NEWSLETTER OF THE CALIFORNIA INVASIVE PLANT COUNCIL

Dispatch

VOLUME 26 NUMBER 2 SUMMER 2018

CAL IPC
CALIFORNIA INVASIVE PLANT COUNCIL

1442-A Walnut Street, #462
Berkeley, CA 94709
ph (510) 843-3902 fax (510) 217-3500
cal-ipc.org info@cal-ipc.org

Protecting California's environment and economy from invasive plants

Cal-IPC Dispatch
Summer 2018 – Vol. 26, No. 2
Editor: Doug Johnson
Associate Editor: Claire F. Meyler
Designed by Melanie Haage
Published by the California Invasive Plant Council.

Follow us:

On the cover:
Daniel Hart, Channel Islands Restoration Project Manager, hikes up a side canyon in search of tamarisk. All the treatment materials required are carried in a dry bag backpack. See story page 5. Photo: Channel Islands Restoration

FROM THE DIRECTOR'S DESK

Diversity — biological and otherwise

By Executive Director Doug Johnson

The semantics of wildland stewardship — removing "non-native" plants that are "invasive" — has been recognized as problematic for a long time. But now, in a time when issues of cultural divisiveness are especially raw, it is critical that we remind ourselves and those around us why we do the work we do.

In stewarding California's lands and waters, our goal is to protect ecological function and diversity. Protecting the unique biological heritage of this small piece of the planet is the right thing to do for future generations of people — all people.

A Cal-IPC member recently described a situation in which they wanted to be prepared for a board member who has expressed views in the past that compare invasive plant control to xenophobia. "If we work to remove plants that are from somewhere else," the argument goes, "do we also support removing people who come from somewhere else?"

The answer is no, we do not. (And, to clarify, we don't work to remove all plants that are from somewhere else, only the few species that spread widely and cause environmental and economic harm in California.)

Issues of immigration, international justice, and human welfare are prevalent in the news. These are not unrelated to natural resource stewardship; environmental stress is one of the drivers of these issues around the world.

Increasing population in California inevitably puts more strain on our environment, wherever that population growth comes from. To solve environmental problems, we need to address people problems, too. Solutions will come from teamwork, and we need everyone's talents, passions, and perspectives on the team.

> **"To solve environmental problems, we need to address people problems, too. Solutions will come from teamwork, and we need everyone's talents, passions, and perspectives on the team."**

The theme of this year's Symposium in Monterey is "BioDiversity: Expanding our Vision." One of the important ways we can expand our community's vision is by actively discussing how to strengthen equity, diversity, and inclusion in conservation fields. The Symposium program includes a panel session and a discussion group aiming to share tangible actions we can take in our workplaces.

And about those baggage-laden terms, "non-native" and "invasive," when you sense that the technical ecological definitions are getting swamped by more colloquial (mis) interpretations, consider using a term I've found myself using more and more: "environmental weed."

Wildland Weed News

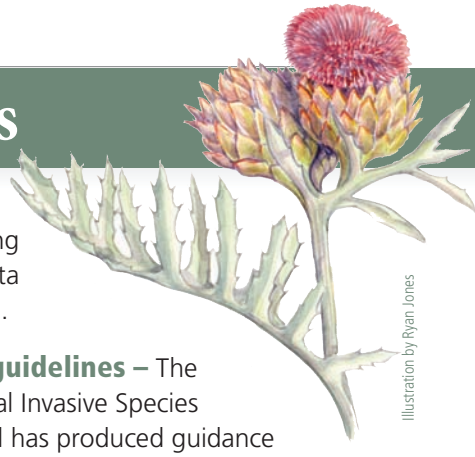


Illustration by Ryan Jones

CAL-IPC UPDATES

2018 Cal-IPC Symposium in Monterey – Early-bird registration until Sept. 15, discounted room block first come/first served through Oct. 8. Program posted online. See page 9.

AB 2470 – As of press time, our bill to fund Weed Management Areas and codify the state's interagency coordinating council is moving to the Senate floor for a vote, having passed through six committees and the Assembly floor. www.cal-ipc.org/AB2470.

Invasive lunch – We partnered with UC Cooperative Extension to present lunchtime webinars during California Invasive Species Action Week. ucanr.edu/sites/invasivelunch.

Invasive sea lavender – We are completing our third year of removal efforts across San Francisco Bay, with funding from the National Fish & Wildlife Foundation (NFWF). We are treating more areas, conducting detailed mapping, and assessing treatment success to support eventual full eradication.

Desert knapweed – We are preparing for treatment in the winter and spring of 2019, if desert rains come to Borrego Springs this year. Funded by NFWF.

North Coast knotweeds – Humboldt and Del Norte county partners are working on year 4 of their efforts to remove three species of knotweed, as well as *Arundo*, rush skeletonweed and shiny geranium. Funding from the California Wildlife Conservation Board (WCB).

South Central Coast – San Luis Obispo and Santa Barbara county partners are in year 2 of eradication efforts for Japanese dodder, Canada thistle, *Elyumus farctus*, and invasive sea lavender, while tracking spiny emex and stinkwort. Funding from WCB.

Arundo mapping – Mapping across the Central Valley is complete, and efforts have begun to support local partners in designing, permitting and funding watershed-scale projects to remove *Arundo*. Article page 8.

Central Sierra – Calaveras, Tuolumne and other central Sierra counties are controlling weed populations threatening to spread in areas of high tree mortality. Funding from the USDA Forest Service.

Wildland Volunteer Network – Trainings are being held around the SF Bay Area, with one in the works for Sacramento. www.cal-ipc.org/wvn.

Landscaping guidelines – We are working on ways to ensure that landscaping palettes do not include invasive plants as part of an update to ASHRAE 189.1 sustainable building standards, which inform building codes internationally.

YOUR MEMBERSHIP

Thank you for keeping your membership current. Note that your expiration date is shown on the mailing label of this newsletter.

OTHER NEWS

Gravel Pit BMPs – The Invasive Species Council of British Columbia has posted a YouTube video on "Best Management Practices for Invasive Plants During Gravel Pit Operations."

Eradication playbook – The Oregon Dept. of Agriculture has produced an "eradication playbook" with guidance on undertaking pest eradication projects based on their experience with complex eradications of Asian gypsy moths and Japanese beetles.

Western states biosecurity initiative – A recording is available online from the Western Governors' Association invasive species webinar, introduced by Gov. Ige of Hawaii and with a panel of top experts in invasive species mapping and data sharing.

NISC guidelines – The National Invasive Species Council has produced guidance to strengthen invasive species information management and aggregation. doi.gov/sites/doi.gov/files/uploads/isim_guidance.pdf

Rats hurt reefs – Coral reefs are less healthy near islands where invasive rats have wiped out birds and their attendant guano. Smithsonian.com, July 12.

Invasives and climate change – A recording is available online from the second annual Northeast Regional Invasive Species and Climate Change Symposium RISCC Management Symposium, featuring top academics studying the interactions of these two global threats.

