

Brought to you by  
Mike Roa  
mroa@sonic.net

# Grapevine



February, 2023

**\*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.**

## *What is the Grapevine?*

The *Grapevine* is a free monthly e-newsletter intended to help inform North Bay Area educators about science and environmental education resources, events, opportunities, etc. To receive the *Grapevine*, just send an email asking to be added to the *Grapevine* email list to: [mroa@sonic.net](mailto:mroa@sonic.net)

*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: [mroa@sonic.net](mailto:mroa@sonic.net) Submissions are usually due on the fifth of the month. I plan to send the Grapevine the around the tenth of each month. (See Submission Due Date below.)*

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

## **Submissions Due:**

Submissions for the next *Grapevine* are due **March 5**. The next issue will include events approximately through Sunday **March 19**.

## **Sharing...resources, information, opportunities**

## **Discovery Day**

The 2023 North Bay Science Discovery Day is Saturday, March 11.

**Over 60 exhibitors will be providing hands-on activities for kids of all ages!**

This event is FREE, including FREE Parking at the Sonoma County Fairgrounds.

Visit the web site at [northbayscience.org](http://northbayscience.org)

Many of our exhibitors would like to have **high school or college students** help with their activities. If you know of high school or college age students who would like to help,

have them contact me ([mroa@sonic.net](mailto:mroa@sonic.net)) or go to the Discovery Day website.

## Stewards of the Coast and Redwoods

### Seal Watch Volunteer Training

Saturday, February 11, 2023

9:00 am - 12:30 pm

Learn about Seal Watch!

[MORE INFO](#)

### U.C. California Naturalist Certification Winter & Spring 2023

Thursday, February 16, 2023 - Thursday, April 20, 2023

6:30 pm - 8:30 pm

[MORE INFO](#)

### Redwood Education for Docents & Educators

Friday, February 17, 2023

9:00 am - 12:00 pm

Learn about Coast redwood

[MORE INFO](#)

### Tidepool Volunteer Training and Field Visit

Saturday, February 18, 2023 9:00 am - 3:00 pm

Observe Tidepool Animals on the Sonoma Coast

[MORE INFO](#)

### Seabird Monitoring Volunteer Training

Thursday, March 2, 2023 6:00 pm - 7:30 pm

Observe and monitor seabirds

[MORE INFO](#)

**Sonoma Coast Volunteer Training**

Saturday, March 4, 2023

9:00 am - 2:00 pm

Learn about the Sonoma Coast from your home!

**[MORE INFO](#)**

**Armstrong Redwoods Docent Training - March**

Tuesday, March 14, 2023

9:00 am - 12:00 pm

Armstrong Redwoods Educational Workshop

**[MORE INFO](#)**

**Forest Visions: Acrylic Painting Demonstration with Jennifer Laurel Keller**

Saturday, March 18, 2023

1:00 pm - 3:30 pm

See the forest through the eyes of an artist

**[MORE INFO](#)**

**Stunning Seascapes: Acrylic Painting Demonstration with Jennifer Laurel Keller**

Saturday, March 25, 2023

12:00 pm - 2:00 pm

See the coast through the eyes of an artist

**[MORE INFO](#)**

# Forestry Institute for Teachers (FIT)

This professional development opportunity is one of the best that I've ever done. You'll learn a lot about forests, forestry, and forest conservation. You will also receive some great curriculum materials as well as "room" and meals. You can even receive a \$200 stipend for doing a curriculum project of your own design. The sessions usually fill up, so I recommend registering soon. Here's the basic info:

## *Introducing NEW location in EL DORADO County* **Early Registration OPEN**

[Forestry Institute for Teachers \(FIT\)](#) is a week-long residence workshop for California educators.

