

EYE ON INVASIVES

THE KEY TO SUCCESS

If all the invasive species problems were easy, somebody would have already solved them! The reality, however, is that most invasive species issues are biologically complex and occur within a mosaic of diverse interests, authorities, jurisdictions, and across broad economic sectors. If that was not complicated enough, they interface with people's values, behavior, and interests. And while solving invasive species issues would benefit nearly everyone, often the path to reaching a solution crosses these institutional and human interests. These obstacles often are not insurmountable, but navigating them requires participation, collaboration, and cooperation by many different players.

The "players" represent their respective interest or authority, and bring with them their resources to make decisions, engage in actions, and/or facilitate others in making decisions or taking action. It is through these collaborative efforts that we can leverage our collective resources, expertise, talents, and perseverance to make meaningful progress in managing invasive species.

In this issue of Eye On Invasives, timed to coincide with California's seventh annual Invasive Species Action Week, we highlight some of the efforts being made by agencies, non-governmental organizations, and individual citizens that help lay the groundwork for action, facilitate that action, and ultimately implement on-the-ground action.

Invasive Species Action Week has historically promoted opportunities to come together physically to learn about invasive species and participate in events hosted by educational, academic, and conservation organizations throughout the state. This year is unlike any year before, but we are confident Action Week can be a successful "virtual" week where we pivot to online resources and individual efforts to carry on the important work of raising awareness and tackling invasive species issues. We hope that you will join us in participating in as many [Action Week](#) activities as you can this week, and carrying forward those actions throughout the years to come.



The mission of the Invasive Species Program is to reduce the negative effects of non-native, invasive species on the wildlands and waterways of California.

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“PlantRight has grown into a broad alliance of leaders from the nursery industry, environmental groups, government agencies, and universities, that works to reduce the spread of invasive plants through the horticultural trade.”

PARTNER PROFILE: PLANTRIGHT

While only a small percentage of garden plants “jump the fence” and become invasive, those that do can have devastating effects. They outcompete native plants, increase wildfire risk, and clog waterways. According to research by the University of California, Davis, nearly half of the invasive plant species in California’s natural areas originally entered the state through horticulture, including widespread plants such as highway iceplant, Scotch and French broom, English ivy, and water hyacinth. To address this pathway for invasive plants, the horticultural industry must be part of an effective solution. Horticulture generates \$4 billion annually in California, making it among the top five agricultural commodities in the state. Involving this industry in invasive plant solutions will create broad ranging benefits for California’s ecosystems.

PlantRight began in 2004 as a project of the San Francisco-based nonprofit organization [Sustainable Conservation](#) and is now maintained by the [Plant California Alliance](#) in Sacramento. It has grown into a broad alliance of leaders from the nursery industry, environmental groups, government agencies, and universities, that works to reduce the spread of invasive plants through the horticultural trade. For the past 16 years these diverse organizations have worked together to identify problem plants and create solutions. PlantRight focuses on a four-part strategy: Identify, Locate, Educate, Collaborate.

PlantRight’s steering committee identifies invasive plants available for sale and suggests similar, non-invasive alternatives. PlantRight’s Invasive Plant List currently contains seven priority species: pampas grass, green fountain grass, Mexican feathergrass, highway iceplant, periwinkle, yellowflag iris, and water hyacinth. Fifteen others have been retired from the list as they are rarely sold anymore. A committee chooses plants to add to their priority list based on data from the California Invasive Plant Council and California Department of Food and Agriculture, as well as a risk assessment that examines the species’ biology and invasiveness in other parts of the world. For each plant on their priority list, PlantRight’s horticultural members suggest non-invasive alternatives. For example, good alternatives to highway iceplant include beach strawberry, seaside daisy, and prostrate grevillea.

For the second part of their strategy, PlantRight locates where invasive plants are for sale. To do this, PlantRight recruits volunteers from the University of California’s Master Gardener program to survey local nurseries. The spring survey was conducted from 2010-2017 and was planned to resume in 2020 but is delayed due to COVID-19

restrictions. In 2017, 172 volunteers surveyed 332 stores in 46 counties. PlantRight analyzes survey results to see if species proposed for the invasive plant list are widely available, and to track changes in the availability of these plants over time.

PlantRight also works to educate nurseries and consumers about invasive plants and alternatives. Since 2013, PlantRight has provided free educational content to nursery staff that count as credits towards California Certified Nursery Professional (CCN Pro) certification. The organization has also helped UC incorporate invasive species information into their training for Master Gardeners. According to PlantRight's Project Manager, Alex Stubblefield, the greatest importance of PlantRight is that its educational materials are available free to anyone, helping it connect to the home gardener. The website, with attractive photos of non-invasive alternatives, is organized by Sunset gardening zones to help gardeners choose species appropriate for their region of California.



