

San Francisco Bay Area Network Early Detection Program

Early Detection News July 2017

National Park Service
U.S. Department of the Interior
S.F. Bay Area Network
Inventory and Monitoring Program



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The Invasive Species Early Detection Program (ISED) surveys roads and trails in the San Francisco Bay Area Network of National Parks. We detect, map, and remove new populations of invasive plants before they can spread.

Do you have early detections to report, or need more information? Contact the Early Detection Coordinator, Eric Wrubel, Eric_Wrubel@nps.gov (415) 289-1849.

To see the newsletter archives, visit www.sfnps.org/weed_watchers/newsletters

Noteworthy Early Detections



Yellow starthistle
Photo: © Carol W. Witham 2004.

Yellow Starthistle (*Centaurea solstitialis*)

In July ISED mapped and removed yellow starthistle in two locations. In Point Reyes, we found and removed a single plant on Strain Hill. In the Marin Headlands we pulled a patch of 150 plants at Fort Baker that had been discovered and treated the previous year by park staff. The patch is now on its second year of treatment and seems to have decreased significantly in size.

Yellow starthistle is one of the most invasive and damaging grassland weeds in western North America. It is native to the Mediterranean Basin,

and was first discovered in California in 1869. It now infests over 12 million acres in California, and continues to expand in the Sierras and the central-western region. Yellow starthistle displaces native plants, lowers forage quality on rangelands, and can deplete soil moisture in annual California grasslands. It reproduces rapidly by seed, and is primarily dispersed by human activities. Large amounts of seed can adhere to vehicles and road maintenance equipment and to humans and animals to a lesser degree.

Yellow starthistle is currently uncommon in coastal Marin and San Mateo Counties. However its suitable climate range is projected to expand towards the coast over the next 30 years, in response to climate change.

Sources:



Finestem needlegrass
Photo: © Tepeyac 2006.

Finestem needlegrass (*Nasella tenuissima*)

At John Muir NHS, ISED found a new patch of finestem needlegrass seeding in to a mowed fuelbreak from the adjacent landscaping of a private residence on the park boundary.

Finestem needlegrass is an attractive, feathery perennial grass that is widely planted as an ornamental. It is known to be invasive in parts of Australia and New Zealand that have climates analogous to California. It can form dense monocultures that crowd out native plants in low-growing vegetation, especially in harsh or

disturbed environments. Despite its widespread use in landscaping and its potential invasiveness, finestem needlegrass has not yet been observed naturalizing far from developed areas in California.

Finestem needlegrass was added to the Cal-IPC inventory this year under the new "Watch" category, indicating that it is not currently widely naturalized in California, but poses a high risk of invasiveness based on a predictive risk assessment using the Plant Risk Evaluation tool (PRE). It was one of two hundred new species evaluated using the PRE tool, which is based on 20 criteria of invasiveness, scored by experts using documented

Sources:

[Stipa tenuissima Plant Risk Evaluation \(PRE\)](#)

Stinkwort (*Dittrichia graveolens*)

ISED mapped several expanding infestations of stinkwort in John Muir National Historic Site, and found a new, isolated patch in a seep on Mount Wanda.

Stinkwort is a late-season winter annual in the Asteraceae family, native to Mediterranean North Africa. Its foliage is covered in strongly aromatic glandular hairs with a smell reminiscent of Pine-Sol. The plants bear small yellow flowers from September to December. Stinkwort has exponentially expanded its range in California since its initial discovery in 1984 in Santa Clara County. It is found in disturbed habitats, primarily along roadsides in California. It is introduced and spreading rapidly in Central Europe, and has been reported as invasive in Australia and South Africa. In its native range stinkwort inhabits riparian woodlands, margins of tidal marshes, vernal pools, and alluvial floodplains. It has invaded these types of habitats in some regions where it is introduced, and may ultimately become problematic in similar habitats in California.



Stinkwort growing in seep, Mount Wanda
Photo by Eric Wrubel, NPS.

A single plant can produce about 15,000 seeds, which are dispersed by wind over 600 feet, accelerating dispersal by animal fur/clothing, fill dirt, mowing and motor vehicles. Seeds can germinate at any time and are only limited by available soil moisture. Stinkwort is known to cause poisoning in livestock and the barbed seed heads can become embedded in sheep's intestines. The plant's sticky resin can cause contact dermatitis in humans. Cal-IPC rates the potential impact of stinkwort on native ecosystems in California as MODERATE Alert due to its current limited distribution.

More stinkwort populations were also reported in July on the west slope of Mount Tamalpais, and in the Redwood Creek Watershed, by One Tam and Redwood Creek Collaborative staff.

Sources:

[Brownsey RN, Kyser GB, DiTomaso JM \(2013\) Stinkwort \(*Dittrichia graveolens*\) is rapidly expanding its range in California. Calif Agric 67:110–115](#)
[Cal-IPC Plant Assessment Form](#)



Perennial pepperweed
Photo by Eric Wrubel, NPS.

