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## Taking Action Against Invasive Species

Preventing the introduction and spread of invasive species, and managing for those that are here is a year-round effort for many. In an effort to increase public awareness and education of invasive species issues in California and promote public participation in invasive species prevention and removal efforts, the Department of Fish and Wildlife has dedicated August 2<sup>nd</sup> through August 10<sup>th</sup> to partnering with state and federal agencies, volunteer programs, and organizations across the state to offer activities and events where you can get involved.

These events offer something for all ages, interests, and abilities, and include hands-on plant removals, nature walks, lectures, field monitor and reporting, and much more. These are opportunities to learn about invasive species issues and efforts underway in your area, or in the places you enjoy visiting. Inside this issue you'll find a list of events scheduled as of the publication of this newsletter, but events will continue to be scheduled up until the day of the event. For the most up-to-date schedule of events visit the California Invasives Species Action Week web page [www.dfg.ca.gov/invasives/ActionWeek](http://www.dfg.ca.gov/invasives/ActionWeek).

While some of the efforts can be labor-intensive, hard work builds camaraderie among those who share a commitment to preserving and enhancing the environment, making the hard work fun. It's also an opportunity to meet new friends. Rarely is there a shortage of work, so enlist your friends, family, and coworkers to join you in one or more of the events.

Even if there isn't an event scheduled in your area, or you would prefer to work independently, there are still plenty of opportunities for you to take action. In addition



Save The Bay volunteers. Photo by Dan Sullivan, Save The Bay.

to the statewide quagga/zebra mussel monitoring effort during the week, this issue of Eye On Invasives highlights some of the actions you can take at home including helping to battle back populations of invasives by eating them, as well as how to insure you aren't introducing weeds through gardening and landscaping products. In addition, we highlight two efforts fueled by volunteers, the work by the Mountains Restoration Trust efforts in the Santa Monica Mountains, and the several citizen science efforts organized by the Smithsonian Environmental Research Center in Tiburon, Marin County.

Many thanks go out to all of our partners for helping to make this first Invasive Species Action Week possible. We plan to make this an annual event, and hope the number and diversity of events will grow with each successive year. If you are interested in hosting an event next year please contact us at [invasives@wildlife.ca.gov](mailto:invasives@wildlife.ca.gov). Also, we welcome feedback and photos from those organizing and participating in events. Your feedback will help us improve future efforts.

# Let's Eat For Action Week!

CDFW Staff

Harvesting, cooking, and eating invasive species - is this a fad or a real solution? Why eat invasive species? Better yet, why not? Worldwide, invasive species threaten the diversity and abundance of native species through competition for resources, predation, parasitism and cause harm to the environment, economy, and human health. Once established, invasive species reproduce, spread, and are often difficult, if not impossible, to eradicate. The idea of harvesting, cooking, and eating invasive species is a new approach to an age old problem, however, there are some precautions you should be aware of when gathering or hunting plants and animals.

Before venturing out, it is important to check all laws and regulations. Some areas, such as state parks and protected areas, prohibit any type of collecting and most animal species require fishing and hunting licenses. It is important to know what types of plant species you are collecting because many plants share similar traits and are not edible, therefore, always consult a reputable plant identification guide. So if the idea of keeping invasive species at bay by eating them is appetizing to you, here are a few examples of how you can participate on your own during the California Invasive Species Action Week.

In many parts of California the Himalayan blackberry (*Rubus discolor*), native to western Europe, is a strong competitor that has displaced native plant species. The impenetrable dense thicket produced by this plant reduces access to recreational areas as well as hinders access for grazing animals. However, they produce bountiful crops of berries that



[Wild Blackberry Pie](#). Photo by Kelsey Hilts, Itsy Bitsy Foodies.

are eaten by wildlife, and can also make an excellent pie. Currently there are a number of removal efforts for the Himalayan blackberry in California.

In addition to the Himalayan blackberry, dandelion greens are also popular on the plate. The common dandelion (*Taraxacum officinale*) is native to Eurasia, and now is naturalized throughout North America, southern Africa, South America, New Zealand, Australia, and India. Although this plant has many culinary and medicinal uses, it is considered a noxious weed in some jurisdictions. Dandelions are found almost everywhere in California, so go out in your neighborhood and pick some dandelions this week!



[Kowai lionfish roll topped with wakame salad](#). Photo by L. Scott Harrell.

An invasive marine kelp, wakame (*Undaria pinnatifida*), is native to the temperate regions of Japan, China, and Korea. This large brown kelp competes with native seaweeds for space and light. Wakame is flavorful seaweed that is often used in sushi and salads. The Smithsonian Environmental Research

Center (SERC) promotes citizen science and organizes volunteers for removal efforts of wakame. More information can be found on the SERC website [www.serc.si.edu/labs/marine\\_invasions/MIRL\\_at\\_RTC/undaria.aspx](http://www.serc.si.edu/labs/marine_invasions/MIRL_at_RTC/undaria.aspx). In addition to collecting plants and brown algae, there are also a few game animals that are non-native that make tasty meals.