Planning for islands – The World Conservation Union (IUCN) published *Guidelines for Invasive Species Planning and Management on Islands,* available online.

Jason Giessow, DENDRA Inc., collecting cane density information for an Arundo *infestation on a Tehama County waterway in the Central Valley. Article page 8. Photo: Dana Morawitz*

Flax-leaf broom on Catalina Island

Benjamin J. Dion, Santa Catalina Island Conservancy

The Catalina Island Conservancy's Catalina Habitat Improvement and Restoration Program (CHIRP) has been battling the invasive flax-leaf broom (*Genista linifolia*) for approximately 15 years. Introduced to Santa Catalina Island through the ornamental landscaping trade about a century ago, *G. linifolia* has infested an estimated 4,200 acres — or about 9 percent of the Island's approximately 48,000 acres. As a result, the plant has become the number one target species for CHIRP's Invasive Plant Project (IPP) because it aggressively out-competes native species, alters soil chemistry, and increases fuel loads for wildfires. To make matters worse, *G. linifolia* matures in two years or less, and seedbanks are long-lived. In fact, seeds can germinate up to 50 years after they are dehisced onto the ground — after a half-century of dormancy in the soil!

Further complicating the issue, the largest infestations of *G. linifolia* occur in and around the city of Avalon, which is the main entry point into the interior of the Island for nearly 4,000 full time residents and over one million visitors per year. Vehicles and hikers who unknowingly pick up contaminated soil and mud on their tires or on the bottom of their boots disperse seeds across Catalina, establishing new populations.

Each year, CHIRP IPP aims to control all known populations of *G. linifolia* on the Island while also preventing the establishment of new populations. There are, however, many challenges associated with controlling the spread of *G. linifolia* and other invasive species, including limitations in funding and the constant threat of new invasive species being introduced and becoming established.

In 2017, the Conservancy's CHIRP IPP staff and volunteers — along with a dedicated team of contractors from the non-profit, American Conservation Experience — spent approximately 4,800 hours managing more than 40 different invasive species across Catalina Island.

G. linifolia *is believed to have been introduced to Catalina by florist Francesco Franceschi via the ornamental landscaping trade in the early 1900s. As the possible "patient zero," he may have traded* G. linifolia *for the endemic Catalina Ironwood, which he is known for introducing to the horticultural trade. Photo: Benjamin Dion*

Almost half of their time was spent surveying for and controlling *G. linifolia*. Additionally, 2017 was a historic rain year on Santa Catalina Island, which led to a drastic increase in recruitment from *G. linifolia* seedbanks, as well as many other problematic species such as milk thistle (*Silybum marianum*), fennel (*Foeniculum vulgare*) and fountain grass (*Pennisetum setaceum*). As a result, the CHIRP team quickly had their work cut out for them.

G. linifolia *has infested about 9 percent of Santa Catalina island, out-competing native species. Photo: Bill Bushing*

Catalina did not receive a lot of rain in 2018, slowing the spread of invasive plants and allowing CHIRP the time to survey and treat populations they were unable to treat the previous year. For example, CHIRP controlled over 5,000 mature milk thistles in multiple locations throughout the Island in 2017, conducting bare ground applications of Milestone®, a preemergent herbicide, throughout the largest and most dense populations. So far in 2018, less than 100 immature milk thistles have required treatment, which has allowed CHIRP to focus more time and energy surveying and treating *G. linifolia*.

In addition to the successful management actions performed by the Conservancy's invasive plant team between 2017 and 2018, the CHIRP program has recently been awarded two new grants that allow continued funding for the management of *G. linifolia* and other target species through the year 2020.

On Catalina Island, *G. linifolia* is very aggressive, loves fire, and can grow in full shade to full sun in many different habitats (everything from the driest, most bare cactus sage scrub to waterlogged soil and riparian areas). Given that it grows in and around Avalon, it is more than capable of spreading to the mainland, mainly via mud on hiking boots and truck tires. There is also the more serious movement of soil for grading roads and construction projects, and the possibility of carrying seeds on utility vehicles that travel between the island and mainland. *G. linifolia* is currently listed in the Cal-IPC Inventory as a "Watch" species.

The Catalina Island Conservancy is a non-profit charity with a mission to provide conservation, education and recreation programming for 42,000 acres of open space land on Southern California's Catalina Island. Learn more at: www.catalinaconservancy.org.

Eradicating tamarisk from the Sisquoc River Watershed

Tanner Yould, Channel Islands Restoration

Channel Islands Restoration (CIR) has been working since October 2017 to eradicate tamarisk from the Sisquoc River Watershed. The Sisquoc River is a designated Wild and Scenic River that flows through the San Rafael Wilderness located within the Los Padres National Forest.

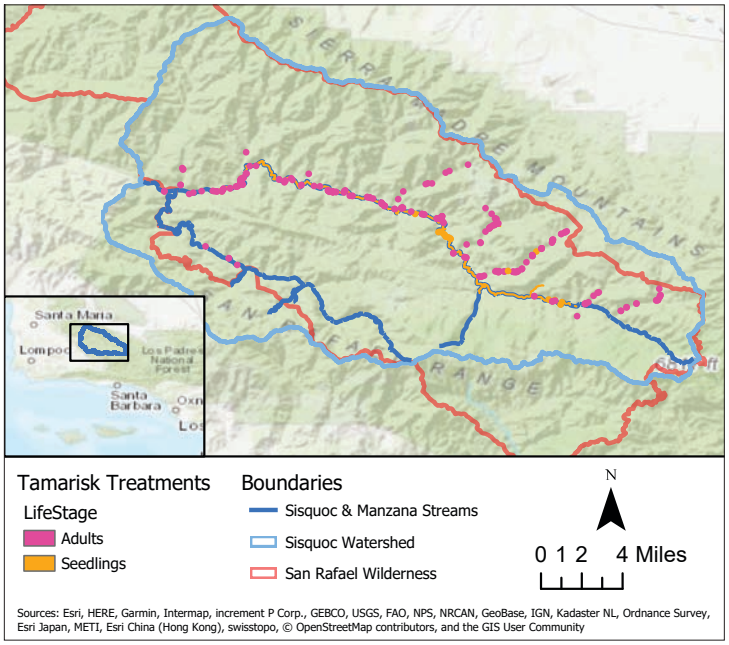
Within the wilderness area, the river's watershed spans a massive 155,450 acres (240 square miles) that contains chaparral, riparian, and conifer communities. It supports rare and sensitive species like arroyo toads, California red-legged frogs, steelhead trout, and California condors. In the summer of 2007, the Zaca fire burned more than 240,200 acres of the Sisquoc watershed. Native plants such as arroyo willow, sycamore, and cottonwoods had previously dominated the Sisquoc River's riparian corridors, but the fire opened large stretches along the river to invasion from tamarisk. There, it was able to gain a foothold, and over the last 10 years tamarisk has steadily expanded its presence. The original source of the tamarisk is not known.

