

PROGRAM

Evolving Management Perspectives in a Changing World

Overview

Tues., Oct. 15	9:00 – 12:00 pm	Statewide WMA Meeting
	1:00 – 5:00 pm	Trainings: 1. Calflora Mapping Tools for Tracking Invasive Plants & Management Concurrent tracks for Calflora's Online Weed Database and Observer Pro Tool and Calflora's Weed Manager System 2. Invasive Plant Management Planning for Your Organization
	6:30 – 8:30 pm	Herbicide Laws & Regulations
Weds., Oct. 16	8:00 am	Update on Invasive Plant Management in California
	8:20 – 9:20 am	Plenary 1: Riverside: Leadership in Invasive Species Research and Management
	9:40 – 10:40 am	Concurrent: 1. Wildfire and Invasive Plants 2. Grassland Management
	11:00 am – noon	Concurrent: 3. Grazing as a Management Tool 4. Public Mapping Tools for Tracking Plants & Management
	1:20 – 2:20 pm	Plenary 2: Invasive Species Management at National Wildlife Refuges across the Western United States and Beyond
	2:40 – 3:40 pm	Concurrent: 5. Soil Effects and Interactions with Invasive Plants 6. Communication Strategies for Land Managers
	3:40 – 5:00 pm	Poster & Exhibitor Session
	5:00 – 6:30 pm	Social Hour, Raffle & Silent Auction
	6:30 – 8:30 pm	Awards Banquet
Thurs., Oct. 17	8:00 – 9:00 am	Concurrent: 7. Management Tools and Techniques 8. Wetland and Aquatic Habitat Management
	9:20 – 10:20 am	Concurrent: 9. Invasive Plant Traits and Community Effects 10. Coastal Sage Scrub Management
	10:30 – 11:45 am	Discussion Groups
	1:15 – 1:40 pm	Student Competition Results and Weed Alerts 2019
	1:40 – 2:40 pm	Plenary 3: New Perspectives on the Interface between Research and Management
	2:50 – 3:50 pm	Concurrent: 11. Lessons Learned: Collaborating on Invasive Plant Management 12. Invasive Plant Management with the Conservation Corps
	4:00 – 5:00 pm	Concurrent: 13. Management Tools and Techniques 14. Invasive Species Impacts on Rare Plants
Fri., Oct. 18	8:00 am	Field Trips (2 half day and 2 full day)

Tuesday, October 15

8:00 – 9:00 am Registration and Coffee

9:00 am – 12:00 pm Statewide WMA Meeting

Room: *MR1&2*. Chairs: *Doug Johnson, Cal-IPC; Michelle Dennis, CDFA*.

Weed Management Areas (WMAs) across the state bring local partners together for strategic projects. With new state funding, we will share lessons learned, CDFA program updates, information on new weeds, guidelines for successful projects, tips on tracking success and ideas for funding projects. Several WMAs will present their work, and attendees will discuss approaches and challenges in their WMA's projects.

12:00-1:00 pm Registration and Lunch on your own

1:00 – 5:00 pm Training 1: Calflora Mapping Tools for Tracking Invasive Plants and Management

Room: *MR3&4*. Instructors: *Cynthia Powell, Michelle Tollett & Pete Frye, Calflora; Ron Vanderhoff, OC-CNPS*.

Calflora is an online mapping platform for plants in California. You can use the publicly accessible Calflora interface to track weed work, or you can subscribe to the powerful Weed Manager suite of applications. Calflora's Observer Pro phone app enables you to map weeds in the field. This training will have two concurrent tracks: one for new users and one for current and future users of Weed Manager tools.

1:00 – 5:00 pm Training 2: Invasive Plant Management Planning for Your Organization

Room: *MR1&2*. Instructors: *Giselle Block, USFWS; Jutta Burger & Doug Johnson, Cal-IPC; Jason Giessow, Dendra, Inc.; Brent Johnson, NPS; Tom Reyes, Midpeninsula Regional Open Space District; Steve Schoenig, CDFA and CDFW, retired; Andrea Williams, Marin Municipal Water District*.

