

Solano Land Trust's Phenology Project

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The project's goal was to develop a self-sustaining citizen scientist phenology monitoring program that increases public participation with the outdoors and with nature and contributes data to nationwide climate change research.

The Solano Land Trust's (SLT) Phenology Program engages volunteers to become citizen scientists and participate in phenological monitoring of the seasonal changes in plants. A grant from the San Francisco Estuary Partnership funded an intern at SLT who developed a training session for volunteer citizen scientists understand phenological data collection. SLT's intern utilized the California Phenology Project of the National Phenology Network website as a tool for establishing a Phenology Program best suited for SLT properties and volunteers. Resources were adapted to create an SLT site-specific protocol, and then presented to new volunteers at several training sessions.

The Phenology Program teaches observational skills and an awareness of our connection to nature. Citizen scientists discover plant form and function and the timing of seasonal plant cycles throughout multiple site visits. These citizen scientists understand that their data uploaded into the nationwide database, will be used by larger organizations in the long term effort to study climate change. They learned how to participate in the Phenology Program, were orientated to selected monitoring sites, and learned how to recruit and train additional citizen scientists so that the volunteer program can keep growing.

Once the training was complete, the newly graduated citizen scientists started to collect data and will contribute their phenological observations to the database year-round. The management implications of this program involve volunteer recruitment, administration, and encouragement of this citizen science activity. This program developed easy to use and understand protocols, stream-lined training sessions, and increased knowledge of local open space and climate change implications.

Keywords: Phenology, Climate Change

Poster Topic: SFEP Watershed Program Small Grants Projects

That's the Tuolumne In My Tap

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"That's the Tuolumne In My Tap" is a free elementary school education program that teaches 4th-6th grade students in the SFPUC service territory (San Francisco, San Mateo County, northern Santa Clara County and southern Alameda County) where their water comes from and why and how to conserve it. The program fosters in students a lasting commitment to the stewardship of their water source, and inspires them, along with their families and school administrators, to reduce water usage at home and at school.

The program includes a classroom visit with an interactive slideshow focusing on where our water comes from, the history and special qualities of the Tuolumne River, the animals that depend on the River, and what we all can do to conserve water. The presentation is based on California content standards in math, science and social studies.

A growing component of "That's the Tuolumne In My Tap" includes organizing field trips and service learning projects. Field trips enable students to experience the Tuolumne River watershed, the Bay-Delta and local watersheds first hand. Service learning projects include local creek and baylands clean-ups, drought-tolerant native plant gardening, and installation of stormwater retention systems.

Keywords: Tuolumne, Hetchy, Conservation, Education, Elementary, SFPUC, BAWSCA, Salmon, Steelhead, Yosemite

Poster Topic: SFEP Watershed Program Small Grants Projects

Restoring Rheem Creek at Wanlass Park

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Urban creeks help conserve biodiversity and provide a wonderful opportunity for human residents to interact with the natural world, but they also suffer from dumping, littering, and non-point source pollution. The Watershed Project is working with the San Francisco Estuary Partnership and other organizations to engage the residents of San Pablo and nearby communities to protect and enhance Rheem Creek at Wanlass Park, and increase appreciation of this biodiversity. Outreach to local schools and churches reaches a diverse audience and enhances general awareness of creeks and water quality issues.

Program participants at Wanlass learn fundamental watershed awareness, and those concepts are reinforced through hands-on stewardship. At volunteer events we discuss the causes and impact of marine debris, and clean up trash from the creek. Volunteers learn how gardening chemicals can have a negative impact on water quality, then control weeds with low impact methods and plant drought tolerant California native plants along the creek bank. We observe birds and butterflies on site, discuss how the native plants improve habitat for birds and pollinators, and participants come away with a greater appreciation of biodiversity and ecosystem services.

Over 100 volunteers have removed 24 cubic yards of invasive weeds from the creek bank and park, and planting of 250 site appropriate California native plants has begun. As the native plants become established, stability of the creek bank will increase and weed maintenance with gas powered tools will decrease, resulting in water quality and air quality benefits. Equally important, individual awareness of the environment will increase among both participants and casual park visitors. Residents will understand their connection to the larger watershed of the San Francisco Bay Estuary, and how to protect it.

Keywords: Watershed Stewardship, Water Quality, Marine Debris, Urban Habitat, Biodiversity

Poster Topic: SFEP Watershed Program Small Grants Projects

A Public Rain Garden Showers Benefits on Napa

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Using funds from Napa County's new rain garden rebate program, a team of local agency and school district staff have spearheaded the development of the first demonstration garden in the Napa River watershed on the campus of Vintage High School. The triangular shaped garden is adjacent to Salvador Creek, and will filter runoff from an adjacent parking lot before it enters the Creek. The creek is highly impacted by urban development, and is currently being restored through the removal of concrete and sediment deposits and addition of native riparian plants. The publicly accessible rain garden was designed and constructed by a collaborative team that included community volunteers, high school students and teachers, local gardening enthusiasts, and a Bay-Friendly qualified professional landscaper. The native plant garden was designed to demonstrate practical examples of principles of bay-friendly gardening, including storm water catchment, drought-tolerance, lawn alternatives, habitat creation, waste reduction, and soil health. The garden will include signage that conveys the environmentally beneficial features of the garden as well as cultural uses of native plants. The garden will play an important role in promoting rain gardens in the community, and their implementation through the County's rebate program. The garden is expected to be a hub of community workshops on bay-friendly gardening, and has already played host to the City of Napa's water-wise landscaping workshops this fall. In addition to being educational, the garden also is expected to reduce pollution loads from entering Salvador Creek, increase infiltration, and expand native riparian canopy.

