

## Quarter 2: October -December 2022 SCWA Program Updates

### 1. OneCreek Putah Creek Seasonal Restoration Technician Program

PCC ran an eight-week season of OneCreek this quarter. The nine seasonal technicians worked a total of 369.5 hours from October 3- November 29. Technicians met on Monday and Tuesday afternoons in three-hour blocks. The OneCreekers worked seven nursery workdays and nine field workdays. (Eight nursery days were scheduled, but PCC swapped one nursery day for a field workday with SCWA to help with the Peterson Ranch planting).

In the nursery, the technicians transplanted 868 plants, including different species of Willow, California rose, Mulefat and Cottonwoods, seeded 700 plugs of forb species like Mugwort and Goldenrod, and seeded 100 boxes of Santa Barbara Sedge, over the entire season. In the field, technicians worked with partners including Solano RCD, Center for Land-Based Learning, Solano County Parks, the UC Davis Riparian Reserve, the UC Reserve System at Stebbins Cold Canyon, Solano County Water Agency, and the UC Davis Bee Haven. The technicians learned skills like native plant ID, implementing mitigation bank and hedgerow planting projects, maintaining and creating trails with stormflow techniques to reduce erosion, practicing plant maintenance like weeding and pruning, and preparing planting sites by mulching, laying irrigation dripline, and installing emitters. In a post-program evaluation, all respondents were able to correctly identify two California native plants and one invasive weed. The technicians were assigned weekly readings on topics like seed collection, hedgerows, Putah Creek history, Phytophthora prevention, and growing oaks as well as one written assignment to create 1 page agency memos about a field workday.

PCC staff time was spent coordinating the field days, including logistics, with partners, communicating with the technicians including writing weekly update emails, attending the workdays and supervising the work, tracking the work accomplished, tracking the technicians' hours, gathering materials and developing a take home assignment, reading and giving feedback on the technician's written assignment, and taking and organizing photos.

- October 3, 2022: Onboarding and Nursery Work Day
  - Introduction to native plant ID on a walk around Sackett Ranch. Eight OneCreekers and four PCC staff transplanted 75 red willow and 75 sandbar willow cuttings.
- October 4, 2022: UCD Bee Haven with Christine Casey

- Seven OneCreekers and two PCC staff planted winter veggies as pollinator habitat, pruned a wheelbarrow full of sunflower heads, pruned buckwheat, moved compost, removed unneeded plants, and built garden beds. Technicians learned about bees and pollinator habitat.
- October 11, 2022: UC Davis Riparian Reserve with Miles DaPrato
  - Seven OneCreekers and three PCC staff weeded forb plots, practiced native plant ID, learned about restoration planning/design and management, and seeded milkweed next to tree plantings.
- October 12, 2022: Nursery
  - Five OneCreekers and two PCC staff transplanted 228 mulefat cuttings from styroblocks into T4's.
- October 17, 2022: Nursery
  - Seven OneCreekers and four PCC staff transplanted 261 Goodding's Willows into T4's. Transplanted 73 CA Wild Roses into D40's.
- October 18, 2022: Nursery
  - Five OneCreekers and three PCC staff seeded 100 boxes of Santa Barbara sedge
- October 24, 2022: Solano RCD with Katherine Holmes at LSP Campground
  - Eight OneCreekers and two PCC staff prepared a hedgerow for a future planting. Laid out about 1200 feet of 8/10" dripline, installed emitters, shoveled a trailer's worth of mulch next to each plant's spot, and collected acorns and black walnuts.
- October 25, 2022: UC Davis Riparian Reserve with Miles DaPrato
  - Six OneCreekers and two PCC staff drill injected a thick stand of tree of heaven on the far west end of the Arboretum. Learned about proper herbicide application.
- October 31, 2022: Nursery
  - Six OneCreekers and four PCC staff learned about scouting for pests. Seeded 100 plugs of goldenrod, 200 plugs of Baltic Rush, and 400 plugs of mugwort.
- November 1, 2022: Nursery
  - Six OneCreekers and three PCC staff transplanted 20 Goodding's Willows into T4s, 43 Fremont Cottonwoods into T4s, and 93 Arroyo Willows into T4s.
- November 7: Center for Land-Based Learning with Jeanne Wirka
  - Six OneCreekers and two PCC staff weeded in between plots at the native grass demonstration garden (removed about two landscaping bags worth of cheeseweed) and mulched paths with three large piles of walnut shell grindings. Transplanted one cottonwood from a farm field to the floodplain of Cache Creek.
- November 8: Nursery
  - Six OneCreekers, three PCC staff, and one SCWA intern processed seeds such as CA redbud, and learned about seed germination and breaking dormancy.
- November 14: UC Reserve System with Paul Havemann at Stebbins Cold Canyon