Wild pigs, hybrids of feral domestic pigs (*Sus scrofa*) native to Eurasia and northern Africa, and wild boar, root in the soil foraging for food and in the process disturb plant communities and facilitate invasion by non-native plants, as well as compete with other species for habitat and food. In 1957 wild pigs were designated a game mammal and can be hunted year round with no bag limits. Tags are required, so refer to the laws and regulations related to pig hunting ([www.dfg.ca.gov/wildlife/hunting/pig](http://www.dfg.ca.gov/wildlife/hunting/pig)) before attempting. If you prefer fish over pork, then another delicious game species is brown trout.



[Wild Boar Tenderloin With Roasted Vegetables and Red Wine Reduction](#). Photo by Ian Knauer.

Brown trout (*Salmo trutta*), originally from Europe, North Africa, the Middle East, and parts of Asia, were introduced into California in 1893. Since that time, brown trout have been distributed throughout the state and in some cases competed with and displaced native trout species. For more information on fishing regulations for brown trout visit [www.wildlife.ca.gov/Fishing.aspx](http://www.wildlife.ca.gov/Fishing.aspx).

Finally, it is time to cook up a tasty meal! There are many websites including [eattheinvaders.org](http://eattheinvaders.org) and [invasivore.org](http://invasivore.org) that provide tips and recipes.

Invasive and non-native species will always be a problem, and it's up to us to consider new and inventive ways to prevent and manage them. While eating them won't solve the problem, the concept is novel and helps to raise awareness of the issue, and hopefully action.

# Bring Back Our Stream

Kyle E. Troy, Restoration Technician, Mountains Restoration Trust

Mountains Restoration Trust (MRT) is a non-profit land trust whose mission is to preserve, protect, and enhance the natural resources of the Santa Monica Mountains through acquisition, restoration, land use planning, and recreational and educational programs. For the past several years, MRT has been focusing a lot of their efforts on invasive species removal from the Malibu Creek watershed. This includes everything from removing invasive plants and re-planting native plants to the capturing of non-native invasive species such as the American bullfrog (*Lithobates catesbeianus*). But one of our main goals is to rid the stream of the very invasive red swamp crayfish (*Procambarus clarkii*).

Red swamp crayfish were introduced to the Santa Monica Mountains at least 90 years ago, likely as escaped or released bait by fishermen. They use the crayfish as largemouth bass (*Micropterus salmoides*) bait, also



Photo by Chris Lukhaup.

Red swamp crayfish (*Procambarus clarkii*). Photo by Chris Lukhaup, Georgia College.

considered an invasive species to the Malibu Creek Watershed. Crayfish are highly invasive and will eat anything in their way. They are omnivorous and eat anything ranging from plants to snails to amphibian and insect larvae. As you can imagine, this can be very hard on all the native

populations. Two of our main concerns are the Southern California steelhead trout (*Oncorhynchus mykiss*) and the California newt (*Taricha torosa*). Southern steelhead trout are federally listed as an endangered species and the California newt is listed in California as a species of special concern. Crayfish prey on their egg masses and larvae and



Volunteers learning about invasive species. Photo by Kyle E. Troy.

have had significant direct and indirect effects on their populations. It is important that we try and eradicate the crayfish from the watershed for the future of these creatures and others in our stream. This summer,

Mountains Restoration Trust is beginning the first phase of complete eradication and we are starting on Las Virgenes Creek for the future reintroduction of steelhead trout into their old spawning ground.



Removing invasive species along Malibu Creek. Photo by Kyle E. Troy.

It is going to be a long process, but the results are going to be very good for the Santa Monica Mountains ecosystem, and we need all the help we can get! This Invasive Species Action Week (August 2<sup>nd</sup>-August 10<sup>th</sup>) we invite anyone, young or old, to come out and be hands on in saving the streams. We will be bringing people out with us all week long. We will take creek data as well as crayfish and other native and non-native species data. We will also be picking up trash and pulling up invasive plants. Get ready to get dirty!

Plus, while saving the stream, you get to see all the beautiful things, such as a variety of birds, turtles, frogs, ground mammals, that the Santa Monica Mountains offers. We also invite anyone who has an interest in helping on their own to contact us. We are setting up an 'Adopt a Stream' program that will involve putting your own traps into a section of the stream that you will have adopted. It's a fun way to get the whole family, office, staff involved in something that is for the good. Mountains Restoration Trust wants everyone to have a hand in bringing back our streams. Join us for the Invasive Species Action Week on Friday and Saturday, August 8<sup>th</sup> and 9<sup>th</sup>, in Tapia Co Park, Agoura Hills, to get hands-on with crayfish and to learn how these invasive creatures are harming the local watershed. Volunteers will remove crayfish from traps set the night before and effectively remove them from the stream. Go to our Action Week ([www.eventbrite.com/e/california-invasive-species-action-week-crayfish-removal-tickets-11847033797?ref=estw](http://www.eventbrite.com/e/california-invasive-species-action-week-crayfish-removal-tickets-11847033797?ref=estw)) for registration and more details. Visit our website, [www.mountainstrust.org](http://www.mountainstrust.org), for more information about our non-profit organization and all the other amazing things that we do.