Through interactive exercise and real-life reports from land management professionals that have developed and implemented plans, you will learn the basics needed to generate and communicate an effective plan. All participants will receive a copy of the recently published "Land Manager's Guide to Developing and Invasive Plant Management Plan," co-published by the USFWS and Cal-IPC.

5:00 - 6:30 pm Registration and Reception on the Plaza

6:30 – 8:30 pm Herbicide Laws & Regulations

Room: *Ballroom*. Chair: *Chris McDonald, UC Dept. of Agriculture and Natural Resources*

6:30 Pesticide Jeopardy! *Lisa Blecker, Pesticide Safety Education Program, UC Statewide IPM Program*

7:00 Noxious weed laws and regulations. *Bob Muherin, Riverside County Agricultural Commissioner's Office*

7:30 What's wrong with this picture? Pesticide safety. *Cheryl Wilen, UC Dept. of Agriculture and Natural Resources*

8:00 Following pesticide laws and regulations to reduce applicator exposure. *Chris McDonald, UC Dept. of Agriculture and Natural Resources*

7:00 – 9:00 pm Student/Early Professional Mixer – Location: *Riverside Food Lab, 3605 Market St.*

Wednesday, October 16

7:00 - 8:00 am Registration and Coffee

8:00 – 8:20 am Opening Plenary Update on Invasive Plant Management in California. *Doug Johnson, Executive Director, Cal-IPC; Gina Darin, Board President, Cal-IPC*

8:20 – 9:20 am Plenary 1. Riverside: Leadership in Invasive Species Research and Management

Room: *Raincross*. Chair: *Heather Schneider, Santa Barbara Botanic Garden*

8:20 Restoration, invasive species, and conservation challenges in a region with extraordinarily rapid changes. *Arlee Montalvo, Riverside-Corona Resource Conservation District*

8:40 Something wicked this way comes: California's perennial problem with invasive arthropod pests. *Mark Hoddle, Center for Invasive Species Research, UC Riverside*

9:00 Cross-training and curiosity: The interaction of interdisciplinarity and an open mind. *Norm Ellstrand, UC Riverside*

9:20-9:40 am Break

9:40 – 10:40 am Session 1. Wildfire and Invasive Plants

Room: *Ballroom*. Chair: *Joseph Algiers, Santa Monica Mountains National Recreation Area*

9:40 Weeds after Woolsey: Did a decade of weed control pay off following the largest fire in the Santa Monica mountains? *Joseph Algiers, Santa Monica Mountains National Recreation Area*

10:00 Determining potential drivers of chaparral conversion in a southern California fire scar. *Shane Dewees*, UC Santa Barbara*

10:20 Integrating weed control and trait-screened seed mixes to reduce the risk of postfire type conversion from coastal sage scrub to annual grassland. *Noah Teller*, UC Riverside*

9:40 – 10:40 am Session 2. Grassland Management

Room: *MR7-10*. Chair: *Andrea Williams, Cal. Native Grasslands Association, Marin Municipal Water District*

9:40 Investigating the effects of small mammals and plant competition on native and exotic species within annual grassland communities. *Lachlan Charles, UC Riverside*

10:00 Project 467: Restoring and enhancing native plant diversity and the coefficient of beauty at Edgewood Natural Preserve. *Stuart Weiss, Creekside Science*

10:20 Do *Oncosiphon piluliferum* soil legacy effects post-removal inhibit restoration success? *Stuart Schwab*, UC Riverside*

*Student Contest entrant

10:40-11:00 am Break

11:00 am – 12:00 pm Session 3. Grazing as a Management Tool

Room: Ballroom. Chair: *Brian Shomo, Western Riverside County Association of Governments*

- 11:00 Targeted grazing as a method of controlling non-native grasses for Stephen's kangaroo rat management. *Brian Shomo, Western Riverside County Association of Governments*
- 11:20 Prescribed goat grazing for wildland management. *Alyssa Cope, Sage Environmental and Robert Freese, Irvine Ranch Conservancy*
- 11:40 Can ecological theory help us develop better targeted grazing systems for invasive plant management? *Carlos de la Rosa, San Diego Zoo Global*