Join natural resource professionals and credentialed educators to explore forest ecosystems and the impact they have on our communities. **40 hours of Academic Credit available!**  
Participants receive:

- Hands on training in California Content Standards using [Project Learning Tree](#) and [Project WET](#) curriculum guides
- Skills and materials for action-oriented student and classroom projects
- Meals and lodging
- 3 Continuing Education Credits from UC Davis or CalPoly Humboldt
- \$200 curriculum project stipend

Contact [forestryinstitute@gmail.com](mailto:forestryinstitute@gmail.com) for more information

### **Tuolumne, June 25-July 1**

Sierra Outdoor School, Sonora

### **Humboldt, July 9-15**

Humboldt State University, Arcata

### **Shasta, July 16-22**

Camp McCumber, Shingletown

### **El Dorado , July 23-29**

Blodgett Forest, Georgetown

\* Application includes room and board for the week.

[Apply Here](#)

## From Audubon Canyon Ranch:

Conservation Science Intensive is a residential immersion program that gives teens an opportunity to gain hands-on experience in science, explore different pathways into the field of conservation, and build relationships with mentors across multiple professions. Now in its eighth year, the program draws students from across the country.

Conservation Science Intensive centers the feminine, which includes those who are socialized as, or identify with, the terms girl/young woman, as well as those who transcend our inherited gender binaries. We are committed to creating safe, inclusive, and accessible spaces for all participants.

The program is designed to encourage young women to develop a stronger connection to themselves, each other, and the natural world while learning about and practicing conservation science, stewardship, and nature journaling. The 5-day, 4-night collaborative expeditionary experience also challenges participants—individually and collectively—physically, creatively, and intellectually, as they work with and learn from Audubon Canyon Ranch’s highly-skilled conservation biologists, ecologists, educators, and guest instructors in a variety of conservation fields.

The 2023 program will be based from our Martin Griffin Preserve in Stinson Beach and will include several daytime excursions to nearby nature preserves, tide pools, ranches, and other conservation points-of-interest.

July 5-9 The application period is now open. The deadline to apply is February 22, 2023.

[APPLICATION FORM >](#)

## From the Climate Center:

**Would you like your high school students to explore climate solutions that hold some hope for the future?** A group of retired educators (HS, CC, and four-year college level), working with the local Climate Center, have created some great materials for high school presentations. The 60-90 minute presentation involves an interactive PowerPoint followed by a dynamic small-group exercise in thinking about local solutions to climate issues. In Science classes, we emphasize the carbon cycle, sequestration, powering down, and civic engagement. We work to fit with state frameworks and your course goals.

Our own goals:

- support young people to have hope and to act
- increase the skilled involvement of local young people in local, state, national, and global advocacy on climate issues
- learn from young people their resources and experiences, and share our own

Please let us know if you'd like a visit! You can reply Contact Paula Fogarty [admin@speakeasies.biz](mailto:admin@speakeasies.biz) or Leah Halper [lhalper@garlic.com](mailto:lhalper@garlic.com)

# California Native Plant Society. Milo Baker Chapter

**General Speaker Series:** **February 21, 2023 at 7:30 P.M.**

Engaging Families in Nature

Theresa Giacomino, Interactivity Instigator  
Children's Museum of Sonoma County

Theresa's presentation will be about engaging families to care about nature by presenting hands-on experiences that excite a variety of interests.

Theresa Giacomino grew up building forts and climbing the trees in the hills and fields of Mill Valley, Ca. She considers her days tripping with Terwilliger in the 1970s as some of the most influential experiences in her life. She pursued a career working with children in preschools and after-school programs bringing the importance of play to children while continuing to learn alongside them. She currently works for the Children's Museum of Sonoma County as the Interactivity Instigator where she develops engaging hands-on programs for families of children.

Luther Burbank Art and Garden Center  
2070 Yulupa Ave.  
Santa Rosa, CA  
For Zoom link go to [Milobaker.cnps.org](https://milobaker.cnps.org)

## Wilderness First Aid

April 1 & 2, 2023

Mendocino Woodlands State Park

Fee: \$225

Tuition includes two days (16 hours) of instruction with Safety Training Pros, 3 year certification, and two lunches.