# Take Action At Home to Prevent Invasive Weeds

CDFW Staff

As we begin to enjoy our 'lazy days' of summer, many of us will plan and complete gardening and landscaping projects. To a gardener or landscaper a weed is any plant that they did not intentionally sow. To the California Department of Food and Agriculture a plant that is "troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate" is legally defined as a "noxious weed." Noxious weeds are also referred to as "invasive species" or "invasive weeds."

Both the state of California and the federal government maintain lists of plants they consider weeds. Governments are interested in defining and managing weeds because they threaten the economic and environmental interests of the state and the country by competing with native and desirable plants for water, nutrients, space, and light. Left unmanaged, weeds can decrease habitat, productivity of farmed lands, and reduce property values and aesthetics. Preventing the introduction of weeds is the most economical and effective way to manage them, and as a landowner or landscaper you can play a critical role and significantly reduce the introduction and spread of invasive weeds.

Materials used for gardening or landscaping projects can be a pathway (also referred to as a vector) for the introduction of weeds if those materials contain weed seeds or fragments of plants. Such materials include soil, mulch, aggregate (gravel or sand), landscaping plants, seed, and straw or hay bales used for erosion control. Whenever possible, to minimize the introduction of



Using gravel infested with invasive plant material can spread invasive plants, like this dyer's woad. Photo by USFS, Klamath National Forest.

unwanted weeds, use products that have been certified weed-free. These products have been tested by a seed laboratory that uses the Association of Seed Technologist and Analysts standards and are certified not to contain unwanted species. These standards include tests for plants

on the statewide list. Also, to minimize the likelihood of introducing a species that is not already nearby, it is best to purchase from a local source when off-site materials are needed for your project.

When using hay and straw as mulch or for erosion control, use certified weed-free bales from certified producers. The California Department of Food and Agriculture, along with the County Agricultural Commissioners, inspect hay and straw and certify hay and straw products as "certified not to contain propagative plant parts or seeds of noxious weeds." A "Certification of Quarantine Compliance" (CDFA Form 66-079)

provides documentation verifying the material was inspected and met their standard. A list of suppliers of weed-free forage and straw is available on the California Invasive Plant Council website [www.cal-ipc.org/ip/prevention/weedfreeforage.php](http://www.cal-ipc.org/ip/prevention/weedfreeforage.php). Landowners might also be interested in engaging with their local Cooperative Weed Management Area, which implements a comprehensive and effective weed management

program while bringing together landowners and managers of private, county, state, and federal lands in a watershed or geographical area. The success of all landowners remaining weed-free is dependent on the success of individual landowners, since weeds do not respect property boundaries. Find your closest Weed Management Area to get involved [www.cal-ipc.org/WMA/index.php](http://www.cal-ipc.org/WMA/index.php).

Preventing weeds reduces the cost of weed control, and helps to maintain a healthy garden and landscape. As an aware consumer, you can prevent invasive weeds from establishing on your property by purchasing and using certified weed-free material. With a little extra research and planning you can save yourself a lot of extra work. Know before you grow!



Invasive yellow starthistle (*Centaurea solstitialis*) growing out of a straw bale. Photo by USFS, El Dorado National Forest.

# Citizen Science Monitoring in Fouling Communities

Chela Zabin, Ph.D., and Linda McCann, Smithsonian Environmental Research Center

If you've ever looked under a floating dock in a harbor or at pier pilings near the waterline, you've seen the colorful collection of organisms marine scientists refer to as "the fouling community." These species, many of which are non-natives, are a nuisance to boaters and can have negative impacts on native species.

In an effort to understand the patterns of spread of non-native species, the Smithsonian Environmental Research Center is engaging volunteers in making observations of the fouling community. These observations can also serve as an early detection system, allowing resource managers to respond to new invasions. We have four citizen science projects monitoring species in the fouling community along the West Coast: Plate Watch, Green Crab Watch, Mitten Crab Watch, and Undaria Watch.



Tunicates collected during the Plate Watch Citizen Science Project. Photo by Linda McCann.

(or moss animal) *Watersipora subtorquata*, two crab species, the Chinese Mitten crab *Eriocheir sinensis*, and the European Green Crab *Carcinus maenas*, and a large kelp species, *Undaria pinnatifida*, or Asian kelp.

As an example, our Plate Watch Program has a network of teachers, students, outdoor enthusiasts, environmental groups and state and federal biologists along the West Coast engaged in collecting data. Participants suspend clean PVC plates from piers and floating docks, leave them submerged for 3 months, after which they are removed and photographed and specimens of interest are collected and preserved for identification confirmation by expert taxonomists. Participants also measure



The golden star tunicate (*Botryllus schlosseri*) is a non-native, colonialunicate monitored by the Plate Watch Citizen Science Program (itunicate). Photo by Linda McCann.

water temperature, salinity, and turbidity and take notes on nearby land and water activities. By engaging citizens in the collection of critical background data about nearshore environments, we greatly increase the area we can observe, and thereby expand our ability to detect new introductions. More information about Plate Watch is available at [platewatch.nisbase.org/](http://platewatch.nisbase.org/).



Henry Fung, physics teacher, and students from Irvington High School in Fremont collected this very large *Undaria* (Asian Kelp) specimen from a dock in San Francisco Bay while volunteering for an *Undaria* removal event. Photo by Marianne Kavanagh.