- Seven OneCreekers and three PCC staff created three berms and reshaped a portion of a trail so that water can run off while minimizing erosion, and used rocks and woody debris to block off areas with previous erosion to prevent use.
- November 15: SCWA with Duc Jones at Sackett Ranch
  - Six OneCreekers and two PCC staff planted a hedgerow for Solano County Water Agency at Sackett Ranch (96 total plants including 17 blue oak, 13 valley oak, 64 toyon, and two ceanothus). Worked with SCWA interns and staff.
- November 28: SCWA planting with DUC Jones at Peterson Ranch
  - Eight OneCreekers (in the afternoon) and eight volunteers (in the morning) planted a total of 720 total pollinator plants including toyon, coyote bush, California rose, redbud, gumplant, California aster, yarrow, and coyote mint with assistance from three PCC staff and SCWA interns and staff.
- November 29: Trail Building with Chris Drake of Solano County Parks at the Lake Solano Park day-use side.
  - Seven OneCreekers, three PCC staff, two Solano County Parks staff, and three volunteers from the Solano County Parks work release program created a new trail bend at the Lake Solano Park Beetle Point Trail. (Connected two already existing trails.)

Challenges: There were no major challenges that prevented PCC staff from implementing and completing the program. One minor challenge was rescheduling a workday due to weather, and fitting in an extra field day on short notice. Thankfully, we were able to successfully reschedule these dates to accommodate our partners' needs.

Quotes from participants:

“This [program] catered to a wide variety of skill sets and taught a wide variety of skills, helping to cover a broad spectrum of skills. This was very helpful for giving experience that can later be put onto a resume.” -OneCreeker Fall 2022

“Overall, this was a wonderful experience and I would recommend it to any environmental management, ecology, restoration, or adjacent major or anyone who has an interest in restoration.” -OneCreeker Fall 2022

“[This program provided] hands-on field work, confidence building in our knowledge and gaining experience to help guide us where we like to go next.” -OneCreeker Fall 2022

“[OneCreek] was lovely and I never felt alone, or left behind. I gained a lot of friends and now have opportunities to do more conservation and restoration work.” -OneCreeker Fall 2022

“The people we worked with were always more than happy to talk about their experiences and extrapolate on what they do, furthering our knowledge.” -OneCreeker Fall 2022





*Left: Seven of the nine OneCreekers as well as PCC staff members Lauren and Nicolle stand next to their freshly built trail at Lake Solano Park on 11/29/22. Right: OneCreekers and SCWA staff plant pollinator species at SCWA's Peterson Ranch property near Rio Vista on 11/28/22.*



*Left: A OneCreeker installs emitters on drip line at Sackett Ranch on 11/15/22. Right: Miles DaPrato of the UC Davis Riparian Reserve demonstrates restoration site planning on 10/11/22..*



*Left: Two OneCreekers drill holes in Tree of Heaven to prepare it to be injected with herbicide at the UC Davis Riparian Reserve on 10/25/22. Right: The technicians and PCC staff Chase and Nicolle transplant Goodding's willows in PCC's native plant nursery on 10/17/22.*