Camping Cabins available for an additional \$55 per night.

For registration information, please contact Jeanne Smith. [education@mendocinowoodlands.org](mailto:education@mendocinowoodlands.org)

## UC-CSU Environmental and Climate Change Literacy Projects

The **UC-CSU Environmental and Climate Change Literacy Projects** (ECCLPs, pronounced "eclipse") [initiative](#) is advancing prekindergarten through 12th grade (PK-12) climate and environmental literacy, justice, and action! ECCLPs Executive Director Kelley Lê is seeking 15 committee members for three committees (45 members total) that will focus on: 1) research; 2) PK-12 teaching and learning; and 3) community-based partnerships. Higher education faculty, staff, and graduate students, PK-12 educators, and individuals from community-based organizations involved in teacher education, climate and environmental literacy, research and evaluation, sustainability, environmental justice, Indigenous knowledge, and partnerships that elevate climate and environmental literacy, justice, and action may be interested in these compensated roles that require a minimum of 15 hours annually.

See [eligibility and requirements](#).

**[Applications](#) are due February 28, 2023.**

All recruitment listings are [posted online](#) and announced via email.

## **Bodega Marine Lab: Seminar series has restarted!**

**Science Uncorked** returns for Winter-Spring 2023! Science Uncorked is an informal outreach seminar series for the public, hosted at the wine and food bar Gourmet au Bay in Bodega Bay. Since 2013 Science Uncorked has hosted over 100 public lectures featuring scientists from Bodega Marine Laboratory (BML), from UC Davis main campus, and from the greater North Bay Area science community, including non-profits and government agencies. Come for the science, stay for the wine. Or vice versa! See next page for schedule.

Happy Hour starts at 4pm, food is served until 6pm.

Admission is free.

Find us on Facebook for regular updates: [www.facebook.com/ScienceUncorked](http://www.facebook.com/ScienceUncorked), or email us at [ScienceUncorked@gmail.com](mailto:ScienceUncorked@gmail.com)

Gourmet au Bay: 1412 Bay Flat Rd. Bodega Bay, CA 94923

### **Schedule:**

February 15th, 6pm - Cara Field - Stranded marine mammal response and care: a day in the life at the Marine Mammal Center

March 1st, 6pm - Gabe Tsuruta - Into the Uni-verse: turning pests into gold with restorative aquaculture

March 15th, 6pm - Robin Roettger - Long-term monitoring of estuaries in California

March 29th, 6pm - Marcela Prado-Zapata - Even oysters get sick sometimes: keeping up with oyster viruses on the West Coast

April 12th, 6pm - Sam Walkes - Follow the limpets: what we can learn about geographic range shifts from Giant Owl Limpets

April 26th, 6pm - Levi Lewis - I know what you did last summer: using plasmas and lasers to illuminate the clandestine lives of fishes

May 10th, 6pm - Manny Delgado - Climate change and mitigation: what's going on out here?

May 24th, 6pm - Sara Boles - Advances in California abalone conservation and production aquaculture

## **From the Forestry Challenge Teacher Newsletter:**

### **California Project WET Gazette — New Resources for Water & Climate Tools & Activities to Enrich the Study of Water with Your Students**

Welcome to a New Year, Project WET Educators! A variety of new or updated resources were released in the past few months, so I decided to highlight a variety of these tools for the [Winter Gazette](#). In addition to the resources, you'll find suggestions for Project WET activities to pair with each resource.

Keep an eye out for **Project WET** [workshops](#) and [special events](#) as we move through winter into spring. Multiple workshops are in planning and will be added as details are finalized. Project WET workshops and events currently open for registration in the new year include:

- A ['Climate Change and California Water' workshop](#) in the San Francisco Bay Area
- An opportunity to [explore drought and water conservation](#) in Solano County

# NOAA:

## California Bay Watershed Education and Training (B-WET) Grant

The NOAA California Bay Watershed Education and Training (B-WET) Program provides funds to support environment-based education throughout the watersheds of San Francisco Bay, Monterey Bay, and Santa Barbara Channel. Program priorities focus on building capacity for implementing climate literacy in classrooms. Funding Opportunity is now open through February 23, 2023.