Perennial Pepperweed (*Lepidium latifolium*)

ISED joined a coordinated effort in July to map the current extent of perennial pepperweed infestation in Tomales Bay. This highly invasive species is abundant in many wetlands of the San Francisco Bay and Delta, but it remains uncommon in West Marin. It was first observed in the Tomales Bay watershed in 2006 at Walker Creek, where it is relatively frequent. Since then, several more patches have been found in the southern portion of the Tomales Bay. Staff and volunteers with the National Park Service, Audubon Canyon Ranch (ACR), and Marin County Open Space District (MCOSD) conducted the July surveys on foot, by boat, and by drone on ACR property. Fortunately, in extensive surveys of suitable habitat along most of the shoreline of Tomales Bay, only two new patches were found on Walker Creek. This mapping effort will now form the basis for treatment eff

Perennial pepperweed is a rhizomatous perennial, native to Africa, Asia and Europe. It invades brackish, saline and alkaline wetlands in North America and the Australasia-Pacific Region. It was first recorded in California in 1936 and has now been found in almost every county in the state. It is highly competitive in lowland habitats, forming monospecific stands that crowd out native species. It exhibits wide ecological amplitude, thriving in saturated to relatively dry soil moisture conditions. Below ground, the plant has an extensive root system spreading up 9-feet deep and 10-feet wide in each direction. A single plant can produce thousands of small, light-brown fruits. Seeds and root fragments spread easily along waterways and roadways. Cal-IPC classifies its potential impact on native ecosystems as High.

In June ISED also found a single plant growing on the shoulder of Highway 1 in Olema, and mapped a new patch of perennial pepperweed on the north shore of Bolinas Lagoon.

Sources:

[Cal-IPC Plant Profile](#)
[Global Invasive Species Database](#)

Everlasting pea (*Lathyrus latifolius*)

ISED recorded a significant number of new observations of everlasting pea in the Stewart Trail/Wildcat Camp area of Point Reyes. We found nine new infestations of everlasting pea where there had previously been only one patch mapped. We are tracking this species in Point Reyes NS and John Muir NHS to assess its rate of spread. This year we have mapped 32 new patches of sweet pea in 15 subwatersheds at Point Reyes NS.

Everlasting pea is a rhizomatous herbaceous perennial that can climb shrubs or form a viney mat covering the ground. It is easily recognized by its showy pea flowers which are usually pink but can range from white to purple. Sweet pea was brought to North America from Southern Europe in the early 1700s. It is widely naturalized across the US and Canada, and is listed as a class B noxious weed in Oregon. It is common along roadsides and disturbed areas in Northern California, where it can establish locally dense colonies. It was nominated but not reviewed for the Cal-IPC inventory in 2010.

Sources:

[Oregon Noxious Weed List: Plant Profile](#)
[USDA Plants Profile](#)



Everlasting pea
Photo by Nick Graver, NPS.

Survey Results

July 2017 ISED survey results

The July 2017 surveys were conducted in:

Golden Gate National Recreation Area
Point Reyes National Seashore
Pinnacles National Park

The link above will take you to the Calflora Observation Hotline, where ISED records can be viewed in an interactive map. [Click here](#) for help using the Observation Hotline.

What We Do

The ISED team maps, assesses, and reports occurrences of priority invasive plants along trails and roads in the San Francisco Bay Area network of National Parks, treating localized infestations when feasible.

The monthly survey results presented in this newsletter represent only new observations of patches of priority invasive plant species. A patch is defined as a group of individuals that is at least 20 meters from the next nearest group. Some patches may not be mapped in a given month if they have already been recorded in previous years, or if the patch is too large (see below).

Priority Species Lists

Golden Gate National Recreation Area John Muir National Historic Site Pinnacles National Park Point Reyes National Seashore

See the table below for more information about our priority invasive species and the data that we collect:

Our Priorities	Example	Explanation	Data Collected
List 1 (High Priority Plants)	 Fertile capeweed	List 1 plants are highly invasive and are typically not widespread. Control or even eradication is often feasible.	Polygon assessments are recorded for all patches, regardless of their size.
List 2 (Medium Priority Plants)	 Cape ivy	List 2 plants are highly invasive and usually more common than List 1 species. Small, outlier patches may be targeted for eradication or control. Uncommon species of concern are also listed here to improve our understanding of their distribution in the park.	Point occurrences are recorded for all patches, and buffered point assessments are recorded for patches smaller than 100 square meters.
List 3 (Lower Priority Plants)	 Sweet fennel	This category includes all other non-native plants. These may be widespread invasives that are difficult to control at the scale of the park, or less common species that do not cause significant ecological harm.	Presence/absence is recorded by subwatershed. No points or polygons are mapped.