Our *Undaria* Watch program is aimed at detecting new populations of the Asian kelp, which is not yet reported from north of San Francisco Bay. This kelp has well-documented negative impacts on native species and aquaculture where it has been introduced around the world. More information about the kelp is available at [www.serc.si.edu/labs/marine\\_invasions/MIRL\\_at\\_RTC/undaria.aspx](http://www.serc.si.edu/labs/marine_invasions/MIRL_at_RTC/undaria.aspx), where you can also learn to identify the kelp and upload photos if you think you've seen it.

On Sunday August 10, volunteers will meet at Pillar Point Harbor in Half Moon Bay to assist us in removal of the kelp from floating docks there. In addition to removals, we'll record key data about the kelp, such as length and reproductive status, which will help us understand how the population there is doing. Removals are easily done from dockside. Meeting time and place: 9 a.m. at the Harbormasters Office, One Johnson Pier, Half Moon Bay, CA 94019. If you are interested in participating in this event, or the citizen science projects, call Chela Zabin at 415-272-9142.

## Did You Know These Are Invasive?



Red swamp crayfish  
(*Procambarus clarkii*). Photo by  
Chris Lukhaup, Georgia College.

Red Swamp Crayfish—*Procambarus clarkii*

Signal Crayfish—*Pacifastacus leniusculus*

Virile Crayfish—*Orconectes virilis*



Signal crayfish (*Pacifastacus leniusculus*). Photo by David Perez.

Red swamp crayfish (*Procambarus clarkii*), also known as Louisiana crayfish/crawfish, crawdad, and mudbug, are native to the Southeastern United States. Signal Crayfish (*Pacifastacus leniusculus*), are native to the Pacific Northwest. Virile Crayfish (*Orconectes virilis*), are native to the Northern United States. These species of crayfish were introduced into California either to raise as food, to use as bait, or brought in through the pet trade. Although some of these non-native crayfish are prized for their tasty meat, here in California they are considered invasive species.

Like most invasive species, crayfish are hardy, tolerant, and adaptable to a wide range of aquatic conditions including brackish waters, low oxygen levels, and extreme temperatures. Most crayfish prefer calm freshwater areas such as ponds, slower streams and creeks, irrigation canals, and lakes. Crayfish will find shelter among rocks, logs, and vegetation in which they hide from predators during daylight hours.

Invasive crayfish impact the environment, as well as agriculture. Crayfish burrowing weakens levees and increases erosion. They are aggressive and territorial, and their indiscriminate feeding habits displace native species, disrupt ecosystems, and destroy aquatic plant beds and other important wildlife habitat. Most crayfish are omnivorous, feeding on aquatic plants, snails, insects, and fish and amphibian eggs. Not only do crayfish displace native species, they are also a vector for the crayfish plague fungus (*Aphanomyces astaci*), vibriosis-causing bacteria (*Vibrio* spp.), and a number of parasitic worms that infect other animals.



Virile crayfish (*Orconectes virilis*).  
Photo by Casey D. Swecker.

What can you do? As mentioned earlier, these invasive creatures make a tasty meal and can be fun to trap as well! All you will need is a valid recreational fishing license, a homemade crayfish trap, or fishing line and bait. In order to avoid the legally protected Shasta crayfish (*Pacifastacus fortis*), the only native crayfish left in California, check the freshwater fishing regulations ([www.dfg.ca.gov/regulations/](http://www.dfg.ca.gov/regulations/)) for specific river and lake closures in northern California. If you are using hook and line, refer to the District Trout and Salmon Special Regulations for season closures because they also apply to crayfish.

### Level II Watercraft Inspection and Decontamination Trainings

The Pacific States Marine Fisheries Commission (PSMFC) and its 100th Meridian Initiative Partners will be sponsoring the following Level II trainings in the fall of 2014:

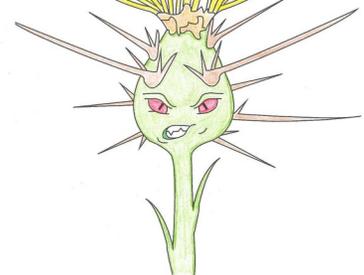
**Lake Pleasant, Arizona: September 30-October 1**

**Lake Mead, Nevada: October 14-October 15**

This two-day, intensive, hands-on training is provided free of charge and registration is on a first-come first-served basis. The course is designed for those individuals who are or will become active in setting up or implementing watercraft inspection and decontamination programs.

For more information or to register, contact D. Davis at [quaggadee@cox.net](mailto:quaggadee@cox.net), (702) 236-3814 or [www.aquaticnuisance.org/wit/level-two-wit-training](http://www.aquaticnuisance.org/wit/level-two-wit-training).