A PlantRight volunteer surveys a retail nursery for invasive plants for sale. Photo courtesy of PlantRight.

Collaboration is the centerpiece of PlantRight's success. It has led to a reduction in invasive species in horticultural plants available to the public, thereby preventing their accidental introduction to the state's wildlands. The involvement of small independent nurseries, local garden center chains, and big box stores allows PlantRight to reach consumers wherever they shop. Nursery Partners who have agreed to remove invasive plants and train their staff using PlantRight's materials include 24 companies, including Home Depot and Lowe's, representing over 400 retail storefronts in California.

If you are interested in choosing beautiful, non-invasive plants for your garden visit www.PlantRight.org to see options for your area. While you are shopping, encourage your favorite garden center to become a PlantRight Nursery Partner and to stock non-invasive alternatives in place of invasive plants.

INTRODUCING AN INVASIVE SPECIES MOBILE REPORTING SMARTPHONE APPLICATION!

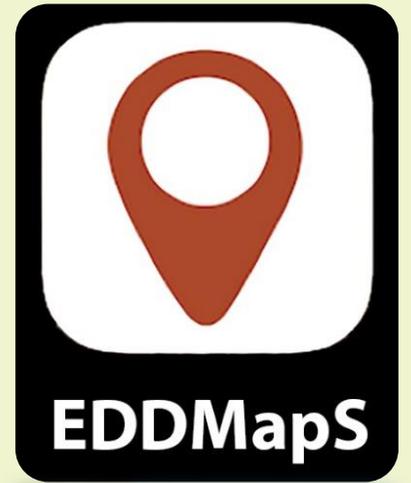
It would be impossible for the California Department of Fish and Wildlife (Department) to monitor for every invasive species occurrence throughout the entire state, which is why the public plays such a crucial role in invasive species management. Having eyes throughout the entire state is one way the Department stays on the forefront of invasive species issues. Sighting reports submitted by the public help determine the geographic distribution, spread, and impacts of various invasive species. For example, the Mediterranean house gecko (*Hemidactylus turcicus*) population established in Los Angeles was first discovered by citizen scientists. The public can provide information on current invasive species in California, areas where invasive species have not yet established, and newly documented invasive species.

For the last decade, the Department has taken public sighting reports by telephone, email, and via an online reporting link. Now, launched in conjunction with the 2020 Invasive Species Action Week, the Department has an exciting new platform to reach the public and receive invasive species reports!

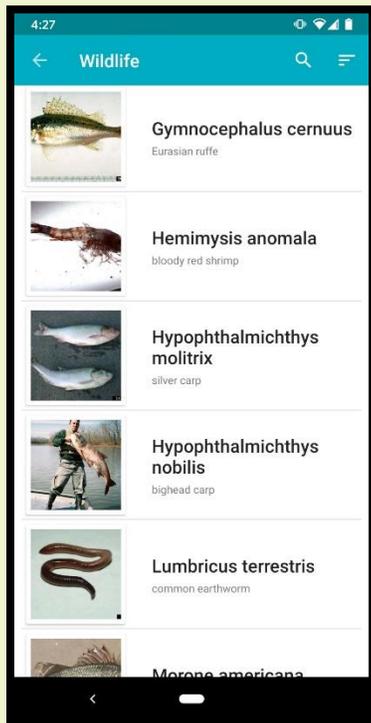
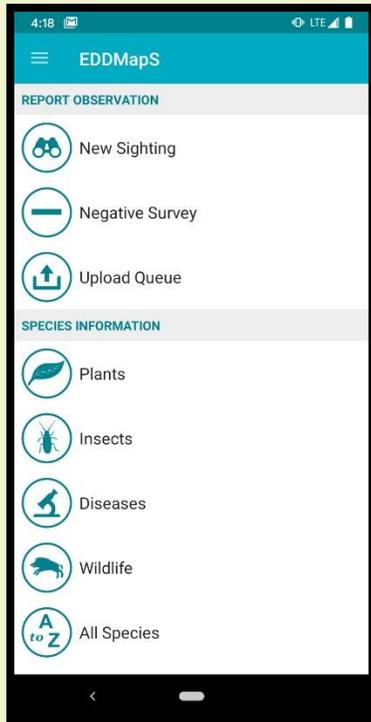
Recently, the Department has collaborated with the University of Georgia to develop a smartphone application for the public to use anywhere in California. Yes, there is an app for that now! The smartphone app is called “EDDMapS” which is an abbreviation for **E**arly **D**etection and **D**istribution **M**apping **S**ystem and will allow invasive species reports to be submitted from a smartphone while outdoors. On the user-friendly app, anyone can report an invasive species sighting, submit photos, provide sighting details, and document a negative survey. EDDMapS is set to launch in June 2020 and be available on both Apple and Android platforms.