Eleven years after the fire, the US Forest Service is collaborating with the National Fish and Wildlife Foundation (NFWF) and CIR to eradicate tamarisk (*Tamarix ramosissima*) from the Sisquoc watershed. Funded by a grant from NFWF, we set about figuring out the logistics of getting workers and supplies into the remote wilderness. Working in this area proved to be challenging. As a designated Wilderness Area, no mechanical equipment is allowed. The main stem of the river is about a 10-mile hike from the nearest road. We were further restricted by high heat and a lack of reliable water sources during the summer, and flooded or washed out roads and trails in the fall.

In the winter and early spring season, our teams of five to ten people made six 5-day trips into the San Rafael Wilderness. We hired a local horse and mule team to carry our gear and supplies. Each day, staff would hike through tributaries and along the riverbed, surveying and treating tamarisk. Over the course of the six trips, CIR surveyed 97 stream miles, and in the process, hiked more than 250 miles, mostly off-trail in steep canyons and through dense chaparral and riparian vegetation.

Of the areas surveyed, the canyons on the north side of the river supported many more tamarisk than those on the south side. At this point, we believe that this may be due either to increased sun exposure or to the northern side's closer proximity to existing populations.

In the main stem of the river and tributaries, we typically found tamarisk adults in open sandy and rocky washes, rather than mixed in with native riparian trees. Most of the adults that we saw were about 7 to 8 feet tall with multiple trunks. To treat these, we applied herbicide using the basal bark treatment method. The lowest 12 inches of each trunk was sprayed (without cutting) using hand-held spray bottles with finger triggers. During the first two treatment trips, within 10 feet of water we used



After surveying 97 miles of the Sisquoc River and its tributaries, the team treated 707 adult trees and pulled more than 94,000 seedlings.

Polaris (isopropylamine salt of Imazapyr) mixed with Agri-dex (a surfactant); and beyond 10 feet from water, we used Pathfinder II (Triclopyr). In both cases, red dye was added so that the treatment area could be seen. In order to simplify the process, on the third and following trips we used only Polaris, regardless of whether the tree was within 10 feet of water or beyond.

We opted to employ basal bark treatment rather than a cut-stump approach, because the basal bark method required substantially less equipment: just a spray bottle and a machete to clear surrounding brush. The option to use less equipment was particularly appealing when faced with hiking up to ten miles per day. In past tamarisk treatment efforts, we have found that

(Continued on page 14)

CIR staff and volunteers, as well as wranglers from Los Padres Outfitters, pose for a picture before packing up camp.

Fostering diversity in land management: An interview with Dr. Nina S. Roberts

Claire F. Meyler, California Invasive Plant Council

At the recent Bay Area Open Space Council Conference, I had the opportunity to listen to a riveting talk called "Beyond Barriers: Challenges & Opportunities for Parks and Open Space," given by Dr. Nina S. Roberts, Professor of Recreation, Parks, and Tourism at San Francisco State University, and Director of the University's Institute for Civic and Community Engagement. Dr. Roberts hit several notes relevant to Cal-IPC's work as a leader in the conservation field, especially as our staff and board work to draft an "equity, diversity, and inclusion" policy and action plan. I followed up with her to explore how we, and our partners in the land management community, can continue to foster inclusivity in our work.

Dr. Nina S. Roberts led a plenary session at the 2018 Bay Area Open Space Council Conference in May in Richmond, CA. This year's gathering brought 500 open space planners and stewards together to address "Conservation in a Time of Change." Photo: Bay Area Open Space Council

CM: In 2014, Green 2.0 published a report on the "State of Diversity in Environmental Organizations," finding that environmental organizations still have a long way to go to represent America's diversity in their workforce. People of color comprise 36% of the U.S. population, and make up 29% of the science and engineering workforce. However, in environmental organizations, there persists a "green ceiling," wherein people of color comprise only 16% of paid staff in the organizations surveyed. The need to diversify is not a new concept. How can land management organizations break free from long-held patterns of bias and insular recruiting?

NR: Organizations must go the extra mile. There is a growing generation of people who want to do this work. There are a variety of ways to reach out to them in authentic ways. Utilize social media. Find them in their organizations. Do your homework. Assess your institution and find allies in the field who are doing diversity work. Create space for multiple perspectives and connect people across cultures.

It's important to understand who is in your backyard. Here in California, we have a majority population of so-called "minorities." Yet it can sometimes be hard for young people across cultures to get started. In many organizations, the expectation is that young people will work as volunteers first. But there's a socio-economic disparity that may prevent many young people of color from volunteering. If an organization depends on a volunteer core to feed a hiring pipeline, that often limits the candidate pool.

Instead, work a little harder to send job postings to a variety of organizations that specialize in equity and diversity and engage people of color explicitly, such as Minorities in Agriculture, Natural Resources, and Related Sciences. If you're using a head-hunter, include diversity as part of your process. Ensure that the language of your posting isn't limiting your audience. Including your diversity statement is a good gesture, but make sure organizational policies follow through on this promise.

CM: The "State of Diversity" report uncovered a steep drop-off in positions of leadership held by people of color in environmental agencies. Across non-profits, government agencies, and foundations, 27% of interns were people of color, yet only 15% of leadership positions and 8% of board seats were filled by people of color. How can our organizations bridge this leadership gap?

NR: As a surge of baby boomers retire, senior leadership positions will become open. Organizations may want to "grow their own talent" from the inside. But, if the organization is predominantly white, this practice maintains the status quo. We have a growing number of young people across ethnic groups that are earning their stripes in environmental studies and related fields. However, once they are hired, folks from the younger generation may find internal barriers within an organization that is still dealing with structural constraints and lack of cultural competency.

All too often, a person of color is hired into a management position, and then leaves within 2-3 years; at times citing that the institutional culture was not welcoming to multiple perspectives. Instead of dismissing an early departure as someone who "couldn't cut it" in an organization, I would advise leadership to take the time to stop and examine why this person left, and what could have been done differently to maintain relationships leading toward greater retention.

The organization also needs to be clear about messaging their commitment to inclusivity. Its fine to display diversity in various forms on the brochure, but don't stop there because that can be a band-aid effect. Organizations that are committed to including diversity must show

a track record with internal successes. It takes time. It can't be rushed. Try at every opportunity, as persistence pays off.

CM: The "State of Diversity" report included a "ray of hope" in the growing number of women in environmental organizations: more than half of leadership positions were filled by women, and 70% of executive directors in grant-making foundations were held by women. However, a newly released 2016 survey from the National Academies of Sciences indicated that sexual harassment and gender bias is still persistent in science-related fields. In particular, the report found a "macho" culture in scientific disciplines that was especially high at field sites. What can land management organizations do to support our field staff and make sure everyone feels welcome and safe?

