and are a great way to introduce students to different science careers. To view the variety of cards we have, please visit http://www.naturalinquirer.org/scientists-v-92.html. We also have 2 lesson plans to accompany the cards. These lesson plans are available as pdf files on the web page listed above and the direct links are: http://www.naturalinquirer.org/UserFiles/File/FinalScientistsCardSeriesLessonPlan.pdf and http://www.naturalinquirer.org/UserFiles/File/CardLessonPlans_StealingBundles(1).pdf.

To order your free sets of cards today, please visit http://www.naturalinquirer.org/Scientist-Card-Ordering-Page-v-155.html.

We Save the World

We Save the World is a Santa Rosa-based charity founded to inspire young eco-heroes to protect nature and their futures. Our free web-based Eco-Hero Launchpad makes it fun and easy to learn about environmental causes and write short persuasive stories using our templates and beautiful photographs to fundraise for a youth's chosen cause among family and friends.

For schools, We Save the World's website also provides an Educator version of the Eco-Hero Launchpad. This version can be used by PTA's for school-wide fundraising. We Save the World's website also provides inspiring environmental songs and access to films and curriculum ideas, including our locally produced 10 minute film, "It Only Takes a Moment" (available on YouTube), which inspires youths to understand waste processing in Sonoma County and aspire to process their own trash responsibly. For more information visit: https://www.wesavetheworld.org/.

Wet Gazette

The Water Education Foundation and California Project WET have changed the format for their Web site for water education resources. This excellent source for water education resources includes:

- Trending: What's Happening Now in California Water
- Water Topics: News, Events, and Information by Topic
- Aquafornia: What News You Need to Know
- Aquapedia: An Online Water Encyclopedia
- A Quicklink section giving upcoming events, and resources for purchase

For the spring issue of the Project WET Gazette, go to:
http://www.watereducation.org/publication/spring-2018-california-project-wet-gazette?utm_campaign=Welcome%20to%20Spring%2C%20California%20Project%20WET%20Alumni%21&utm_medium=email&utm_source=bundle_and_blast
For everyone seeking workshops, we have a variety for you to choose from this summer and a few already posted for the fall at the Foundation's website at workshops and Special Workshops and Events. We also have lots of non-school related 'Events' for those who just want to get away!

Wildcare/Terwilliger Nature Education Programs

The Wildcare's Terwilliger Nature Education Programs offer a wide range of environmental education opportunities for K-12 classrooms, including:

-**Live Wildlife Ambassador Program:** Three wildlife ambassadors will visit your classroom for an unforgettable presentation. Possible wildlife visitors include a Northern Spotted Owl, Virginia Opossum, California Desert Tortoise, Red Tailed Hawk, Gopher Snake and many more!

-Nature Hikes: Guided discovery hikes are offered at four locations (Spring Lake, Miwok Meadows, Ring Mountain, Muir Woods)

-**Nature Van:** Students will explore touchable taxidermy, bones and biofacts in this interactive presentation at your site. Choose from a variety of topics including California Wildlife, Birds of a Feather, Marvelous Mammals, Redwood Giants, Wild Wetlands, Ocean Adventures and Going Green.

-**Center Tours:** Meet our non-releasable rescued wildlife ambassadors in a guided tour around our outdoor courtyard and museum. Each tour includes a special animal encounter with one of our wildlife ambassadors.

Each classroom automatically qualifies for a scholarship that matches the percentage of the student body enrolled in the Free and Reduced Meal Program.

For more information or for additional teacher resources, visit http://www.wildcarebayarea.org/education or email tory@wildcarebayarea.org

WATER WEBSITES OF INTEREST

Visit the USA

Here you will find lots of great information and tips on visiting and traveling in the USA. No two trips are alike, so you will find information in this section for a variety of trip types. Whether you prefer staying in a resort or camping under the stars, the site includes details travelers need to be safe and happy a trip. Being prepared early and knowing what to expect will help reduce traveler stress and be more able to enjoy the unexpected events of travel. This website has done a lot of the 'Wet Vacation' research on states for students – and each state description often includes links to state travel sites that highlight regions within the state, such as the California travel website below.

Visit California

If you know which part of California is of interest but you still need some guidance, click on *"Map,"* and then explore one of the 12 geographical regions of the state. We've organized our content—including videos, a printed visitor's guide and even travel tips—with an eye toward helping find what you want quickly and easily. Searching this site is simple: If you already know what you're looking for, type the keywords into our search bar at the top of the page. The "hamburger" menu in the top right corner of the page is another great resource—it has links to articles and other content organized around interests.

National Park Service: Plan Your Visit

Are you ready? Whether you want to explore local places or plan a vacation, you'll find a park to suit your interests! The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. This is a wonderful website to pair with or expand on *'Discover the Waters of Our National Parks' (p: 495)* or the California version of the activity!

U.S.G.S. – The National Map

As one of the cornerstones of the U.S. Geological Survey's National Geospatial Program, The National Map is a collaborative effort among the USGS and other Federal, State, and local partners to improve and deliver topographic information for the Nation. It has uses ranging from recreation to scientific analysis to emergency response. The National Map Viewer is the one-stop destination for downloading map data and products. It uses easy to navigate foundational base maps and makes it simple to download products such as the US Topo.

U.S. Climate Data

The purpose of the U.S. Climate Data is to inform people about the climate in the United States. This website was developed by Your Weather Service. The website includes monthly and daily data for temperature, precipitation, snowfall and sunshine for multiple locations in every state. The monthly data also includes a climograph of the average precipitation, maximum and minimum temperature by month for each location that can be opened separately in its own page to copy. Each location also includes Google map link to see where it is located and a link to the current weather forecast at that location. The page also links to climate.eu where one can find monthly data for countries in Europe and Africa.