11:00 am – 12:00 pm Session 4. Public Mapping Tools for Tracking Plants and Management

Room: MR7-10. Chair: *Lynn Sweet, UC Riverside Center for Conservation Biology*

- 11:00 EDDMapS One: Integrated platform and program for tracking invasive species management in North America. *Chuck Barger, University of Georgia*
- 11:20 iNaturalist for invasive species mapping. *Ken-ichi Ueda, iNaturalist*
- 11:40 Using Calflora to map and track invasive species in California. *Cynthia Powell, Calflora*

12:00 – 1:20 pm Lunch (Room: Raincross)

Career Panel Lunch, organized by the Cal-IPC Student Section (Room: MR1&2)

1:20 – 2:20 pm Plenary 2. Invasive Species Management at National Wildlife Refuges across the Western United States and Beyond

Room: Raincross. Chair: *Giselle Block, USFWS Region 8, California*

- 1:20 The USFWS "Strategic and Adaptive Invasive Plant Management Model." *Giselle Block, USFWS Region 8, California*
- 1:30 Invasive plant workshops in the Pacific Region: Benefits, challenges and adaptations. *Jess Wenick, USFWS Region, Washington*
- 1:40 Use of species distribution modeling to support early detection and rapid response to invasive plants in the Mountain Prairie Region. *Lindy Garner, USFWS Region 6, Montana*
- 1:50 How tracking treatments is supporting success in the field in the Southwest Region. *Edward Spriggs (New Mexico) and Bethany DeRango, USFWS Region 2, Arizona*
- 2:00 Adaptive management of invasive plants: A case study from National Wildlife Refuges in the Midwest Region. *Joshua Booker, USFWS Region 3, Ohio*

2:20 – 2:40 pm Break

2:40 – 3:40 pm Session 5. Soil Effects and Interactions with Invasive Plants

Room: *Ballroom*. Chair: *Amanda Swanson, Newport Bay Conservancy*

- 2:40 Identifying the microbial legacy effects of invasive grasses for restoration. *Brooke Pickett*, UC Riverside*
- 3:00 Evolutionary drivers of the invasion of stinkwort (*Dittrichia graveolens*) in California. *Nicky Lustenhouwer, UC Santa Cruz*
- 3:20 Below-ground effects of organic and chemical herbicides used in invasive plant management. *Mia Maltz, UC Riverside*

2:40 – 3:40 pm Session 6. Communication Strategies for Land Managers

Room: *MR7-10*. Chair: *Josie Bennett, Laguna Canyon Foundation*

- 2:40 Speak to be remembered: Science communication and the art of storytelling. *Sue Gardner, Golden Gate National Parks Conservancy*
- 3:00 Deconstructing the stories we share about weeds: Strategies for creating meaningful communication with the public. *Josie Bennett, Laguna Canyon Foundation*
- 3:20 Taking the call: The importance of empathy and listening to the community. *Jennifer Greene, Golden Gate National Parks Conservancy*

3:40 – 5:00 pm Poster and Exhibitor Session (Room: *Exhibit Hall C*)

5:00 – 6:30 pm Social Hour, Raffle & Silent Auction (Room: *Exhibit Hall D*)

6:30 – 8:30 pm Awards Banquet (Room: *Raincross*)

Thursday, October 17

7:00 am Registration and Coffee

8:00 – 9:00 am Session 7. Management Tools and Techniques

Room: *Ballroom*. Chair: *John Knapp, The Nature Conservancy*

- 8:00 Maximizing the efficiency of invasive plant control with a phenology-based timing approach to management. *Guy Hernandez*, Cal Poly Pomona*
- 8:20 Big projects, small monitoring budgets: Using basic data to assess treatment effectiveness for control of *Cortaderia jubata*. *Ellen Hamingson, National Park Service*
- 8:40 No more comparing apples to oranges: Comprehensive invasive plant data management methodology using Collector for ArcGIS within a nested grid system. *Morgan Ball and Katrina Olthoff, Wildlands Conservation Science*.