### Race To Protect Your Favorite Place Youth Poster Contest



**Winner will be announced  
August 4th at**

[www.dfg.ca.gov/invasives/  
ActionWeek/PosterContest.html](http://www.dfg.ca.gov/invasives/ActionWeek/PosterContest.html)



## California Invasive Species Action Week

### 2014 Schedule of Events

#### Week-long

County	Organization	Time/Location	Project	Details	Registration required?
Statewide	<a href="#">California Department of Fish and Wildlife</a>	At your convenience	Quagga/zebra mussel monitoring	Join CDFW's Invasive Species Program in launching a statewide citizen science effort to monitor for quagga mussels. Visit the new citizen science page to download instructions, print data sheets, and enter the results of your survey. Did you encounter any other aquatic invasive species? Tell us about those too!	No
		Any (fresh)waterbody			

#### Saturday, August 2<sup>nd</sup>

County	Organization	Time/Location	Project	Details	Registration required?
Alameda	<a href="#">Save The Bay</a>	9:00am – 12:00pm	Invasive plant removal; mustard, fennel, pepperweed	Adults and children ages 7 & up; under 16 must be accompanied by guardian.	Yes; register at <a href="http://www.savesfbay.org/volunteer">www.savesfbay.org/volunteer</a>
		Eden Landing in Hayward			

Alameda	<a href="#">East Bay Regional Park District</a>	8:30am - 12:00pm	Invasive broom removal	20 volunteers will assist staff with the removal of invasive species to create habitat for native flora and fauna and reduce wildfire risk. Participants are encouraged to carpool to the sites to reduce impact upon the equestrian center and reduce their carbon imprint. Please bring a refillable water bottle. Each volunteer will receive our new volunteer bandanna. All ages welcome; under 13 must be accompanied by an adult.	Yes; <a href="http://www.EBParksOnline.org">www.EBParksOnline.org</a> or call 888-327-2757, Option 2
		Anthony Chabot Regional Park (Equestrian Center)			
Los Angeles	<a href="#">TreePeople</a>	8:30am - 12:00pm	Habitat restoration	Come to Calabasas with TreePeople's Cody Chappel and the Mountains Restoration Trust for some Habitat Repair. We will be expanding native habitat along Cienega sin Nombre (No Name Creek) and in the valley preserve to protect the cleanest body of water in Los Angeles county the critical wildlife corridor it creates. Details and directions provided upon registration.	Yes; register <a href="#">HERE</a>
		Cienega sin Nombre (No Name Creek)			
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	8:30am	Bird walk	Join our Naturalist to view the canyon's bird population.	No
		George F. Canyon Nature Preserve			
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	9:00am – 12:00pm	Native planting	Help maintain the White Point Nature Preserve native plant garden.	No
		White Point Nature Education Center			
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	3:00pm	Nature walk	Join our Naturalist to discover non-invasive, native habitat, wildlife, and more.	No
		George F. Canyon Nature Preserve			
Sacramento	<a href="#">California Department of Fish and Wildlife</a>	9:00am	“Learn your local invaders” field outing	Meet at the Visitor Center at 9:00 am. Join CDFW staff for a short hike down to the American River to check crayfish traps. We will discuss and learn to identify invasive crayfishes, as well as the invasive plants we encounter along the way. Afterward, learn how to inspect and clean shoes and gear to ensure we’re not transporting aquatic hitchhikers or invasive plant seeds.	No
		Nimbus Fish Hatchery Visitor Center			

Shasta	<a href="#">California State Parks</a>	4:00pm	Jr. Ranger Program	Come by the Campfire Center for a Jr. Ranger program all about invasive species!	No
		<a href="#">McArthur-Burney Falls Memorial State Park</a>			
Sonoma	<a href="#">Sonoma County Regional Parks</a>	1:00pm – 4:00pm	Science Saturday	Stop by the Environmental Discovery Center at Spring Lake Regional Park to join a Discovery Center naturalist for fun, hands-on activities. Naturalists will give a short presentation on invasive species, followed by a guided walk. Activities are suitable for all ages, and start on the hour at 1, 2, and 3pm. This is a free event. Parking is \$7 or free for Regional Parks members.	No
		Spring Lake Regional Park			

### Sunday, August 3<sup>rd</sup>

Check the Invasive Species Action Week webpage to find out what you can do independently, at

[www.dfg.ca.gov/invasives/actionweek/](http://www.dfg.ca.gov/invasives/actionweek/).

### Monday, August 4<sup>th</sup>

County	Organization	Time/Location	Project	Details	Registration required?
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	9:00am	Native Plant Nursery transplanting	Volunteers help transplant seedlings and prepare plants to be placed in habitat restoration sites that have been cleared of invasives.	Yes; RSVP required 3 days in advance by emailing <a href="mailto:info@pvplc.org">info@pvplc.org</a>
		Defense Fuel Support Point, San Pedro			
Sacramento	<a href="#">California Department of Fish and Wildlife</a>	9:00am	"Learn your local invaders" field outing	Meet at the Visitor Center at 9:00 am. Join CDFW staff for a short hike down to the American River to check crayfish traps. We will discuss and learn to identify invasive crayfishes, as well as the invasive plants we encounter along the way. Afterward, learn how to inspect and clean shoes and gear to ensure we're not transporting aquatic hitchhikers or invasive plant seeds.	No
		Nimbus Fish Hatchery Visitor Center			