In addition to its reporting function, the app contains information on the top invasive species including common names, scientific names, general descriptions, habitats, and reference photos to aid with identification. Users can also report sightings of invasive fish, wildlife, or plants not listed on the app, too. This is key for detecting newly introduced species that may have not been documented in California before or that are not a known threat.

Additionally, users can submit non-detections, termed negative surveys in the app. A negative survey is a report documenting species that were not observed in a specific area during a specific time.



Interface screenshots of the new mobile reporting application, EDDMapS. There are a variety of observation types and species information profiles.



By documenting this information, negative surveys can construct an estimated timeline for species' invasions. Once a report is submitted through the app, it is routed to Department staff to review and follow up on.

For example, imagine a regional park pond. Negative surveys submitted by the public indicate the absence of Mute swans (*Cygnus olor*) at the pond for years. One day, Mute swans are observed harassing native waterfowl and consuming vast amounts of submerged aquatic vegetation! The park's visitors notice immediately and report the activity on EDDMapS. With an established invasion timeline, CDFW may be able to identify the source of the introduction, how to manage the invasive species, and how to prevent invasions in the future. As seen from our example, knowing where invasive species are not is just as important as knowing where they are!

EDDMapS is not only exclusive to California, but also serves as the invasive species reporting application for several other western states. What does this mean for the public? While on vacation or visiting another state, users can still utilize the EDDMapS app to report invasive species. By collecting sighting reports from multiple states, EDDMapS can combine the data for each species and create a country-wide distribution map.

This app can be an educational tool for individuals looking to get involved with fish, wildlife, and plant management in California. Public involvement plays a crucial role in the successful management of invasive species in California and is an important piece in addressing invasive species issues. Your contribution to science by submitting information on invasive species to the Department makes a difference. Be sure to download [EDDMapS](#) to your smartphone and use it when you are outside enjoying California's landscape.

Not ready to use the App? No problem – we will continue to support our existing reporting systems.

- Call 1 (866) 440-9530
- Email invasives@wildlife.ca.gov
- Report online at <https://wildlife.ca.gov/Conservation/Invasives/Report>

DID YOU KNOW THESE ARE INVASIVE?



Decorative pet or destructive invader? Once kept as living ornaments at private residences and parks, the mute swan was brought to the United States in the early 1800s and has since become established in the wild in several states as the result of intentional releases and escapees. Mute swans are native to northern and central Eurasia and have been domesticated in Western Europe since the 12th century. Mute swans prefer shallow, freshwater, and coastal habitats and can be found in shallow ponds, lakes, wetlands, estuaries,

and sheltered bays. They forage on aquatic plants and prefer waterbodies with abundant submerged aquatic vegetation. Mute swans do not migrate long distances to seasonal breeding grounds like many native waterfowl but will move within a region to deeper waters when shallow areas freeze over. In California, mute swans have been observed throughout the state, but are most prominent in Sonoma, Marin, Contra Costa, Solano, Sacramento, and Placer Counties.

Mute swans are very large birds, with adults weighing 25 - 30 pounds and measuring 4 - 5.5 feet in length, with a wingspan up to nearly 8 feet. Adult mute swans are solid white with a black face-patch and black to grayish-pink legs with webbed feet. Adults can be distinguished from other swan species by their orange bill with fleshy, black knob, long "S" shaped neck, and long tail feathers. Mute swans can be differentiated from the similarly sized White Pelicans by their smaller orange and black bill and all white feathers, while White Pelicans have a distinctive large scoop bill and black flight feathers on their wings. Mute swans are not very vocal, but will grunt, snort, or hiss to communicate, especially if they feel threatened.

Mute swans pose a threat to native wildlife through competition. They consume large amounts of submerged aquatic vegetation, which provides food and shelter for native waterfowl, fish, and invertebrates. Their territorial behavior disrupts nesting activity of native waterfowl. Mute swans may also injure or kill other birds. Mute swans have been reported to attack people and, in some cases, have critically injured children and pets.

If you observe mute swans in the wild in California please report them to the CDFW Invasive Species Program. This [swan identification sheet](#) will help you accurately identify swans in the field.



CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
INVASIVE SPECIES PROGRAM
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