8:00 – 9:00 am Session 8: Wetland and Aquatic Habitat Management

Room: *Raincross*. Chair: *Drew Kerr, Invasive Spartina Project*

- 8:00 High salinity exposure does not preclude germination of invasive *Iris pseudacorus* from populations along a Delta-San Francisco Estuary salinity gradient. *Morgane Gillard, UC Davis*
- 8:20 Finding balance when you are stuck in a marsh: Navigating the complexities of Upper Newport Bay for effective invasive plant management. *Amanda Swanson, Newport Bay Conservancy*
- 8:40 Striking a balance: Selecting strategy levels for a startup invasive *Limonium* project based on eradication stage and budget. *Drew Kerr, Invasive Spartina Project*

9:00 – 9:20 am Break

9:20 – 10:20 am Session 9. Invasive Plant Traits and Community Effects

Room: Ballroom. Chair: Noah Teller, UC Riverside

- 9:20 *Mesembryanthemum crystallinum* reduces ecosystem function on San Nicolas Island. Denise Knapp, Santa Barbara Botanic Garden
- 9:40 Vegetation types at risk from Sahara mustard invasion: Using Maxent to inform early detection and conservation targets with climate change. Lynn Sweet, UC Riverside.
- 10:00 Interactions between invasive *Schinus molle* (Peruvian pepper tree) with six plant species commonly found in southern California nature reserves. David Banuelas*, UC Irvine

9:20 – 10:20 am Session 10. Coastal Sage Scrub Management

Room: Raincross. Chair: Chris McDonald, UC ANR

- 9:20 Challenges and success of ten years managing the highly invasive Ward's weed (*Carrichtera annua*) in Carlsbad, San Diego County, California. Alison Forrestel, National Park Service
- 9:40 Adaptive management of stinknet (*Oncosiphon piluliferum*), an annual weed in a coastal sage scrub preserve in North County, San Diego. Emily Burson, San Diego Zoo Global
- 10:00 Testing the effects of site selection and artificial shelters on native plant recruitment from seed in degraded coastal sage scrub. Marlee Antill*, Cal Poly Pomona

10:20 – 10:30 am Break

10:30 – 11:45 am Discussion Groups (concurrent)

1. Impacts of invasive plants on native flora and fauna

Room: MR1. Moderator: Heather Schneider, Santa Barbara Botanic Garden, with Naomi Fraga, Rancho Santa Ana Botanic Garden; Denise Knapp, Santa Barbara Botanic Garden; and Lynn Sweet, UC Riverside.

Invasive plants impact wildland communities at all levels. From disrupting soil microbial communities and nutrient cycling, to competing with native plants, altering forage availability for pollinators and impacting habitat for animals, invasive plants effect not just individual species but ecological networks. We'll hear from experts about their experiences measuring and mitigating the impacts of invasive plants on rare plants and other vegetation, arthropods and pollinators, and birds. Share lessons learned from you own experience and ask questions of the panelists.

2. Mapping, monitoring and metrics

Room: MR2. Moderators: Andrea Williams, Marin Municipal Water District and Dana Morawitz, Cal-IPC; with John Knapp, The Nature Conservancy; Katrina Olthof, Wildlands Conservation Science.

Tracking progress is essential to effective weed management. Rarely is it simple. How do you map and with what goals for that mapping? What is your management goal for a given population (and how do you define what constitutes a "population"?) What do you do with an annual plant that pops up in different places each year? Come discuss your thorny mapping issues and we'll have experts on hand to serve as resources for your various needs, such as early detection, population inventories, efficacy tracking through time, or spread monitoring. Discuss how we might track "acres protected" rather than just "acres treated."

3. Storytelling and other techniques for engaging communities in effective stewardship

Room: MR3. Moderators: Sue Gardner, Golden Gate National Parks Conservancy, and Josie Bennett, Laguna Canyon Foundation.

Data make something credible, but stories make it memorable. Learn how to take the raw material of your work and craft it into a story that will inspire others to support — or join — you! Share the stories that have worked in your own experience and hear what has worked for others.

4. Non-chemical techniques for weed management

Room: MR7. Moderators: Jutta Burger, Cal-IPC, and Cheryl Wilen, UC Cooperative Extension/UC-IPM.