## Tuesday, August 5<sup>th</sup>

County	Organization	Time/Location	Project	Details	Registration required?
Alameda	<a href="#">Friends of Five Creeks</a>	10am – 12:00pm	Weekday Weed Warriors; ongoing invasive plant removal	Join Friends of Five Creeks' Weed Warriors on the Bay west of the mouth of Strawberry Creek, Berkeley. Meet at Sea Breeze Deli, S. side of University Ave., just west of I-80 (AC Transit 51B, easy on Bay Trail or pedestrian/bike bridge). The "walking work party" will follow the new Bay Trail Extension west from Eastshore State Park to Shorebird Park removing perennial pepperweed and other invasives along the way. Tools, gloves, and snacks provided.	No
		Walking from Eastshore State Park to Shorebird Park			
El Dorado	<a href="#">League to Save Lake Tahoe</a>	5:00pm – 8:00pm	Aquatic invasive species removal	Volunteers will be removing an infestation of Eurasian watermilfoil and curlyleaf pondweed found by one of our trained Eyes on the Lake volunteers. A true example of community led, volunteer action from start to finish. Participants will meet at the Tahoe Keys Marina parking lot. This event is part of the <a href="#">Eyes on the Lake program</a> , where we teach people how to identify, survey, and report on the locations of aquatic invasive plants in Lake Tahoe.	Yes; email <a href="mailto:protect@keptahoeblue.org">protect@keptahoeblue.org</a>
		Upper Truckee River at Lake Tahoe			
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	9:00am	Native Plant Nursery transplanting	Volunteers help transplant seedlings and prepare plants to be placed in habitat restoration sites that have been cleared of invasives.	Yes; RSVP required 3 days in advance by emailing <a href="mailto:info@pvplc.org">info@pvplc.org</a>
		Defense Fuel Support Point, San Pedro			
Marin	<a href="#">Golden Gate National Parks Conservancy</a>	1:00pm – 4:00pm	<a href="#">Tennessee Valley Nursery</a> ongoing program	Help restore native habitat in the Golden Gate National Parks. Nursery activities may include transplanting seedlings, pruning plants, collecting and cleaning seeds for the next growing season, or maintaining the nursery. As a volunteer, you will learn about local native species and the importance of restoration ecology. Training and tools will be provided; visit our webpage for more details. <a href="#">Volunteer agreement form</a> required for all volunteers. Ages 10 & up welcome; read our <a href="#">Youth Policy Guidelines</a> .	Not required, but encouraged; register <a href="#">HERE</a>
		Marin Headlands; Tennessee Valley Nursery ( <a href="#">directions</a> )			
Sacramento	<a href="#">California Department of Fish and Wildlife</a>	9:00am – 3:00pm	Invasive species "Film Festival" and youth activities	Come by the Visitor Center to watch informative videos about invasive species prevention, invasive species that are currently impacting California, and harmful invasive species that CDFW is working to keep out. Check out our new invasive species coloring/fact sheets while you're there and see what other activities are going on!	No
		Nimbus Fish Hatchery Visitor Center			

Sacramento	<a href="#">California Department of Fish and Wildlife</a>	7:00pm	Speaker Series presentations on Invasive Species of the American River watershed	CDFW's Invasive Species Program staff will present information on invasive species found in the American River watershed, their impacts upon the ecosystem, the vectors by which they are introduced and spread, and which invasive species CDFW is focusing on for prevention. Jonathan Rose, Ph.D. candidate, UC-Davis, will present on the <i>Nerodia</i> watersnakes currently invading nearby ecosystems.	No
		Nimbus Fish Hatchery Visitor Center			

### Wednesday, August 6<sup>th</sup>

County	Organization	Time/Location	Project	Details	Registration required?
Del Norte	<a href="#">Mid Klamath Watershed Council</a>	11:00am; multi-day	Invasive plant removal	We will be backpacking in the Siskiyou Wilderness and seeking out the invasive meadow knapweed. We will also be monitoring St. Johnswort in Young's Valley. Meet at the Young's Valley Trailhead to the Siskiyou Wilderness at 11:00am; we will be camping at Young's Valley for one or two nights. Adults and youths welcome.	Yes; contact Tonya Chapple at <a href="mailto:Tanya@mkwc.org">Tanya@mkwc.org</a> or 530-627-3202 by 7/31/14
		Siskiyou Wilderness; Young's Valley			
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	9:00am	Native Plant Nursery transplanting	Volunteers help transplant seedlings and prepare plants to be placed in habitat restoration sites that have been cleared of invasives.	Yes; RSVP required 3 days in advance by emailing <a href="mailto:info@pvplc.org">info@pvplc.org</a>
		Defense Fuel Support Point, San Pedro			
Marin	<a href="#">Golden Gate National Parks Conservancy</a>	10:00am – 1:00pm	<a href="#">Redwood Creek Nursery</a> ongoing program	Join us in the majestic redwoods of Muir Woods and the rest of the scenic Redwood Creek watershed, where special efforts are being made to protect and enhance habitat for the endangered coho salmon and steelhead trout. Learn how to grow and care for the native plants in our nursery, as well as help plant and maintain our restoration sites. Training and tools will be provided; visit our webpage for more details. <a href="#">Volunteer agreement form</a> required for all volunteers. Ages 10 & up welcome; read our <a href="#">Youth Policy Guidelines</a> .	Not required, but encouraged; register <a href="#">HERE</a>