## 2. Creek Explorers (Updated WaterWays Program)

Putah Creek Council implemented eight Creek Explorers Field Days at Lake Solano Park this quarter that engaged a total of 109 attendees. PCC staff engaged participants with demonstrations, hands-on activities, and self-guided scavenger hunts. Attendees ranged in age from toddlers to grandparents. PCC staff encountered repeat visitors who made meaningful connections to where their water comes from, and how to keep it clean. After implementing five Creek Explorers events (two in September and three in October), with concurrent stewardship portions at Lake Solano Park or Sackett Ranch, PCC staff found that the audience towards which Creek Explorers is targeted were not interested in participating in a two hour or longer stewardship event. Participants were dropping in at Creek Explorers at any point during the three hour time block, and staying for 30 minutes to an hour. PCC made the decision to separate the stewardship portion from the educational portion, and hosted stewardship events at the same time and on the same days as Creek Explorers but not all at LSP or Sackett Ranch.

PCC staff distributed over 1800 copies of the Creek Explorers Adventure Guide to teachers in Solano County and Winters, nine Solano County libraries, community members at the Carnitas Festival and Salmon Festival in Winters, and Field Day participants.

- Saturday, October 1: Nature Detectives (Concurrent mulching stewardship event at LSP, funded by MOU with Solano County Parks and Solano RCD.)
  - 3 participants and one PCC staff member
  - Activities: Nature/Adaptation Scavenger Hunts, Adopt A Tree, Animal Mystery
- Saturday, October 15: Woah, Erosion!
  - 15 participants and one PCC staff member (one other staff member floated between Creek Explorers and Stewardship)
  - Activities: Runoff or Recharge exploration, Erosion-focused watershed runoff demonstration, Burned vs. Vegetated Watershed Experiment, Seed Ball craft
- Saturday, October 22: Water Scientists
  - 13 participants and one PCC staff member
  - Activities: Water Quality testing (Turbidity, Temperature, Dissolved Oxygen), Undo the Water Pollution Experiment, Self-Guided Waterway Study
- Saturday, October 29: Spooky Plant-Palooza
  - 28 participants and one PCC staff member
  - Activities: Plant Adaptations to Water Game Show, Build Well-Adapted Plant craft (Franken-Plant), Make a newspaper pot and plant a CA native plant, Leaf Adaptations Scavenger Hunt, Leaf Rubbings (Leaf Skeletons)
- Saturday, November 5: Pollution Trackers
  - Zero participants (cold day and conflict with other local events) and one PCC staff member
  - Activities: Pollution-focused watershed demonstration, Pollutant Scavenger Hunt, Undo the water pollution Experiment, and Groundwater Pollution Game

- Saturday, November 19: Watershed Connections
  - 12 participants and one PCC staff member
  - Activities: Incredible Journey Water Cycle Game, Water Travel Scavenger Hunt, Life-Sized Watershed, Watershed model, Where in the Watershed map activity
  - Volunteer assistance from Stewardship Team Member Carol and Ranger Nicole
- Saturday, December 3: Water Critters
  - Zero participants (rain), One PCC Staff member, Outreach via Instagram stories about how macroinvertebrates relate to water quality
  - Volunteer assistance from Ranger Nicole
  - Activities: Macroinvertebrate demo tables (Determine pollution tolerance, and spot the water critter), Mock macroinvertebrate survey, Sources of pollution scavenger hunt
- Saturday, December 10: Water Journeys
  - Canceled due to inclement weather
  - Planned activities: Cloud Viewer craft, Water Travel scavenger hunt, Cloud in a Jar demonstration, Water Cycle in a bottle craft, The Incredible Journey water cycle activity
  - Educational Instagram post about the water cycle which reached 362 people

Staff time was spent setting up and cleaning up the field days, engaging with visitors, taking and organizing photos, tracking program statistics, conducting outreach to teachers and groups, organizing, inventorying, and ordering program supplies, managing the budget, refining program materials that were created in the previous quarter, creating program materials like weekly badges, and communicating with education volunteers, refining a program evaluation that was developed in Q1, and reviewing evaluation results and observational program data.