What's your favorite non-chemical tool: Pruning saw? Weed wrench? String trimmer? Goats? Under what conditions do these tools work best and when are they ineffective? Come hear about (and weigh in on) the pros and cons of various non-chemical weed management tools. This discussion group will be contributing to a Cal-IPC project in collaboration with UC Cooperative Extension to compile best practices on non-chemical methods and build an online decision-support tool to help land managers assess their options.

5. Herbicide effectiveness: Observations from the field

Room: MR8. Moderator: Drew Kerr, Invasive Spartina Project, with Morgan Ball, Wildlands Conservation Science; Bill Neill, Riparian Repairs.

Most every herbicide treatment is an experiment, in which we find out exactly how effective the treatment will be for that particular situation. Timing, rate, active ingredient, weather conditions, application approach, plant phenology, surrounding vegetation — dozens of factors contribute to the effect of a given treatment. What we learn over time in the field goes beyond what can be easily documented in reference guides. Come share your observations and hear from others.

6. Equity, diversity and inclusion: Cal-IPC and the conservation field

Room: MR9. Moderator: Alene Spindel, Cal-IPC, with Jen Greene and Yakuta Poonawalla, Golden Gate National Parks Conservancy.

Last year, the Cal-IPC Board of Directors approved a statement committing Cal-IPC to take action to address issues of equity, diversity, and inclusion within our immediate Cal-IPC community and within the conservation community at large. Come hear what we have been working on and contribute your ideas, then learn from an organization that has been working on this for years, the Golden Gate National Parks Conservancy. What does it look like for an organization to work on these issues? Does it cost money and staff time? What does it change? Join our discussion and lend your voice.

7. Communicating effectively as a land manager: Glyphosate as a case study

Room: MR10. Moderator: Rachel Kesel, One Tam, with Doug Johnson, Cal-IPC and Julia Parish, American Conservation Experience.

Communicating the need for controlling invasive plants remains a challenge with some audiences, and the current public concern (and legal settlements) over glyphosate add a new twist. Ideally, communicating across different perspectives can be a positive thing; how do we help it become that when it can easily become unproductive? What are the salient points that may help someone understand the work we do, the tools we use, and the nature of risk? Who are "trusted messengers" that we might engage?

11:45 am – 1:15 pm Lunch (on your own)

1:15 – 1:35 pm New Weed Alerts

Room: *Raincross*. Presenters: *Jutta Burger, Cal-IPC, and Bob Price, CDF*

1:35 – 1:40 pm Announce Student Contest winners**1:40 – 2:40 pm Plenary 3. New Perspectives on the Interface between Research and Management**

Room: *Raincross*. Chair: *Jutta Burger, Cal-IPC*

- 1:40 Managing for dynamic and unpredictable species invasions. *Jeff Diez, UC Riverside*
- 2:00 Invasive species management and ecosystem restoration: Two sides of the same coin. *Loralee Larios, UC Riverside*
- 2:20 Evolving our thinking on the knowing-doing gap in managing invasive species. *Ingrid Parker, UC Santa Cruz*