## Ca. Coastal Commission Contests:

### Student Contest

### Climate Video Challenge (May 31st)

### Climate Video Challenge

For the Climate Video Challenge, California middle and high schoolers can submit a 3-minute video responding to the question, *What is your vision for a thriving future?* For details, including student brainstorming prompts, climate change resources, and all the rules and instructions, [click here](#). Submissions are open from now through May 31st, so teachers can include this project in their lesson plan whenever works best for them. Students can also enter independently.

## From the SSU Center for Environmental Inquiry:

Join an “Environmentally Ready” community working to eradicate nature deficit disorder. Become an Osborn Naturalist with this flexible training program or join us for any of the Naturalist Ed events.

## Climate and Sustainability Pledge:

Learn about what personal actions you can take on a daily basis that result in the greatest reduction in greenhouse gasses.

This pledge is the result of a one-year effort reviewing literature and speaking with leading scientists and regional practitioners. Whether you are ready for a little or a big change, there are options for you. Take the pledge and make a difference!

[Take the pledge here](#)

**For Questions**

**Galbreath Preserve (Mendocino County)**



Margot Rawlins, Galbreath Program Coordinator: [rawlinsm@sonoma.edu](mailto:rawlinsm@sonoma.edu)

**Osborn Preserve (Sonoma County)**

Kerry Winger, Outreach & Communications Lead: [winingek@sonoma.edu](mailto:winingek@sonoma.edu)

**Naturalist Ed Series**

Julie Wittmann, Nature Education Specialist: [julie.wittmann@sonoma.edu](mailto:julie.wittmann@sonoma.edu)

**Science Buzz Cafe**

**This Coming THURSDAY Night The HopMonk 'Abbey'**

Sebastopol, CA

**Host, Daniel Osmer ([daniel@economicbuzzcafe.com](mailto:daniel@economicbuzzcafe.com))**

**Come Early for Food & Drink**

**Schedule:**

**FEBRUARY 9TH      ABBEY      Bob Culbertson, Virtuoso      # 503**  
**THURSDAY 7PM      The Art & Science of the Chapman Stick**

"The Segovia of the Stick" with Special Guest: The Didgeridoo

**MARCH 9th      ABBEY      Dr. Ofer Zur, Forensic Psychologist      # 504**  
**THURSDAY 7PM      Psychotherapists, Shrinks & Therapy in the Movies!**

***BRINGING SCIENCE, ECONOMICS & CURIOSITY BACK INTO CULTURE ...***

***(707) 292-5281***

***[daniel@economicbuzzcafe.com](mailto:daniel@economicbuzzcafe.com)***

**Some interesting reading:**

In the February issue of ***National Geographic*** :

- The sea otter
- And short articles on identifying “protected” animal parts in clothing, the evolution of jaws

***TED Talks: Science Worth Knowing:***

New science-related talks are frequently posted.

check it out at <https://www.ted.com/topics/science>

## 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 stories from recent newsletters include:

- Amazon rainforest has global cascading climate effects
- China's "clean heating" laws improve air quality
- Study links ultra-processed food intake to higher risk of ovarian cancer
- MRI scans show impact of toxic stress on brain structure
- Study identifies 7 distinct symptoms of post-COVID syndrome

## 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.

Go to <https://scitechdaily.com/> Among many others, the **February 5** edition included:

- Tiny fairy-like robot flies by the power of wind and light
- Active molecule of beetroot juice significantly increases muscle force during exercise
- Tuning in to brainwave rhythms dramatically accelerated learning in adults
- Ancient fossilized feathers reveal secrets of ancient paleontology hotspot
- New DNA sequencing method lifts "veil" from genome black box
- Overcoming children's peanut allergies: boiled peanuts show promise
- A promising new treatment for hand osteoarthritis

## February Mystery of the Month: To Catch a Chill

Selected from [\*One Minute Mysteries: More Short Mysteries You Solve With Science!\*](#)

Take \$5 off this title this month only with code MMFEB at ScienceNaturally.com

### To Catch a Chill

"I can't believe my mother made me wear this heavy coat," Paige complained as she walked to school with friends one morning.