#### Participant Feedback:

A participant was quoted as saying, “We love what we learn!” All participants who completed the evaluation stated that they would definitely attend another field day program.

Participants came from places like Vacaville, Fairfield, and Woodland, and more than half had never been to Lake Solano before. Based on an informal verbal survey, a majority of participants heard about the program from the Solano County Library (in-person or online), from their child’s teacher who received copies of the Adventure Guide, or in-person while at Lake Solano Park.

#### Challenges:

Attendance was affected by weather, and concurrent activities, including youth soccer on Saturdays. The last two events were affected by rain. PCC went ahead with the 12/3 event in rain, with an attendance of zero, and canceled the 12/10 event due to heavy rain and wind. PCC staff conducted virtual educational outreach to reach an audience these days. PCC will consider scheduling field days on Sundays as well as Saturdays, and to end before the weather becomes too cold to help increase attendance.





Left: PCC staff demonstrates how bare soil resulting from wildfires can lead to water pollution at Woah, Erosion! on 10/15/22. Right: Participants build a water filter of their own design with help from PCC staff at Water Scientists on 10/22/22.



Left: A Lake Berryessa park ranger demonstrates how pollution enters our waterways at Watershed Connections on 11/19/22. Right: A family creates a plant with adaptations to help it survive in dry conditions at Spooky Plant-palooza on 10/29/22.



Left: Each participant received a badge of the day, a nature journal, and a Creek Explorers Adventure Guide. Repeat visitors received a Creek Explorers badge. Right: A mock macroinvertebrate survey to determine pollution levels.

#### Waterway Study

It's time to get up close and personal with where your water comes from. Your mission is to observe Lake Solano, both the water and land around it.

#### Materials:

- Pencil

*Above: A participant's responses to a waterway study activity on Water Scientists Field Day on 10/22/22.*



**putahcreekcouncil** Today's Creek Explorers Field Day, Water Journeys, is canceled due to the rain. Instead of exploring the water cycle in person, let's explore part of the water cycle together. Let's talk clouds and condensation!

Clouds form by a process called condensation in which water vapor in the atmosphere changes into water drops as it gets colder, and then condenses, or smushes around particles of dust, forming clouds. You've probably seen condensation on a bathroom mirror, or on the outside of a glass of ice water.

Did you know that a cloud's name helps to describe it? Rain filled clouds will have nimbus or a variation in its name, while clouds that have cumulus in their name are puffy, and those that have stratus in their name are flat.

Slide 1: Nimbostratus clouds don't have a clear shape and form throughout multiple levels of the atmosphere. They are usually grey and produce rain over a wide area (like today!)

Slide 2: Cumulus clouds look like large, fluffy cotton balls, and grow upward.

Slide 3: Cirrus clouds appear high in the sky and are thin and wispy and are a sign of fair weather. They are made of ice crystals!

*Above: Instagram post that conveyed information from Water Journey's Field day that generated 474 impressions.*

### 3. Planning Updates



The Stewardship Program Manager completed a Planting Plan for the Nishikawa Restoration Site. This Planting Plan will be used to help SCWA acquire their permits for the project, and will provide planting events for PCC volunteers intended to start late 2023 and run into 2024.

The Stewardship Program Manager started looking into grant opportunities for Sackett Ranch and other potential Putah Creek projects and created a list of possible grantors. The Sackett Ranch Restoration Plan is nearly complete and should be finalized during the next quarter.

Challenges: There were no major challenges that prevented PCC staff from working on or completing restoration planning projects.

Staff time was spent conducting planning meetings for both project plans, gathering research and data for, and writing the plans. Time was also spent creating a detailed planting map for the Nishikawa site.