Marin	<a href="#">Golden Gate National Parks Conservancy</a>	1:00pm – 4:00pm	<a href="#">Park Stewardship Marin</a> ongoing program; Invasive plant removal	Help restore the Muir Beach floodplain! Meet in the Muir Beach parking lot next to the pedestrian footbridge. Program staff will bring tools, gloves, training, water to refill water bottles, and snacks. Please wear close-toed shoes, long pants, and layers for the variable coastal weather. Youths under 18 must have a <a href="#">volunteer agreement</a> signed by a parent or guardian; under 16 must be accompanied by an adult.	Yes; register <a href="#">HERE</a>
		Muir Beach ( <a href="#">directions</a> )			

### Thursday, August 7<sup>th</sup>

County	Organization	Time/Location	Project	Details	Registration required?
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	9:00am	Native Plant Nursery transplanting	Volunteers help transplant seedlings and prepare plants to be placed in habitat restoration sites that have been cleared of invasives.	Yes; RSVP required 3 days in advance by emailing <a href="mailto:info@pvplc.org">info@pvplc.org</a>
		Defense Fuel Support Point, San Pedro			
Sacramento	<a href="#">American River Parkway Foundation</a>	9:00am – 12:00pm	Thistle Thursdays; ongoing invasive plant removal	Please help us remove yellow starthistle! This is a huge project on the parkway and we can't do it without your help. Volunteers must wear long pants and close toed shoes. We also recommend long sleeves. We will provide tools, water, snacks and parking passes.	Yes; Please contact <a href="mailto:volunteer@arpf.org">volunteer@arpf.org</a> or (916) 486-2773 to RSVP
		River Bend Park, Rancho Cordova ( <a href="#">map</a> )			
Sacramento	<a href="#">California Department of Fish and Wildlife</a>	9:00am – 3:00pm	Invasive species "Film Festival" and youth activities	Come by the Visitor Center to watch informative videos about invasive species prevention, invasive species that are currently impacting California, and harmful invasive species that CDFW is working to keep out. Check out our new invasive species coloring/fact sheets while you're there and see what other activities are going on!	No

## Friday, August 8<sup>th</sup>

County	Organization	Time/Location	Project	Details	Registration required?
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	9:00am - 12:00pm	Habitat restoration	Contribute to the native habitat restoration of this coastal bluff	No
		Abalone Cove			
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	9:00am	Native Plant Nursery transplanting	Volunteers help transplant seedlings and prepare plants to be placed in habitat restoration sites that have been cleared of invasives.	Yes; RSVP required 3 days in advance by emailing <a href="mailto:info@pvplc.org">info@pvplc.org</a>
		Defense Fuel Support Point, San Pedro			
Los Angeles	<a href="#">Mountains Restoration Trust</a>	9:30am - 11:30am	Invasive red swamp crayfish removal and education	Volunteers (ages 6+) will be hands-on with crayfish and learning how these invasive creatures are harming the local watershed. Volunteers will remove crayfish from traps set the night before and effectively remove them from the stream. Additional details available through registration.	Yes; register <a href="#">HERE</a>
		Tapia Co Park, Agoura Hills			

## Saturday, August 9<sup>th</sup>

County	Organization	Time/Location	Project	Details	Registration required?
Alameda	<a href="#">Save The Bay</a>	9:00am – 12:00pm	Invasive plant removal; mustard, fennel, pepperweed	Adults and children ages 7 & up; under 16 must be accompanied by guardian.	Yes; register at <a href="http://www.savesfbay.org/volunteer">www.savesfbay.org/volunteer</a>
		Palo Alto Baylands in Palo Alto			
Alameda	<a href="#">East Bay Regional Park District</a>	8:30am - 12:00pm	Invasive broom removal	30 volunteers will hike a one mile and assist staff with the removal of invasive broom species. With the removal of the invasive species, we will create habitat for the native flora and fauna. Please bring a refillable water bottle and try to car pool to reduce our carbon imprint. Each volunteer will receive one of our new volunteer branded bandannas. All ages welcome; under 13 must be accompanied by an adult.	Yes; <a href="http://www.EBParksOnline.org">www.EBParksOnline.org</a> or call 888-327-2757, Option 2
		Redwood Regional Park (11500 Skyline Blvd., Trudeau Center)			