NR: The dynamic of gender and race combined adds a new level of challenge around what happens at this intersection. There is a broad need for more men to be allies to women, to shift the paradigm of inclusion, especially with support from the leadership. It takes training, and instating consequences for actions and inappropriate behaviors. Do not keep staff members if they don't have the moral compass to maintain interpersonal relationships across difference. People can change, but it can take time, and requires unwavering leadership from senior level staff.

Sometimes, you may find entrenched staff who say, "This is the way we've always done things." Traditions have their place. We need to balance standards and policies with what works best pragmatically to create a welcoming environment, creating a "no tolerance policy" for gender/racial/other inequity at all levels. And yes, a welcoming environment can exist within an organization that has a strong hierarchical structure.

It's also important to note that the research people often discuss in the natural resources arena is largely focused on diversity in terms of race. However, professionals need to move beyond diversity as code for "race," but rather acknowledge more intentionally the depth of meaning that both scholarship and our overall social fabric have taught

Dr. Nina S. Roberts (second from right) and a group of participants at the 2017 People of the Global Majority in the Outdoors, Nature, and Environment, an annual summit in Berkeley that gathers professionals of the global majority (people known as "minorities" in America, but more numerous worldwide) to lead the racial equity and inclusion movement in the outdoor and environmental sectors. Photo: Dr. Nina S. Roberts

us. It means being proactive in opening our workforce to all kinds of people with different abilities, backgrounds, lifestyles, sexuality, gender, religious and spiritual beliefs, and so on, and being prepared to take on challenges that can also result. Research and practical experience both show change and progress is not possible without diversifying the workforce.

Everybody has a connection to nature in some way. We cannot survive as a species without clean air and clean water, for example. To engage diverse audiences and workers, we need to meet people within their communities and embrace those connections. Furthermore, keep in mind that philanthropists want to support organizations that are doing good work in this realm. There's a wide array of funds out there waiting to be used to support these efforts. I think we are seeing a shift to greater sustainability of programs for reaching new audiences. Cal-IPC is doing the right thing by making this a priority.

Short list of resources recommended by Nina S. Roberts:

- Dr. Nina S. Roberts Faculty Website: online.sfsu.edu/nroberts
- The Center for Diversity & the Environment (professional organization): www.cdeinspires.org
- Diverse Environmental Leaders (speaker's bureau): delnsb.com
- Green 2.0 (diversity initiative): www.diversegreen.org
- California Outdoor Engagement Coalition: outdoorengagement.berkeley.edu
- Environmental Educators of Color (Facebook Group): www.facebook.com/groups/environmentaleducatorsofcolor/
- Literacy for Environmental Justice: www.lejyouth.org
- Minorities in Agriculture and Natural Resources & Related Sciences: http://www.manrrs.org
- *Good to Great and the Social Sectors* by Jim Collins (book on how to create unity while meeting mission): www.jimcollins.com/books/g2g-ss.html

Some environmental groups for diverse identities

- Black Girls Surf
- Brown People Camping
- Color Outside
- Diversify Outdoors
- Fat Girls Hiking
- Green Latinos
- Green Muslims
- Latino Outdoors
- Latinx Hikers
- Native Women's Wilderness
- Natives Outdoors
- Outdoor Afro
- Outdoor Asian
- Outdoor Families
- OutThere
- Queer Nature
- Unlikely Hikers

Sample models for diversity work

- People of the Global Majority in Outdoors Nature & Environment Summit: www.pgmone.org
- Golden Gate National Parks Conservancy's Youth Leadership programs www.parksconservancy.org/learn/youth/leadership/
- Vida Verde youth education programs. www.vveducation.org
- Youth Outside (resources and list of grantees/models for successful diversity work in environmental sector) www.youthoutside.org/
- Diversity, Inc (magazine with yearly list of businesses & models to build diverse workforces) www.diversityinc.com

Mapping *Arundo* (giant reed) across the Central Valley

Dana Morawitz, Cal-IPC Conservation Program Manager and Jason Giessow, Dendra, Inc.

Giant reed (*Arundo donax*) is one of the most damaging invasive plants in California. Its dense canes crowd riparian areas, destroying wildlife habitat and consuming extra water. Major removal projects have been undertaken in many southern coastal watersheds, and a major project along the Salinas River is underway now. This year's Cal-IPC Symposium in Monterey includes a field trip to Salinas River *Arundo* removal sites.

In 2008-2010, Cal-IPC undertook mapping *Arundo* in coastal watersheds from Mexico to Monterey to support removal efforts. The resulting maps and report on impacts can be found on our website. This effort provides a foundation for removal projects from these watersheds. In 2016, as part of Proposition 1 work to enhance stream flow, the California Wildlife Conservation Board (WCB) funded Cal-IPC to map *Arundo* over another heavily impacted region, the Central Valley.

Cal-IPC formed a team of mapping partners, including the Northern Regional Office of the California Dept. of Water Resources, Sonoma Ecology Center, Council for Watershed Health and Dendra, Inc. to cover a 17 million-acre area. Using satellite and aerial imagery, mappers digitized populations of *Arundo* into GIS, searching the entire Central Valley, as well as upstream into the foothills where drainages contained *Arundo*. Selected ground surveys were used to confirm mapping accuracy and to collect data in areas where overstory or single canes made mapping *Arundo* difficult using our typical approach.

A dataset of *Arundo* distribution in the Central Valley is nearly complete. We found approximately 2,200 acres of *Arundo* on over 300 waterways, totaling approximately 3,500 river miles. The detailed mapping produced over 30,000 polygons. This data set will be available at Cal-IPC.org.

The Arundo spatial data set will be used to both quantify watershed-based impacts and guide systematic watershed-based control programs. *Arundo*'s excessive water consumption from evapotranspiration will be calculated using algorithms based on variables such as *Arundo* leaf area and cane density measured in the field. Wildlife impacts will be gauged by comparing the ecosystem changes caused by *Arundo* to the habitat requirements of listed Threatened or Endangered species, while accounting for both *Arundo* and listed species abundance in each watershed unit. This impacts assessment will help in prioritizing watersheds for *Arundo* removal projects in the Central Valley, while maintaining a top-down watershed based implementation approach that improves sustainability and success of *Arundo* control programs. A Central Valley-wide assessment of impacts will also provide potential funders and project proponents with an assessment of the expected benefits from watershed-based control programs.

We have begun working with regional partners to help conceptualize and design *Arundo* removal programs for their local watersheds. Mapping data is shared, permitting approaches are explored, and long-term control funding strategies are discussed. Building a sustainable watershed-based control program is no minor task, but there is a successful track record in the state. We assisted the Yolo County Resource Conservation District in applying for a grant from WCB to remove *Arundo* from Cache Creek and Putah Creek watersheds (the grant was awarded earlier this year). We have also begun conversations with RCDs at the northern end of the Sacramento River Valley, and will continue to meet with prospective local leads across the Central Valley.