"My mother is the same way," Tyra said, splashing through a puddle in her heavy waterproof boots.

"Hey, wait a minute," Lin said, picking up her hat as it had blown off her head. "Were your mothers listening to that new radio station all the parents like that plays those old songs?"

"Yes!" Paige said. "I can't believe the music they play!"

"Some of those songs must be 20 years old!" Tyra added.

"It was on at our house, too," Lin said. "I heard the announcer say that it would feel like 25 degrees this morning and that is when my mom handed me these gloves."

"So what?" Paige asked.

"I see what Lin means," Tyra said, jumping from puddle to puddle. "At 25 degrees Fahrenheit, this water would be frozen. Water freezes at 32 degrees and below."

"I think our parents should start listening to a different radio station," Lin said.

"I don't think that would help," Paige said.

"Why wouldn't it? The people at the station clearly don't know anything more about weather than they know about music," Tyra said.

**Answer** (from the book):

“When the announcers said what the temperature would feel like, they were talking about the wind chill factor, not the air temperature.” Paige said. “Even though the air isn’t 25 degrees, this wind makes it feel like it is that cold. Wind chill is a measure of how cold it feels to us because the wind is blowing away the heat that our bodies make. Wind also causes faster evaporation of moisture from the skin, which makes the skin feel cooler. So, the wind chill factor number can be below freezing even though the air temperature is above freezing.”

**Mike’s comments:**

1. The wind doesn’t blow the heat away. Heat is a form of energy, not a thing. The wind blows away the warm air from near the skin, and also evaporates the warm moisture on the skin.
2. The “wind chill factor number” is not just a number...It is the effective temperature on the skin on the head at a given air temperature and wind speed.
3. Several wind chill factor charts/tables are available on the Internet. Have students decide which ones are most useful to them and explain why.
4. Several wind chill factor calculators are available on the Internet. Have students try them out.
5. Some of the tables indicate time until frostbite occurs. Have students investigate frostbite and its prevention.
6. Ask students whether the temperature given as 25 degrees was in Fahrenheit or Celsius, and how they know. Have them figure out what the Celsius equivalent of 25 degrees Fahrenheit would be.
7. other research topics:
  - How does hair help keep us warm? How do clothes keep us warm?
  - What is insulation? What sorts of materials make good insulators?
  - What are some good survival strategies if caught in a wilderness snow storm?

**Science Humor:**

ss I think I’ve lost an electron. In fact, I’m positive.  
That will be \$5 for the electrons. The neutrons are free of charge.

**Hot (Cool?) Links:**

**Slime mold is cool! Check it out here:**

<https://baynature.org/article/a-slime-of-ones-own/>

<https://www.scientificamerican.com/article/see-the-bizarre-fruiting-bodies-of-slime-molds/>

<https://baynature.org/article/ask-naturalist-mysterious-tiny-eggs/>

## *Live and Learn*

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

As I'm sure many *Grapevine* readers are, I've been interested in sea otters for a long time, so the article in the February *National Geographic* was very interesting to me. It includes a spread comparing the sea otter to river otters including such things as their adaptations for aquatic life. A couple of details that I didn't know:

The Russian population is considered a third subspecies.

Sea cucumbers are an important part of their diet in Alaska, and there is a commercial sea cucumber market/harvest.

Northern sea otters were released in Oregon in the mid-1960's, but they didn't make it.