Contra Costa	<a href="#">East Bay Regional Park District</a>	8:30am - 12:00pm	Invasive fennel removal	Working with park staff, 50 volunteers will have an opportunity to remove some invasive species that are crowding out native species. This is a unique opportunity to repair a damaged landscape and create habitat for listed species. Please carpool and bring a refillable water bottle. Each volunteer will receive one of our new volunteer branded bandannas. All ages welcome; under 13 must be accompanied by an adult.	Yes; <a href="http://www.EBParksOnline.org">www.EBParksOnline.org</a> or call 888-327-2757, Option 2
		McLaughlin Eastshore State Park (Hoffman Trail, Pt. Isabel)			
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	9:00am	Nature walk	Walk from Twin Harbor Drive through premier native habitat for the rare cactus wren.	No
		Ocean Trails - East Reserve			
Los Angeles	<a href="#">Mountains Restoration Trust</a>	9:30am - 11:30am	Invasive red swamp crayfish removal and education	Volunteers (ages 6+) will be hands-on with crayfish and learning how these invasive creatures are harming the local watershed. Volunteers will remove crayfish from traps set the night before and effectively remove them from the stream. Additional details available through registration.	Yes; register <a href="#">HERE</a>
		Tapia Co Park, Agoura Hills			
Los Angeles	<a href="#">Palos Verdes Peninsula Land Conservancy</a>	10:00am - 12:00pm	Story time w/Los Angeles City Rangers	Enjoy a journey through nature stories, children's activities, and a short hike with Los Angeles City Rangers.	No
		White Point Nature Preserve			
Marin	<a href="#">Golden Gate National Parks Conservancy</a>	10:00am – 1:00pm	<a href="#">Park Stewardship Marin</a> ongoing program; Invasive plant removal	Help restore the Muir Beach floodplain! Meet in the Muir Beach parking lot next to the pedestrian footbridge. Program staff will bring tools, gloves, training, water to refill water bottles, and snacks. Please wear close-toed shoes, long pants, and layers for the variable coastal weather. Youths under 18 must have a <a href="#">volunteer agreement</a> signed by a parent or guardian; under 16 must be accompanied.	Yes; register <a href="#">HERE</a>
		Muir Beach ( <a href="#">directions</a> )			
Sacramento	<a href="#">California Department of Food and Agriculture</a>	9:00am – 3:00pm	Educational display and discussion	Come visit with Department of Food and Agriculture staff at the “Buy It Where You Burn It” California Firewood Taskforce table. Check out their display of native, non-native, and invasive insects! Learn about the harmful forest pests (insects and diseases) that are spread by transporting firewood and what damages they cause.	No
		Nimbus Fish Hatchery Visitor Center			

Sacramento (Tentative)	<a href="#">California Department of Food and Agriculture</a>	9:00am – 12:00pm	Invasive plant removal	Join the Department of Food and Agriculture staff in removing invasive plants from around the sidewalks, bike trails, and in the Parkway. Meet at the Nimbus Fish Hatchery Visitor Center at 9:00 am. <b>**Tentative; check the updated schedule of events for confirmation or cancellation prior to attendance.**</b>	No
		American River Parkway below Nimbus Dam			
San Mateo	<a href="#">Golden Gate National Parks Conservancy</a>	10:00am – 1:00pm	<a href="#">Park Stewardship San Mateo</a> ongoing program; habitat restoration	Help restore sensitive habitat at Milagra Ridge and Mori Point in Pacifica. The Park Stewardship program works to restore and maintain priority parklands within the Golden Gate National Parks. Work day events include a combination of hands-on service and short natural or cultural history lessons. Come out and lend a hand! Training and tools will be provided; visit our webpage for more details. <a href="#">Volunteer agreement form</a> required for all volunteers. All ages welcome; read our <a href="#">Youth Policy Guidelines</a> .	Not required, but encouraged; register <a href="#">HERE</a>
		Mori Point ( <a href="#">directions</a> )			

### Sunday, August 10<sup>th</sup>

County	Organization	Time/Location	Project	Details	Registration required?
Contra Costa	<a href="#">East Bay Regional Park District</a>	8:30am - 12:00pm	Invasive fennel removal	50 volunteers will hike a mile to the location where they will assist staff with the removal of invasive fennel. This is a great opportunity to help to fight back a very aggressive invasive species. Please bring a refillable water bottle and hat. Each volunteer will receive one of our new volunteer bandannas. All ages welcome; under 13 must be accompanied by an adult.	Yes; <a href="http://www.EBParksOnline.org">www.EBParksOnline.org</a> or call 888-327-2757, Option 2
		Coyote Hills Regional Park (Quarry Parking Lot)			
Los Angeles	<a href="#">TreePeople</a>	8:30am - 12:00pm	Invasive plant removal	TreePeople's Cody Chappel and the Mountains Restoration Trust will be back in Malibu on a Weed War mission and they need your help! The Weed War removes non-native invasive plant species (weeds) where a native plant community is most threatened, along a trail, by a stream or in a grassland. Join us!	Yes; register <a href="#">HERE</a>
		Malibu; details and directions provided upon registration			

Marin	<a href="#">Point Reyes National Seashore</a>	9:00am - 1:00pm	Invasive plant removal/habitat restoration	Meet at 9:00 am in front of Bear Valley Visitor Center, carpool/caravan to work site. Tools/gloves provided. Volunteers should bring lunch, water, snacks, and wear long pants, long sleeves, closed-toe shoes, clothing that can get dirty, and extra layers for warmth (often foggy in August). Eat lunch on-site afterwards.	Yes; email <a href="mailto:Ellen_Hamingson@NPS.gov">Ellen_Hamingson@NPS.gov</a> or phone (415)464-5196 by Th. Aug 7th
		Meet in front of Bear Valley Visitor Center			
San Mateo	<a href="#">Smithsonian Environmental Research Center</a>	9:00am – 1:00pm	Undaria (Asian kelp) removal	Assist us in removal of the kelp from floating docks. We'll record key data about the kelp, such as length and reproductive status, which will help us understand how the population there is doing. Removals are easily done from dockside. Meeting time and place: 9:00 a.m. at the Harbormaster's Office.	Preferred; email <a href="mailto:zabinc@si.edu">zabinc@si.edu</a>
		Pillar Point Harbor at Half Moon Bay			