There are two critical parts of a successful *Arundo* control program on a watershed: treating all *Arundo* and treating it until 100% control is achieved. Because plant fragments (primarily rhizomes) can wash downstream and start new infestations, it is

(Continued on page 11)

Arundo *in the Central Valley. This map shows all* Arundo *mapped using various sources of aerial imagery from over the last six years. Projects resulting from the mapping will need to address full watersheds over roughly ten years. [*Arundo *in the Delta was mapped by Sonoma Ecology Center through a separate earlier project but is included here for completeness. Of all the* Arundo *mapped and shown here, approximately 250 acres is already under treatment.]*

Bob Case

Join us in Monterey to share the latest in invasive plant biology and management! Missed the early bird deadline on Sept. 15? Register by Oct. 31 to grab final savings.

SYMPOSIUM PROGRAM

Stewarding biological diversity is inherent in Cal-IPC's mission. Protecting cultural and intellectual diversity is important to our community's success as well. The 2018 Cal-IPC Symposium explores the ways our work spans these areas. Join colleagues from across the state to set our sights on a future with stronger natural resource management. Together we will share the latest updates on effective tools, new weeds, relevant research, and strategic approaches.

Wed., Nov 7: Trainings

Invasive Plant Management 101
Calflora's Weed Manager
BMPs for Controlling Phytophthora
6-8pm DPR Laws & Regs session

Thurs. & Fri., Nov 8-9: Main Conference

With lightning talks, an overview of invasive plant management in the Monterey Bay region, and special guest speaker Greg Haubrich, Noxious Weed Coordinator, Washington State Dept. of Agriculture. Session topics include:

- Revival of Weed Management Areas
- Coastal management efforts
- Fire ecology and post-fire recovery
- Restoration approaches
- Prioritization, mapping, & management
- Outreach and communications
- Aquatic weed management
- Biocontrols
- Equity, diversity, and inclusion
- Invasive snakes, nutria, and shot hole borers
- Addressing *Phytophthora* in restoration
- Research on invasive plant biology
- Regional planning and funding

Sat., Nov 10: Field Trips

From char to verdant: Visit Big Sur Land Trust's Mitteldorf Preserve, recovering from the 130,000+ acre Soberanes Fire.

Righting the upside-down river: Visit the Salinas River, site of a cutting edge partnership to eradicate *Arundo*.

From bombs to biodiversity: Visit Fort Ord National Monument.

Salt water to fresh water and everything in between: Kayak in Elkhorn Slough and visit biologically-rich coastal wetland habitats.

Plus posters, student contests, awards, auction and raffle, photo contest, and exhibitors!

PRICING

Registration includes DPR Laws & Regs session, banquet dinner Thursday evening, plus subsidized cash-and-carry breakfast and lunch on Thursday and Friday. Trainings and Field Trips are extra.

Member: $325 early bird / $350 after Sept. 15 / $370 after Oct. 31
Non-Member: $375 early bird / $400 after Sept. 15 / $420 after Oct. 31

Saturday field trips explore invasive plant management efforts in the region, such as Sand Hill Farm, a former conventional farm that is being transitioned to a combination of native habitat and sustainable organic farm fields. Photo: Elkhorn Slough National Estuarine Research Reserve

Student: $50 early bird / $65 after Sept. 15 / $80 after Oct. 31 (in degree program or up to 1 year post graduation)
Symposium Volunteer: $220 while they last (requires 5 hours of help during event).

OUR VENUE

We're meeting at the Monterey Hyatt Regency, a mile from the ocean and downtown Monterey. We have a limited room block at the special rate of $125 for single/double occupancy, through Oct. 8. Use the link on our site to make your reservation.

REGISTRATION

Visit cal-ipc.org/symposium to register, find information about the Monterey Hyatt Regency, participate in the photo contest, and find more Symposium information.

Weed management on CDFW lands

By Elizabeth Brusati, California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) manages 1.1 million acres of land across 749 properties encompassing deserts, mountains, wetlands, and grasslands. These public lands protect habitat for wildlife and plants while providing opportunities for hiking, birdwatching, hunting, and fishing. Most of these acres are either Wildlife Areas, created for hunting and other recreational activities, or Ecological Reserves, protected to benefit a particular species or habitat type. As in any other natural areas, protecting the ecological value of these lands requires managing invasive plants. Joel Trumbo in the CDFW Lands Program is CDFW's Integrated Pest Management (IPM) Coordinator, helping regional staff find the best solutions to invasive plants.

Joel Trumbo at Boggs Lake Ecological Reserve in Lake County, an upland vernal pool occurring on volcanic substrate that contains unusual plant species. Photo: CDFW.

Joel's job includes helping local staff identify weeds and determine the best management option based on the ecological values that need protection and the available staff, equipment, and other resources. He and a seasonal staff person form the entire IPM program based at the Sacramento headquarters. During 28 years at CDFW, Joel has learned that the best way to develop a management approach is to work cooperatively with the local staff to craft a solution that fits their situation, rather than coming in as the "expert" dictating the right way to do things. He starts by asking what they are trying to protect and how invasive plant management fits into the larger management of the property. For most of these staff, weed work is only a small piece of their job, which makes prioritization important. Joel uses his personal relationships with the biologists and familiarity with the properties to figure out the best approach.

Invasive plant management techniques used on CDFW properties include physical control such as disking or mowing, herbicides, and occasionally prescribed burning. Local staff carry out most of the work, with some contractors and partnerships with other organizations. As a Pest Control Advisor licensed by the state Department of Pesticide Regulation, Joel can recommend specific herbicides and application methods. A local biologist wanting to use an herbicide must submit a request detailing the proposed project, which Joel then uses to write a recommendation specifying the herbicide and application method. At the end of each project using chemicals, the biologist reports the amount of herbicide used and the percentage of the weed controlled. One of Joel's considerations is to avoid using one herbicide mode of action too often in order to prevent the development of herbicide resistance in a particular weed population.

While CDFW lands harbor a wide variety of invasive weeds, the most problematic weeds on a statewide level are species such as tamarisk, perennial pepperweed, yellow starthistle and other thistles, and tree-of-heaven. Aquatic weeds are a serious problem due to the difficulty of controlling them, with water primrose and parrotfeather the worst of the bad species. Aquatic weeds not only reduce biodiversity but also make managing water in canal systems extremely difficult. Some CDFW wetlands need water levels manipulated throughout the year, but aquatic weeds can block the channels and hinder this management.

In recent years, Joel has worked to increase the use of biocontrol agents for invasive plant control. He sees biocontrol as a viable tool at sites where other methods are not feasible, i.e. where weed populations are too big to be controlled. Specifically, he is investigating the use of biocontrol for tamarisk, giant reed and Russian knapweed. Joel has been working with CDFW regional biologists and biocontrol researchers from the USDA Agricultural Research Service and the California Alliance for Tamarisk Biocontrol, headquartered at UC Santa Barbara, to develop guidelines for biocontrol agent releases on CDFW lands. While generally considered a low-risk method of invasive weed control, using biocontrol in areas where wildlife may use invasive plants for habitat is an important consideration. An example of this involves releases of the tamarisk beetle in riparian areas within the range of the federally endangered southwestern willow flycatcher.