A 60 pound adult eats about 15 pounds of meat per day.

## **2023 Kids to Parks Day School Grants Program!**

Applications are now being accepted from Title 1 schools for the **2023 Kids to Parks Day School Grants Program!** Please note - nonprofit organizations are not eligible to apply for this grant, but may help schools with their application process.

In honor of the 13th annual **Kids to Parks Day**, celebrated on May 20, 2023 – National Park Trust is pleased to offer our Kids to Parks Day School Grants Program. This year, we will grant the following:

- up to \$500 per classroom for a **distance learning experien**
- up to \$1,000 per classroom for an **in-park field trip**.

This program is designed to be **student-driven**, and **student-teacher collaboration is necessary**.

All applications must include a **stewardship element** and a **park-themed educational component** that focuses on either outdoor recreation and healthy lifestyles, environmental education/science, or history.

**The deadline for applications is Friday, February 17, 2023.**

We will send **grant notifications** on **March 1, 2023**.

Questions? Contact Emily Swanzy at [ktpschooigrant@parktrust.org](mailto:ktpschooigrant@parktrust.org).

[Apply Here](#)

## **Enter to Win the 13th Annual Arbor Week Poster Contest! Entries due February 13!**

[2023 Poster Contest Entry Form](#)

Each year California kicks off Arbor Week with a poster contest. California Arbor Week is an annual celebration of trees which takes place March 7 to 14. Across the state, communities honor trees. California youth are

encouraged to participate too by thinking about the importance of trees and creatively sharing their love and knowledge of them in a piece of art. Any California youth age 5-12 can submit a poster.

This year's theme is "**Trees Plant a Cooler Future.**" We want you to think about how trees have the power to make our neighborhoods a cooler place.

Have you ever visited a park on a hot summer day? Walking or playing under the sun's heat can make us hot, thirsty, and tired. But it can be magically different under the shade of a tree. In fact, on a very hot day, it can be up to 20 degrees cooler in the shade! Trees shade us from direct sunlight and cool us down through the natural air condition they produce when water moves up from the soil through the tree's roots and evaporates out of the tree's leaves into the air helping us cool down.

[To see the full page about this contest, click here!](#)

## **In-Person Field Trip with Planet**

San Francisco, Grades 4-12  
Wednesday, Mar. 1, 2023  
10 am-1 pm

Planet has a constellation of more than 250 Earth-imaging satellites that take photos of the entire planet every day. These photos are used to track changes around the world - for agriculture, deforestation, urban growth, and many more.

During this event, students will learn how these satellites are built and operated, and how unique data is extracted from the resulting images. Students will take a tour of the stunning satellite lab, see mission control, experience a day in the life of a satellite, extracting data from images, and hear from women across various different departments in the company about their journeys. All attendees will receive Planet stickers, pens, and notebooks!

[Sign Up for In-Person Field Trip with Planet](#)

## **Jobs:**

Now Hiring! **Mendocino Outdoor Science School (MOSS)**

**Location:** The Mendocino Woodlands State Park is nine miles east of the coastal village of Mendocino in Northern California. MOSS program operates during the spring and is a residential outdoor science school program for 4-8th graders focusing on experiential, discovery- based learning. Activities include exploration of forest, stream, pond, and marine ecosystems.

### **Teacher Naturalist**

**Qualifications:** Applicants should possess a strong background in the natural sciences and experience working with children. We are looking for enthusiastic, creative people who want to share their love for and knowledge

of the planet with young people. Preference will be given to those with a minimum of 2 years of experience in residential programming and/or degrees in science, education, and recreation. A California commercial license is helpful, but not mandatory.

Salary: \$17.50 per hour, 35 - 40 hour week during MOSS. Room plus board during MOSS program.