#### 4. Stewardship Events

There were seven SCWA-funded Stewardship events held during the months of October, November, and December. Staff time was spent coordinating with nursery staff and staff of partner organizations to schedule stewardship days, managing volunteer signups, cleaning, organizing, ordering, and caring for supplies and tools, attending workdays, taking and organizing photos, advertising stewardship days, and writing stewardship updates for PCC's newsletter.

- October 8, 2022 (PCC Native Plant Nursery): Six volunteers, one PCC staff and Rich Marovich seeded 126 boxes of Santa Barbara sedge and collected Santa Barbara sedge seeds along Sackett Ranch floodplain.
- Oct 15, 2022 (Lake Solano Park): One volunteer and two PCC staff conducted maintenance of native plant garden in front of LSP Nature Center (weeded horsetail, kickxia, cotoneaster, walnut, smilgrass and pruned yarrow, gumplant, mugwort, sneezeweed, and wooly sunflower).
- October 22, 2022 (Sackett Ranch): Seven volunteers and one PCC staff filled two and a half landscaping bags with stinkwort, collected more than a gallon ziplock of buckeyes, and filled a sandwich bag each of elderberries, valley oak acorns, and redbud seed pods.
- November 5, 2022 (UC Davis Riparian Reserve near Old Davis Road trailhead): 17 volunteers, one PCC staff and Miles DaPrato of the UC Davis Arboretum planted wild cucumber, elderberry, narrow leaf milkweed, showy milkweed seeds.
- November 28, 2022 (Peterson Ranch): Combined event: Eight stewardship volunteers 10 am-1 pm, and eight OneCreek technicians 1-4 pm. Three PCC staff members and SCWA technicians and staff attended. 720 pollinator plants were planted including toyon, coyote bush, California rose, redbud, gumplant, California aster, yarrow, and coyote mint.

- December 13, 2022 (Sackett Floodplain Planting): Through the Center for Land Based Learning's SLEWS program (Student and Landowner Education and Watershed Stewardship), 25 HS students from a Winters High School biology class, most of whom were freshmen, two WHS staff members, three CLBL staff, three mentors (community volunteers), and two PCC staff planted 1261 plants (including creeping wild rye, yarrow, gumplant, CA grape and CA wild rose) on the floodplain near the creek on Sackett Ranch.
- December 17, 2022 (PCC Native Plant Nursery): 8 volunteers and 3 PCC staff members seeded 2000 showy milkweeds and 230 oaks.



*Left: Volunteers pose with seed bags in front of the worksite at UC Davis Riparian Reserve on 11/5/22. Right: Volunteers learn about California Buckeye to help prepare them to collect its seeds at Sackett Ranch on 10/22/22.*



*Left: Volunteers seed acorns into T4s at PCC's native plant nursery at a Saturday nursery stewardship day on 12/17/22. Right: Volunteers plant shrubs at SCWA's Peterson Ranch property near Rio Vista on 11/28/22.*

Challenges: There were no major challenges that prevented PCC staff from working on or completing stewardship events.

### 5. Creek Cleanups

PCC held three community creek cleanups in Winters Putah Creek Park on the third Thursday of each month of the quarter from 10:00 am to noon. Staff time was spent attending the cleanups, advertising the events, and managing volunteer signups.

- Thursday, October 20, 2022: Three staff members filled three 5-gallon buckets with trash and recyclables.
- Thursday, November 17, 2022: One volunteer and two staff members filled about nine bags of trash and two bags of recycling, and also collected larger items such as a trash can and a 5-gallon water bottle.
- Thursday, December 15, 2022: Two staff members collected one landscaping bag and two regular trash bags and one bag of recycling.

Challenges: The cleanups did not attract as many volunteers as other stewardship events. PCC staff is working to remedy this by posting fliers advertising the cleanups in areas close to Winters Nature Park such as Steady Eddys, the Winters Library, and the Winters Post Office.



*Left: PCC staff member Nicolle and volunteer poses with trash collected at Winters Putah Creek Nature Park on 11/17/22. Right: PCC staff member Nicolle poses with trash collected on 12/15/22.*