Evaluating the success (or lack thereof) of projects is a major focus for the IPM Program. Each year, Joel surveys the local biologists on their worst weeds and whether populations are increasing, decreasing, or holding steady, in order to determine where to focus efforts the following year. He has found that it is important to keep expectations realistic,

as much weed work relies on making incremental progress rather than great leaps. "Holding steady" can represent success when faced with large populations and not enough resources to eradicate them. Adaptive management is one of Joel's key strategies; in other words, change what you're doing if it's not moving you towards your goal.

When not directly developing weed management projects, Joel works to improve invasive plant management throughout California. Each spring he organizes "The Most Fun Ever!," more formally known as the CDFW Wildlands IPM Seminar. This two-day class, primarily for CDFW staff but with participants from other agencies, brings in speakers to cover a variety of invasive species issues, so that attendees can take that knowledge to their local staff. This year's speakers included Ramona Robison of Cal-IPC. Many Cal-IPC members also know him as the enthusiastic moderator of the Cal-IPC Symposium's "Pesticide Laws and Regulations" session. In addition, he has served on the Technical Advisory committees for Cal-IPC Best Management Practices manuals, including the upcoming guide to developing an invasive plant management program.

Joel says the best part of his job is the opportunity to work on new and exciting problems every day. He also cited the dedication of the staff in the Regional offices and on the individual properties. The job gives him the opportunity to travel around the state and see a great variety of places.

Joel helped facilitate removal of invasive musk thistle and Canada thistle at the Smithneck Creek Wildlife Area (Sierra County) by a Tahoe-based California Conservation Corps team as part of a Sierra meadows restoration project led by Cal-IPC. Photo: CDFW.

Note: In June, Joel was promoted to Program Manager of the Lands Program.

For more information and locations of CDFW lands near you, visit https://www.wildlife.ca.gov/Lands.

Elizabeth Brusati is a former Senior Scientist at Cal-IPC.

CDFW SUCCESSES:

- Musk thistle at Truckee River Wildlife Area — This project, a partnership between CDFW, the nonprofit Truckee River Watershed Council, Tahoe National Forest, and the California Conservation Corps (CCC), has achieved success after several years of management. Local volunteers are monitoring its progress using Calflora's Observer app. Cal-IPC provided funding through grants from the Wildlife Conservation Society's Climate Adaptation Fund.
- Tamarisk at Camp Cady, Mojave Desert — This partnership with Quail Unlimited and the CCC has greatly reduced tamarisk, helped by the tamarisk beetle (biocontrol agent), which moved into the area on its own.
- Giant reed at Gray Lodge, Butte County — Wildlife Area staff have nearly eradicated giant reed from one of the most important waterfowl areas in the northern Central Valley.
- Grassland restorations — Two particularly successful projects removing yellow starthistle are in Tehama and Napa Counties.

Arundo

(Continued from page 8)

essential to address all *Arundo* in the watershed. This means getting access permission to conduct removal efforts from all landowners with *Arundo* on their property, which is time intensive. The program must also treat re-sprouting *Arundo* for at least 10 years. Not controlling all *Arundo* on a watershed and walking away too early are the hallmarks of failed *Arundo* control projects. That is why long-term comprehensive control programs must be set up if a project is to be successful.

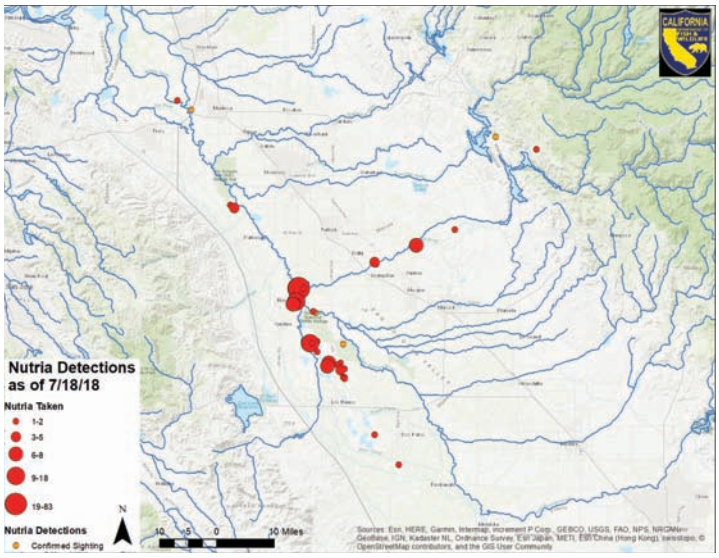
Environmental regulatory permitting is another challenge, especially since *Arundo* removal work is typically happening within the floodplain of water bodies. One of the goals of the project is to develop a consistent approach that lends itself to a standardized watershed-based approach from permitting agencies. This includes using the spatial *Arundo* data, sensitive species distributions, and detailed methods and timing of work activities to minimize and avoid impacts.

The Central Valley should greatly benefit from the comprehensive *Arundo* mapping and impact assessment. Regions will be empowered to tackle *Arundo* with sustainable and achievable control programs that target all *Arundo* on a waterway or watershed. The benefits to natural resources and our communities will be significant, as water conservation, reduced flood and fire risk, and habitat enhancement will help to build resiliency in the riparian communities that our state depends on.

Preparing to sample cane density and leaf area near Tehama County. Photo: Dana Morawitz

Invasive nutria threaten California wetlands

Note: This article is taken from information on the California Department of Fish and Wildlife website and published interviews with Valerie Cook-Fletcher, Senior Environmental Scientist, Invasive Species Program, at the California Department of Fish and Wildlife (CDFW) www.wildlife.ca.gov/nutria

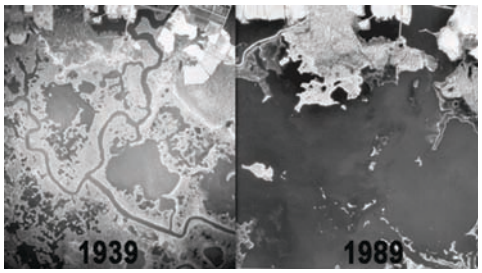


Confirmed detections of nutria in California. As of July 18, 2018, 191 nutria have been taken in California, with several additional animals confirmed present, across Merced, Stanislaus, San Joaquin, Fresno, Tuolumne, and Mariposa Counties, with the most finds being near the confluence of the San Joaquin and Merced Rivers.

Nutria, or copyu (*Myocastor coypus*) have returned to California. This invasive rodent species has devastating impacts on wetland habitats, agriculture, and infrastructure. Valerie Cook-Fletcher, Senior Environmental Scientist for the California Department of Fish and Wildlife's Invasive Species Program, reports, "Nutria are a big issue in the state of California, given their impacts to wetlands, severe degradation of habitat, loss of soils, loss of stream bank stability, and more. Particularly in the Central Valley, their presence impacts water conveyance systems: levees, irrigation, canals, and flood protection. There are serious implications across several different categories of resources."