NOAA: U.S. Climate Atlas

These maps use daily observations of temperature and precipitation from over 10,000 stations in the U.S. based on new methodologies to quality control the daily data, summarize the daily data into monthly values and the creation of maps to visualize the information. There are maps for minimum temperature, maximum temperature, and precipitation. There are two types of data that can be displayed; maps for a particular month and year from 1895 to present, or climatology maps. The climatology maps represent average values from 1981 to 2010. These are also known as the "1981-2010 Normals".

NOAA: Defining Climate Normals
You're looking forward to taking a much-deserved vacation in four months, and you want to visit a U.S. city you've never been to before. So, how do you decide where to go? Perhaps you'll consider places where you can expect your ideal temperatures. But, at four months out, your trusted weather forecast probably won't be much help in finding locations that meet your temperature criteria. Fortunately, our scientists have calculated the "normal" temperatures you can expect to see each month at locations across the United States. We call them Climate Normals, and we compute a new installment every decade.

ESRI: Severe Weather Public Information Map
Manage your severe weather response with live feeds and sensor data. This map features live feed layers for Severe Weather across the United States and Canada and displays the predicted ice accumulation for the next 72 hours across the Continental United States. Data are updated hourly from the National Digital Forecast Database produced by the National Weather Service.

NOAA: Climate Data Primer
Heading out for a walk on a chilly spring morning, you notice misty clouds on the hills in the distance. You're feeling eager for summer to arrive, but the hillsides are just beginning to green up after the end of winter. You wonder, "Is it cooler than usual this spring? I think I'm usually wearing shorts by this time of year." Thinking about the weather, you recognize what you're really concerned about is if it will rain on your barbecue this weekend.

NOAA: Historical Climate Summaries – New Version
The Regional Climate Centers (RCC) deliver climate services at national, regional and state levels working with NOAA partners. The Regional Climate Center data interface is being updated, but you can already start using the new version. Click *'OK'* on the note about the page not loading Google Maps correctly, then choose one of the two ways to use the map as described below the map. Click on any data point that appears to get more data than you probably want! This website includes the '30-year normals' used in the U.S. Climate Data locations, the maps in the U.S. Climate Atlas – AND you can get all the raw data available for the life of each gauge on the RCC map!

NOAA: Comparative Climatic Data
The Comparative Climatic Data tables of meteorological elements outline the climate conditions at major U.S. weather observing stations, Puerto Rico, and the Pacific Islands. The stations list is alphabetically by state. The table arrangement is so a single table of the same element allows the user to compare the values for different locations. Some elements will not be in the table for weather stations that do not regularly report that element. This site also allows users to view data and graphs of temperature and precipitation Climate Normals for over 9,800 stations across the United States.

US EPA: Climate Change Indicators: Weather and Climate
Rising global average temperature is associated with widespread changes in weather patterns. Scientific studies indicate that extreme weather events such as heat waves and large storms are likely to become more frequent or more intense with human-induced climate change. This chapter focuses on observed changes in temperature, precipitation, storms, floods, and droughts.

Real World Learning Objects: Using Excel to Create a Climograph
A climograph is a chart commonly used to graphically display both annual temperature (highs, lows, and averages) and precipitation information for a city or region. Meteorologists and climatologists use climatograms to understand the general climate of a region. They are also frequently included in travel books and tourism brochures so interested visitors can select the "best" time of year to visit a certain location. This website walks one through how to use a spreadsheet program to create a climograph, and then use and analyze the graph to make a recommend times of the year to visit their area of study.

GardenZeus: California Climate Zones
The same weather and climate factors that may affect vacation plans also come into play when planning what to plant in your garden. GardenZeus California Climate Zones where developed by taking into account many factors including seasonal climate, temperature averages, elevation, frequency of frosts and precipitation. The website includes a wonderful synopsis of the prevailing weather and climate in each of their California climate zones, which upon clicking on shows a list of garden plants recommended for the region.

Desert research Institute: Stories in the Snow
DRI is pioneering an exciting and unique approach to the science of snow. The Stories in the Snow project engages community members as citizen scientists in real data collection and research throughout the Sierra Nevada. Every snowflake is unique, and the shape of freshly-fallen crystals can tell us about real-time atmospheric conditions. Using smartphone technology, you can help track the path a snowflake has taken through the atmosphere!

California Project WET Supplemental Materials Page
Remember to check this Water Education Foundation web page to find California specific supplements and other materials for use with Project WET activities, including other activities tied to weather and climate such as the California version of *'Discover the Waters of Our National Parks,' 'Snow and Tell' or 'Back to the Future.'*

We Save the World

We Save the World is a Santa Rosa-based charity founded to inspire young eco-heroes to protect nature and their futures. Our free web-based Eco-Hero Launchpad makes it fun and easy to learn about environmental causes and write short persuasive stories using our templates and beautiful photographs to fundraise for a youth's chosen cause among family and friends.

For schools, We Save the World's website also provides an Educator version of the Eco-Hero Launchpad. This version can be used by PTA's for school-wide fundraising. We Save the World's website also provides inspiring environmental songs and access to films and curriculum ideas, including our locally produced 10 minute film, "It Only Takes a Moment" (available on YouTube), which inspires youths to understand waste processing in Sonoma County and aspire to process their own trash responsibly. For more information visit: https://www.wesavetheworld.org/.