2:40 – 2:50 pm Break	
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<p>2:50 – 3:50 pm Session 11. Lessons Learned: Collaboration in Invasive Plant Management</p> <p>Room: <i>Ballroom</i>. Chair: <i>Anna Dirkse, UC Cooperative Extension</i></p> <p>2:50 Containing and reducing the spread of <i>Volutaria</i> across southern California: lessons learned when managing novel weed species. <i>Chris McDonald, UC ANR</i></p> <p>3:10 Communicating the threat of Japanese knotweed (<i>Fallopia japonica</i>) to private landowners along San Geronimo Creek. <i>Anna Dirkse, UC Cooperative Extension</i></p> <p>3:30 Successes, failures, and lessons from the Orange County CNPS Emergent Invasive Program. <i>Ron Vanderhoff, OC-CNPS</i></p>	<p>2:20 – 3:50 pm Session 12. Discussion: Invasive Plant Management with the Conservation Corps</p> <p>Room: <i>Raincross</i>. Moderator: <i>Jonathan Appelbaum, San Dieguito River Valley Conservancy with Dan Knapp, Long Beach Conservation Corps; Ty Stearns, Urban Corps San Diego County; and Rhody Soria, California Conservation Corps, Riverside/San Bernardino Satellite</i></p> <p>Discussion to cover: The organizational ecosystem of conservation corps groups in California; successful invasive plant management with the conservation corps; opportunities for funding your weed control project through the conservation corps, and more.</p>
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3:50 – 4:00 pm Break	
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<p>4:00 – 5:00 pm Session 13. Management Tools and Techniques</p> <p>Room: <i>Ballroom</i>. Chair: <i>Julia Parish, American Conservation Experience</i></p> <p>4:00 Biological control of Dalmatian toadflax by the weevil <i>Mecinus jenthiniiformis</i> at Hungry Valley. <i>Lincoln Smith, USDA-ARS</i></p>	<p>4:00 – 5:00 pm Session 14. Invasive Species Impacts on Rare Plants</p> <p>Room: <i>Raincross</i>. Moderator: <i>Heather Schneider, Santa Barbara Botanic Garden</i></p> <p>4:00 Quantifying the impacts of invasive plants on California's imperiled flora: A review. <i>Heather Schneider, Santa Barbara Botanic Garden</i></p>
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4:20	Invasive plant species mapping using drones in the Santa Ana River watershed. <i>A.J. Fox, HANA Resources</i>	4:20	Impacts of annual invasive species to the rare annual <i>Erythranthe shevockii</i> (Kelso Creek monkeyflower). <i>Naomi Fraga, Rancho Santa Ana Botanic Garden</i>
4:40	Partnering with the California Conservation Corps on large scale weed removal in the Oroville Wildlife Area. <i>Holly Ferrera, River Partners</i>	4:40	Challenges growing California's rare plants amongst a diverse assemblage of <i>Phytophthora</i> species in the Regional Parks Botanic Garden. <i>Michael Uhler, East Bay Regional Parks</i>
5:00 pm Adjourn (Field Trip participants meet in Raincross)			

Friday, October 18

All field trips will meet promptly at 8:00 AM in the Plaza at the entrance to the Riverside Convention Center for pre-field trip coordination. Please park in the parking lot that is north of the Convention Center. Field trip departure will be at 8:30 AM. You may want to come early (7:55AM) if you need DPR CEUs.

Field Trip 1: Trials, Research and Control efforts at Motte Rimrock Reserve and Santa Rosa Plateau. (Full-day, 8:30 am – 5:00 pm).

Experience a unique ecological mosaic caused by basaltic soil beneath perennial grasslands, oak woodland, coastal sage scrub, and vernal pools, with discussion of Native American history and current grassland management tools. We will start at Motte Rimrock Reserve, hiking 1.4 miles to an overlook along which we will discuss the Reserve's management challenges, including managing habitat for the endangered Stephens' kangaroo rat, ongoing trials to reduce annual grasses to restore coastal sage scrub and perennial grass habitat, and investigating a variety of chemicals/timing to control stinknet (*Oncosiphon piluliferum*), as well as measuring its seed bank longevity and germination. After lunch, we will drive to the Santa Rosa Plateau and hike the Adobe Loop Trail, winding through a diverse array of habitats including oak woodland, chaparral, grassland, and riparian woodland. Discussion will cover perennial/woody species' control history and techniques focused on olives (cutting, tarping, herbicide), *vinca* (herbicide), and blackberry (cutting and herbicide). Coordinator: *Zach Principe, The Nature Conservancy*

Field Trip 2: Santa Ana River, Tributaries, and Uplands: Navigating Urban Issues. (Full-day, 8:30 am – 5:00 pm).