Native to South America, nutria were originally introduced to the U.S. for the fur trade in 1899. Following the collapse of the fur trade in the 1940s, many farmed nutria were released into the wild. Records indicate that nutria were present in the Central Valley and South Coast of California in the 1940s and 50s. These populations were eradicated in the 70s. In 2017, a reproducing population of nutria was discovered in California's San Joaquin Valley; as of July 2018, nutria have been confirmed in Stanislaus, Tuolumne, Merced, San Joaquin, Mariposa, and Fresno counties, with over 190 animals being taken so far.

Through their extensive herbivory and burrowing habits, nutria have devastating impacts on wetland habitats, agriculture, and water conveyance/flood protection infrastructure. Nutria consume up to 25% of their body weight in above- and below-ground plant material each day. These rodents waste and destroy 10 times more vegetation than they consume, causing extensive damage to the native plant community, soil structure, and nearby agricultural crops. The loss of plant cover and soil organic matter results in severe erosion of soils, in some cases converting marsh to open water.



Wetland loss caused by nutria damage in Blackwater National Wildlife Refuge, Delmarva Peninsula, Chesapeake Bay. Left, normal marsh in 1939 before nutria introduction in the 1940s. Right, by 1989, over 50% of the Refuge's marshes had been converted to open water due to the destructive feeding habits of nutria. Photos: USFWS.

Further, nutria burrow into banks and levees, creating complex dens that span as far as 6 meters deep and 50 meters into the bank and often cause severe streambank erosion, increased sedimentation, levee failures, and roadbed collapses. The destructive feeding habits of nutria threaten populations of rare, threatened, or endangered species that rely on critical wetland habitats. Nutria also serve as hosts for tuberculosis and septicemia, which are threats to humans, livestock, and pets. Additionally, nutria carry tapeworms, a nematode that causes a rash known as "nutria itch," and blood and liver flukes, which can contaminate swimming areas and drinking water supplies.

Eradication Effort

CDFW is collaborating with other agencies and local partners to develop the most effective strategy for eradicating nutria from California. Invasive species infestations typically experience a lag phase. While population size and total area infested are relatively small, successful eradication is most feasible and control efforts are most cost-efficient. Currently, there is a small window of opportunity to successfully eradicate the population of nutria from California. Over time, the probability of successful eradication rapidly decreases, and California would be left to manage and mitigate the devastating impacts of nutria on wetlands, agriculture, and water conveyance/flood control infrastructure.

To address the problem, CDFW has partnered with the U.S. Department of Agriculture and California Department of Food and Agriculture, and is working with the California Departments of

Parks and Recreation and Water Resources, the U.S. Fish and Wildlife Service, and local County Agricultural Commissioner offices. The team has deployed surveillance teams throughout the San Joaquin Valley and trappers where nutria presence has been confirmed; efforts are being further expanded to the Sacramento-San Joaquin Delta and its tributaries.

CDFW is actively seeking temporary entry permits to access private properties containing or immediately adjacent to suitable habitats in order to effectively determine the full extent of the infestation, which is the first stage of a successful eradication. The team is asking for assistance from local landowners and the public throughout the Central Valley, Sacramento-San Joaquin Delta, and beyond. Public reports of observations and access for surveys and trapping are critical for successful eradication the population.

The Nutria Response Team is following a strategy used successfully in Chesapeake Bay (Delmarva Peninsula). The Chesapeake Bay Nutria Eradication Project strategically removed over 14,000 nutria from 2000-2015, and has not detected a nutria since early 2015. With swift and strategic action, California can avoid facing the same fate as the state of Louisiana, where population control of the nutria costs up to $2 million dollars each year for bounty harvests alone.

Nutria have characteristic white whiskers, and most often have conspicuous, darks ears with light-colored fur underneath. They also have long, rounded tails. Photo: Creative Commons

Nutria eat a lot of vegetation along streams and wetlands, and burrow into the banks, causing serious erosion problems. Photo: Tess McBride/USFWS

Nutria Identification

On behalf of the CDFW Invasive Species Program, Valerie Cook-Fletcher implores, "No matter the circumstances, we need to know if you see a nutria. We need your help to work toward a successful eradication strategy." Here are some guidelines to help identify nutria. For more detailed information and images, please see the CDFW website.

Nutria are large, semi-aquatic rodents that reach up to 2.5 feet in body length, 12- to 18-inch tail length and 20+ pounds in weight. Nutria strongly resemble native beaver and muskrat, but are distinguished by their round, sparsely haired tails and white whiskers. Both nutria and muskrat can have white muzzles, but muskrats have dark whiskers, nearly triangular (laterally compressed) tails and reach a maximum size of five pounds. Beavers have wide, flattened tails and dark whiskers and reach up to 60 pounds. Other small mammals can sometimes be mistaken for nutria if seen briefly or in low light conditions, including river otters and mink.

Look for nutria and signs of nutria presence in wetlands, canals, ponds, and along rivers, creeks, levees, and riparian areas, in flooded agricultural fields or row crops adjacent to waterways, and in the transition zone between wetland and terrestrial habitat. Nutria are primarily active at night, so identifying their signs is the most reliable means of detecting nutria presence. Because nutria are wasteful feeders, signs of presence typically include cut, emergent vegetation (e.g. cattails and bulrushes), with only the basal portions eaten and the cut stems left floating, or grazed tops of new growth. Nutria create runs between feeding sites and burrows, and pile cuttings to create feeding/grooming platforms. Nutria construct burrows with entrances typically below the water line, though changing water levels may reveal openings. Their tracks have four visible front toes and, on their hind feet, webbing between the inner four of five toes. Tracks are often accompanied by narrow tail drags. In contrast with our native aquatic mammals, nutria scat is distinctly grooved and floats on the surface of the water.

Suspected observations or sign of nutria in California should be photographed and immediately reported at www.wildlife.ca.gov/Conservation/Invasives/report, by e-mail to invasives@wildlife.ca.gov, or by phone at (866) 440-9530. Observations on state or federal lands should be immediately reported to local agency staff on the property. If this species is captured, do not release it. Immediately contact your local CDFW office or County Agricultural Commissioner.

Tamarisk

(Continued from page 5)

using basal bark method with Polaris and Pathfinder II was just as effective as the cut-stump method.

Tamarisk seedlings were typically found in the drying but still moist river or creek bottoms. To eradicate seedlings, lest they become fully-grown adults, we pulled each seedling out of the ground by hand. Often times, we found seedlings growing together in populations of thousands or more. Over the course of the six trips, we surveyed 97 miles of the Sisquoc River and its tributaries. We treated 707 adult trees and pulled more than 94,000 seedlings out of the ground.