### **Camp Kitchen Manager:**

The Kitchen Manager works under the direction of the Education Director and is responsible for all aspects of food service for the 3 month education program. Duties include menu planning, food ordering, food pickup, food inventory and budget, preparation of breakfast, picnic lunch, and dinner, kitchen staff supervision, assisting students with chores, and regular kitchen maintenance in a well-appointed commercial kitchen.

Qualifications: Previous food service experience for large groups, including, meal planning, preparation, and kitchen maintenance. Ability to work around teaching staff and students while maintaining a cheerful, friendly disposition is a must!

Salary: \$24.00 - \$26.00 per hour based on experience, paid training, plus room and board

Contact: Please email resume, cover letter and reference list to: [education@mendocinowoodlands.org](mailto:education@mendocinowoodlands.org)  
Jeanne Coleman Smith, Education Director, (707) 357-3431

## **Join The Marine Mammal Center's Team**

The Marine Mammal Center is looking for 2 full-time positions in San Francisco.

### **Conservation Education Coordinator**

The Conservation Education Coordinator is responsible for impactful engagement with the community in support of the Center's goals to inspire people to take actions that protect marine mammals and the ocean. The coordinator is part of a team at our conservation education space at PIER 39 in San Francisco and will take a lead role in our visitor experience, including the use and maintenance of resources for guests and facilitating a high level of visitor engagement. The Conservation Education Coordinator frequently leads short talks, demonstrations, and other onsite programs, and will also work closely with the retail team and assist with supervision of the onsite store.

### **Conservation Education & Operations Manager**

The Conservation Education and Operations Manager is responsible for the successful management of The Marine Mammal Center's conservation education space at PIER 39. The Manager will lead a team of two full-time Coordinators, a number of part-time seasonal educators, and a pool of volunteers to successfully implement a community engagement plan that supports the Center's goals to inspire people to take actions that protect marine mammals and the ocean.

[To see the full listing for both of these positions, click here](#)

## Camp Director – Bearskin Meadow Camp

The Camp Director for Bearskin Meadow Camp is a strong, dynamic leader who is organized, passionate, motivated, and can communicate effectively with adults, teenagers, and children. The Camp Director is responsible for all aspects of DYF programs that take place at Bearskin Meadow Camp, as well as rental groups and overseeing the camp facility. The Camp Director joins the full Program Team in giving support to additional programs throughout the year that take place throughout Northern and Central California. The Camp Director contributes to the organization by supporting tasks requested by other departments and the Board of Directors. The Camp Director helps guide DYF to continuous improvement in program operations and fundraising.

[If this position sounds interesting to you, follow this link to see the full listing](#)

## Teacher Naturalist/Challenge Course Facilitator at Westminster Woods

**Westminster Woods'** beloved outdoor education program is seeking dedicated individuals who are committed to environmental and experiential education to join our team. Teacher Naturalists create unforgettable, hands-on learning experiences for students, primarily in 5-8<sup>th</sup> grade. Our program blends social emotional and environmental education to create a unique and student-centered learning experience.

Please view the [position description](#) or contact our Program Manager Casey ([Casey@westminsterwoods.org](mailto:Casey@westminsterwoods.org)) for more information."

**Daily Acts** is hiring for a [Special Projects Manager](#)

Url: [Special-Projects-Manager\\_Job-Announcement.pdf \(dailyacts.org\)](#)

The **California Academy of Sciences** is hiring! Our Teacher Professional Development team aims to support and empower classroom teachers. We are seeking a new team member to co-facilitate teacher workshops exploring inquiry, outdoor learning, equity in science teaching, and other pedagogical topics. We encourage anyone interested in supporting teachers with science to apply (even if they're not sure they meet all the requirements). The application deadline is November 4.

We would love your help spreading the word as widely as possible! If you feel comfortable doing so, please share this opportunity with your network, or with any specific folks you know who might be interested.

The job description and application can be found

here: <https://californiaacademyofsciences.applytojob.com/apply/ac9jtEiKnc/Teacher-Professional-Development-Associate>

The **Oakland Zoo** is hiring a new Vice President, Learning and Engagement. This is a great opportunity for a conservation-minded, strategic leader with a deep experience with education, community engagement and staff development.