From wild pigs to homeless sites, urban rivers face unique challenges for restoration. Tamarisk, *Arundo*, fountaingrass, and Saharan mustard are being controlled along tributaries and higher in the watershed. The first stop is the 30-acre Angelus Block property, owned and stewarded by Rivers & Lands Conservancy to benefit the federally endangered Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) and associated sand dune ("Colton Dunes") flora and fauna. Most of the Colton Dunes sites are highly invaded by several invasive plant species, including Sahara mustard, shortpod mustard, golden crownbeard, tocalote, stinknet, and a variety of annual grasses. Our second stop is Ryan Bonaminio Park, where construction required mitigation for the increasingly rare inland alkali meadows dominated by saltgrass (*Distichlis spicata*), yerba mansa (*Anemopsis californica*), and trailing wild rye (*Elymus triticoides*). Riverside City Parks contracted RCRC to restore an alkali meadow that was overrun with 5-hook bassia, kochia, salt cedar, Johnson grass, Bermuda grass, and other non-native weeds. A stop at the Lower Tequesquite Creek Restoration site will explore how difficulties with proximity to urban area, homeless encampments, and feral pigs were overcome to restore the site, including a demonstration of the "green climber," a machine operable from a series of remote-controlled grinders which are some of the newest tools available to fight *Arundo donax*. The green climber is much smaller than the typical grinders, can operate on slopes up to 60 degrees, limits potential hazards for its operators, and allows greater visibility in the field. Our third site, Martha Mclean-Anza Narrows Park, will discuss the Santa Ana River

Trust (SART) program, created to help establish the Santa Ana River and to connect the Santa Ana River Trail as an inviting, healthy, and vibrant open space for the community. Through ongoing volunteer clean up and trash services, the native plant garden transformed a dirt slope into an ecologically rich garden that provides a huge visual improvement for both trail and park users, while helping to curb erosion issues that otherwise would impact the river and trails. The final stop is UC Riverside's Herbarium and Coyote Hill, where we will discuss some of the species invasions that have been a part of the type conversion from coastal sage scrub to domination by non-native grasses and forbs. Coordinator: *Arlee Montalvo, Riverside Corona Resource Conservation District*

Field Trip 3: Partnership in Mill Creek Watershed for Invasive Species Extirpation. (Half-day, 8:30 am – 1:00 pm)

Partners working together to control tree-of-heaven and Spanish broom, support successful post-fire recovery, and collaborate with the community. We will be touring restoration sites along Mill Creek, a major tributary of the Santa Ana River with its headwaters in the San Bernardino Mountains. Mill Creek runs for 18 miles out of the mountains until it joins the main stem of the Santa Ana River. The canyon cut by Mill Creek leads through some of the tallest peaks in southern California and is surrounded by steep mountain ridges on both sides. Invasive plant extirpation has been a goal in this area since 2010 and active control efforts are ongoing. We will talk about efforts to control tree-of-heaven (*Ailanthus altissima*), Spanish broom (*Spartium junceum*), and giant reed (*Arundo donax*) using physical and chemical approaches. Stops will include a short walk down to the creek to see a recovering flood plain, a tour of the Mountain Home Village residential community where tree-of-heaven once dominated yards, and a short hike to a Big Falls waterfall. See how the Inland Empire Resource Conservation District, US Forest Service, the Santa Ana Watershed Association, and many other partners — including residents — have come together to extirpate invasive species from this uppermost section of the Santa Ana River watershed. Coordinator: *Aaron Echols, Inland Empire Resource Conservation District*

Field Trip 4: How to Bait for *Phytophthora* using Pears. (Half-day, 8:30am – 12:00pm)

Are you worried about *Phytophthora* in your nursery or your restorations? Learn how to set up an easy test for your plants at this three-hour field trip-workshop! This workshop will provide information on how to build your own testing station and catchment vessel, as well as what supplies are needed for testing. It will cover all steps of testing, which include: selection of plants in the nursery; best pears to purchase; test set-up and procedures; amount of water for testing based on container size; plant, soil, and water temperatures; and post pear handling. Two tests will be performed in real time where select participants will be able to get hands on experience administering a test. Following testing, we will look at pear lesions from previous tests and assess them for possible *Phytophthora* lesions. The workshop will also discuss topics related to record keeping, data management, *Phytophthora* positive detections, plant quarantine, and where to send samples for lab analysis. Afterwards, we will tour the Riverside Corona Resource Conservation District's 3-acre Land Use Learning Center demonstration garden and learn about innovative methods to steward natural resources in natural, urban, and agricultural settings. Coordinator: *Billy Sale, Rancho Santa Ana Botanic Garden*