Keywords: Rain Garden, Demonstration, Stormwater Education, Rainwater Harvesting, Native Plant, Pollution

Poster Topic: SFEP Watershed Program Small Grants Projects

Supporting Volunteer-Led Efforts at Sausal Creek Watershed Restoration Sites

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The Friends of Sausal Creek (FOSC) is a nonprofit 501(c)(3) volunteer-based community organization founded in 1996. Our mission is to engage local citizens in the enhancement of Sausal Creek and its watershed as natural and community resources. We focus on restoring native habitat and on educating children and adults about the benefits of a healthy local ecology. In addition to the restoration workdays and environmental education field trips led by our small staff, our staff supports the efforts of volunteer site leaders at over a dozen watershed sites from the hills to the bay. We also support volunteer-led aquatic insect and water quality monitoring programs. In 2013-2014, our goal is to increase and enhance support for our volunteer restoration site leaders in order to improve the success of the restoration work at each site. We will train and mentor volunteers in order to create a pool of highly qualified volunteers that are available to lead restoration work into the foreseeable future, and to increase biodiversity at the local ecosystems through better training for the volunteer site leaders in restoration techniques and in strategies for volunteer management. New resources and dedicated staff time will also enable interested volunteers to establish new restoration sites and to more easily develop a volunteer base. This poster will highlight the restoration work being done at our volunteer-led sites.

Keywords: Creek Restoration, Native Plants, Invasive Plants, Outreach, Volunteers, Public Education

Poster Topic: SFEP Watershed Program Small Grants Projects

Increasing Community-based Watershed Stewardship in the Gallinas Creek Watershed and Facilitating Collaboration among Marin County Watershed Groups

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As in many Bay Area watersheds, human activities in the Gallinas Creek Watershed pose significant challenges to its creeks, wildlife, and the Bay. The Gallinas Watershed Council seeks to protect this important natural community with its unique array of wildlife and habitats. Watershed marshes support the largest population of endangered California clapper rail in San Pablo Bay and other rare species, and China Camp State Park contains a relatively pristine and ecologically rich remnant of San Francisco Baylands. And yet there remains a widespread lack of understanding among local stakeholders about the importance of watersheds, how watersheds function, where sensitive tributaries are located, and how human activities impact watershed resources. To address this problem, GWC has been undertaking a variety of education, outreach, and regional collaboration efforts.

GWC education and outreach activities include tours of the watershed, cleanups, and outreach at community events. GWC tours allow participants to make a personal connection with the watershed and provide an on-the-ground opportunity to witness and discuss real watershed issues, challenges and potential solutions. Cleanups engage individuals directly in watershed stewardship. GWC also conducts education and outreach at community events. The recent purchase of a realistic, 3-D watershed model offers an engaging and interactive way to educate the public about watersheds, point and nonpoint source pollution, and strategies for reducing human impacts. Finally, GWC seeks to increase the effectiveness of both local and regional efforts to protect watersheds by planning for a regional meeting in fall 2013 that will bring together interested individuals and watershed groups across the county. The purpose of the meeting is to provide a venue for information exchange and collaboration, and to jumpstart a mechanism for continued exchange with the goal of making the watershed approach a more influential part of public dialogue and decision-making.

Keywords: Gallinas Creek Watershed, Education, Outreach

Poster Topic: SFEP Watershed Program Small Grants Projects

Permanente Watershed Tour

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On a clear day in May 2013, 60 participants packed into a bus to tour Permanente Watershed. Connecting and informing the local community with the wonders and complexity of their watershed was the goal of the Permanente Watershed Tour. Participants included creekside residents, city council members, educators, students and environmental leaders. Speakers ranged from open space employees and professors to residents with expert knowledge. The tour had five stops, originating in the foothills and ending near the bay.

Topics:

- Natural dynamics and requirements of a healthy creek and the challenges in residential areas
- Two views on Santa Clara Valley Water District flood protection plans: the District's justification and resident experts counter view to the District's flood plans
- Impact of Lehigh Quarry on the creek and fish habitat
- Review of recent Consent Decree resulting from Sierra Club lawsuit against Lehigh Quarry
- Fish habitat, passage, and the requirements for bringing steelhead trout back to Permanente Creek
- Local historical stories about Permanente from longtime residents
- Climate change and its impact on creeks and waterways
- Discussion of restoration work with creekside company, Google
- A hands on restoration planting activity for tour guests
- Thorough discussion of Burrowing Owl habitat and local conservation work

Physically bringing community members to locations along the creek deepened their understanding and appreciation of this watershed.

Thanks to grants from ABAG/SFEI and sponsorship from Google, ticket price, including lunch, was low at \$35 with discounts for students. Participants also received USB Flash Drives with documents and data from the tour. Several flash drives were distributed to a local college and other organizations (NOAA, Sierra Club, Fisheries Consultant) requested copies.

"We conserve only what we love, we love only what we understand, and we understand only what we are taught."

Keywords: Watershed, Education, Steelhead Trout, Burrowing Owl, Restoration, Flood Protection, History

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