Initially, our data collection involved recording treatment data and photographs by hand on standardized data sheets. Over time, it evolved to utilizing the ArcCollector app for smartphones, developed by ESRI. With this app, we could mark GPS points at individual trees or record lines that spanned areas with large populations. With each feature, we could also collect attributes, record the life stage, treatment technique, number of individuals in a population, and attach a picture for each feature. At the end of each trip, each team member that had recorded GIS data with the app could sync their phone data with our ArcGIS Online server, and it would be immediately available for evaluation and reporting.

At the end of the herbicide application season, we returned to evaluate the effects of our herbicide treatments on the adult trees. We were able to find the treated trees via the ArcCollector app and were able to use the app to see when and how each individual was treated, and then record monitoring data about each plant. So far, we have conducted only one monitoring trip, visiting 54 adult trees to check on how each responded. We surveyed trees that we had sprayed one to six month prior to monitoring. We found that 65% of the trees were dead or clearly dying, 19% looked as though they would survive, and 17% seemed as if they were dying, but it was still too early to tell.

Los Padres Outfitters carried camping gear and food between each camp, allowing workers to travel lightly and cover more ground each day.

Staff and volunteers pulled out more than 90,000 tamarisk seedlings along sandy washes. Despite only being a few inches tall, a seedling could easily have a 3-foot long taproot, as seen here.

Due to the extent of the area in which the infestation was found, we plan to return for at least two more seasons. This summer and fall, we will experiment with other methods of treating tamarisk in a more accessible area to determine how to increase mortality of the target species. We will reevaluate the effectiveness of basal bark treatment versus the cut-stump method and will experiment with different solutions of herbicide.

For more information on this project, please see our website at cirweb.org/

All photos courtesy of Channel Islands Restoration

Individual Membership

Stewardship Circle	*$1000*
Champion	*$ 500*
Partner	*$ 250*
Professional	*$ 100*
Friend	*$ 50*
Student	*$ 25*

Members receive Dispatch *and discount on Symposium registration!*

Organizational Membership

Benefactor	*$2000*	*Pro membership for 8*	*Quarter-page in newsletter*
Patron	*$1000*	*Pro membership for 6*	*Eighth-page in newsletter*
Sustainer	*$ 500*	*Pro membership for 4*	*Logo in newsletter*
Supporter	*$ 250*	*Pro membership for 3*	*Name in newsletter*

Organizations receive Professional membership for their staff and newsletter recognition for 12 months!

See cal-ipc.org for full membership details

Thank You for Supporting Our Work

Organizational Supporters

B & J Trading LLC/Intellispray
Bolsa Chica Land Trust
Calflora
California Association of Local Conservation Corps
California Association of Resource Conservation Districts
California Dept. of Food & Agriculture
California Native Grasslands Association
California State Parks - Oceano Dunes District
California Wildlife Foundation/California Oaks
Catalina Island Conservancy
Channel Islands Restoration
Chapman University
CNPS - Los Angeles/Santa Monica Mountains Chapter
CNPS - North Coast Chapter
CNPS - Orange County Chapter
CNPS - Riverside-San Bernardino Chapter
CNPS - San Diego Chapter
CNPS - Yerba Buena Chapter
Crop Production Services Timberland Division
Dendra, Inc
East Bay Regional Park District
Environmental Science Associates
Foresters' CO-OP
Gulf South Research Corporation
H.T. Harvey & Associates
Habitat West
Hedgerow Farms
The Huntington Library
Marin County Parks
Marin Municipal Water District
National Park Service, California Exotic Plant Management Team
Nomad Ecology, LLC
PlantRight/Sustainable Conservation
RECON Environmental, Inc.
Restoration Design Group
Riverside - Corona Resource Conservation District
S & S Seeds
San Mateo County Dept. of Agriculture
San Mateo County Parks
Santa Barbara Botanic Garden
Sempervirens Fund
SERCAL
Student Conservation Association
Tule River Indian Tribe
UC Santa Cruz Arboretum
US Bureau of Land Management
Westervelt Ecological Services

Individual Supporters

(New and renewing)

Stewardship Circle

Anke Burger, Pullman, WA
Jason Casanova, Los Angeles
Joseph DiTomaso, Woodland
Judy Fenerty, San Jose
Doug Gibson, Encinitas
Peggy Olofson, Oakland
Peter Schuyler, Santa Barbara
Jake Sigg, San Francisco

Champion

Edith Allen, Riverside
Joan Bockman, Oceanside
James Ellsworth, Fairfax
Drew Kerr, Pinole
Tamia Marg-Anderson, Berkeley
Stephen Rosenthal, San Jose
Steve Schoenig, Davis
Catherine Sellman, Venice
Marcos Trinidad, Los Angeles

Partner

Mark Bowler, Trabuco Canyon
Shelagh & Bob Brodersen, Berkeley
Linda Brodman, Santa Cruz
Tim Buonaccorsi, Walnut Creek
Lance Dohman, Placerville
David Erickson, Aiken, SC
William Hoyer, Santa Barbara
Robert Huttar, Santa Ana
Ed King, Grass Valley
Marla Knight, Fort Jones
Robert LaForgia, Naples
Julia Parish, Avalon
Jill Pavliscak, Half Moon Bay
Laura Pavliscak, Frazier Park
Michelle Phillips, Folsom
Patrick Skain, San Francisco
Georgia Stigall, Woodside
David Wilson, Aliso Viejo
Paul Ziemann, Boulder, CO

CAL-IPC
CALIFORNIA INVASIVE PLANT COUNCIL

1442-A Walnut Street, #462
Berkeley, CA 94709

ADDRESS SERVICE REQUESTED

Non-Profit Org.
U.S. Postage
PAID
Berkeley, CA
Permit No. 1435

WILDLAND WEED CALENDAR

Bay Delta Science Conference
September 10-12, Sacramento, CA
scienceconf2018.deltacouncil.ca.gov/

Upper Midwest Invasive Species Conference and North American Invasive Species Management Association
October 15-18, Rochester, MN
www.umisc.net

Cal-IPC Symposium
November 7-10, Monterey, CA
www.cal-ipc.org/symposium

California Forest Pest Council Annual Meeting
November 13-14, Davis, CA
www.caforestpestcouncil.org

California Association of Resource Conservation Districts Annual Conference
November 15-18, Sacramento, CA
www.carcd.org

Innovations in Invasive Species Management Conference and Workshop
December 12-14, Nashville, TN
www.invasiveplantcontrol.com/conference18/

Public Lands Alliance Convention & Trade Show
February 24-28, 2019, Denver, CO
www.publiclandsalliance.org/what-we-do/convention

"Create and implement a national campaign to mobilize invasive species occurrence data into publicly available information systems according to the principles, standards, formats, and protocols described herein."

— The top priority action from "Enabling Decisions That Make a Difference: Guidance for Improving Access to and Analysis of Invasive Species Information" by the National Invasive Species Council Secretariat, March 2018.