Full position overview, application and contact information can be found at:

<https://apply.workable.com/edgility-consulting-4/j/BB27D7D3E1/>

## **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 returned to onsite programming for the 2022-2023 school year. K-12 schools can book either Aquarium-Teacher lead classroom programs (fee-based) or Self-Guided Tours (free).

#### **Available Programs:**

**Kinder** – Between the Tides: Learn about the animals that live in the tidepool and the adaptations they have in order to survive their ever-changing world.

**1-3<sup>rd</sup>** – Salmon!: Follow the salmon lifecycle from egg to the end and discover how human impacts affect its life journey.

**3-5<sup>th</sup>** -Sensational Sea Lions: Come 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

**6-8<sup>th</sup>** – Kraken Lab: Come and participate in a squid dissection and learn the ins and outs of this unique animal

**9-12<sup>th</sup>** – 3D Printing Lab: This brief introduction to 3D printing will enable your students to learn not only some of the history behind it, but also help print plates that will be used to aid the non-visual community.

**K-12<sup>th</sup>** – 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-12<sup>th</sup>** – 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](mailto:education@bay.org) for more information on any of these programs

Visit <https://www.aquariumofthebay.org/> and under the Education tab, you will be able to locate things like K-12 programs, teacher resources, eLearning modules, Plastic Free Campus, and Professional Learning Courses.

Aquarium Education Programs Webpage: [K-12 Programs – Aquarium of the Bay](#)

### **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](http://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 it 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

The BML offers public drop-in tours ~~most Fridays~~ from 2:00 – 4:00 for groups of less than 10 people. ~~Group tours can be scheduled for a minimal fee. call 707-875-2211.~~

They are closed to the public for now, but I expect that they will reopen some time this summer.

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%20Dup%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](http://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](http://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](http://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.crsce.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](http://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](http://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](http://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](http://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 opportunities.

### Citizen Science Opportunities

### Volunteer Opportunities

[volunteerprogram@marinwater.org](mailto: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.marinmammalcenter.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/>

## 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](mailto: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](http://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/](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](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](http://www.watereducation.org). 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.rwatershed.org](http://www.rwatershed.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](http://www.sciencebuzzcafe.org) (707) 292-5281 [daniel@sciencebuzzcafe.org](mailto: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](http://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](http://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](http://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](mailto: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](http://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](https://cei.sonoma.edu/calendar)
- Recordings of past events: [cei.sonoma.edu/calendar/past](https://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](http://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](http://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](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](mailto:sastra.mcginley@wildlife.ca.gov) or (707) 280-3084 or visit [www.wildlife.ca.gov/Regions/3/HEP](http://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](#)

[A Teacher's Guide to Sonoma State Historic Park](#)

} I wrote these three.

[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](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) (<http://go.usa.gov/3AVx9>) and introduce your class to a [A Student's Guide to Climate Change](http://go.usa.gov/3AV3G). (<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](mailto: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)** (<https://go.usa.gov/xn946>)

Find more downloadable and hardcopy resources at the [National Service Center for Environmental Publications.](https://www.epa.gov/nscep) (<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](mailto: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](http://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](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](http://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://cemarlin.ucanr.edu/Programs/Custom\\_Program816/Environmental\\_education\\_resources/](http://cemarlin.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](mailto: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](mailto: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](http://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.kwmmr.org](http://www.kwmmr.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](http://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](mailto:programs@planetbee.org) if you have any questions, or sign up for programs via the online registration forms on our website, [www.planetbee.org](http://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](mailto:education@scwildliferescue.org).

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

For information, contact Linnaea Furling at: [education@scwildliferescue.org](mailto: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](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>.

## **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
- Aquaforia: 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](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%20and%20blast)

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](mailto: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 were 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.'