

San Francisco Bay Area Network Early Detection Program

Early Detection News November 2015–April 2016

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



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The 2016 survey season began in April for the Invasive Species Early Detection Program (ISED). The ISED team 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



Medusahead. Pinnacles National Park.
Photo by Eric Wrubel, NPS.

[Medusahead](#) [\(Elymus caput-medusae\)](#)

In early May, ISED discovered the first recorded patch of medusahead grass at Pinnacles National Park, growing along the shoulder of Highway 146 at the eastern entrance to the park.

Medusahead is considered to be the most impactful invasive annual grass species in rangelands of the western United States. It is native to the Mediterranean Region, and was first recorded in North America in Oregon in 1903. By 2005 it was estimated to infest nearly a million acres in

western North America, and was spreading at a rate of 12% per year. It has very poor forage value for livestock and wildlife, due to its long awns and exceptionally high silica content. The high silica load causes its litter to decompose slowly, forming a thick thatch layer that alters nutrient cycling, prevents germination and survival of other grassland plant species, and increases wildfire hazard. Its roots are also highly effective at competing for soil water at the rooting depth of other grassland plants. Once established, medusahead is difficult and costly to control without causing further impacts to grasslands.

Much thanks to the Pinnacles vegetation crew, who responded immediately to this threat, removing the entire patch by hand the day after it was reported.

Sources:

[CDFA Encycloweedia](#)

[Cal-IPC Plant Profile](#)

Duncan, C.A., et al. (2004). Assessing the economic, environmental, and societal losses from invasive plants on rangeland and wildlands. *Weed Technology* 18:1411-1416



A handful of bulbs from a dense patch of rosy sandcrocus. Golden Gate NRA, Marin Headlands, Rifle Range.
Photo by Eric Wrubel, NPS.

Rosy sandcrocus **(*Romulea rosea* var. *australis*)**

In April, the ISED team recorded extensive new populations of rosy sandcrocus in the grasslands along Bolinas Ridge. This short-statured plant only flowers for a brief period in early spring, and is largely undetectable for the rest of the year. It is likely that the Bolinas Ridge populations have been established for many years, but were not previously detected due to survey timing.

Rosy sandcrocus is a pink-flowered member of the Iris family, with tough grass-like leaves, and underground bulbs. It was introduced to California as an ornamental, and as a contaminant in clover seed for pastures. It is native to the Cape region of South Africa, and is widely naturalized in Australia, where it displaces desirable rangeland plants, and is considered a noxious agricultural weed. It has a high reproductive capacity, producing copious seeds and bulb offsets. Large numbers of seeds and bulbs may be dispersed by grazing or mowing. It can significantly reduce productivity in crops and pastures, and has no

forage value. Undigested fiber balls can accumulate in the stomachs of grazing animals, causing digestive disorders and sometimes death.

Rosy sandcrocus is emerging as a troublesome pest plant of coastal rangelands in West Marin. Point Reyes Range Ecologist Dylan Voeller reports a dramatic increase over the past several years in grazed annual grasslands at Point Reyes, where it is now widely established. Elsewhere in SFAN parks, this species is uncommonly found growing in trails. Notable exceptions in GGNRA include large populations in historically grazed grasslands at Rancho Corral de Tierra, and a small patch in the mowed historic Rifle Range at Fort Baker.

Resources:

[Global Invasive Species Team Weed Alert!](#)

[Onion Grass \(*Romulea rosea*\) - Management in Pastures](#)



A large hanging sedge plant growing in Redwood Creek. Muir Woods NM.
Photo by Eric Wrubel, NPS.

[Hanging sedge](#) [\(Carex pendula\)](#)

ISED surveyed Redwood Creek last December, after receiving reports of hanging sedge. Nine large plants were

We received reports of hanging sedge along a stretch of the creek and mapped and removed nine large plants from the bank.

Hanging sedge is a large, fast-growing, grasslike plant. It is one of the few *Carex* species known to be introduced in North America, and was first recorded in Marin County in 1975 at Mill Valley. It is native to Europe and North Africa, where it

inhabits forest edges. It reproduces by seeds and rhizomes, and can produce over 20,000 seeds per plant, with greater than 90% viability. The seeds disperse primarily by water, but the species is also being spread by humans as an ornamental. It is naturalized in Australia and New Zealand, where it is listed as a prohibited species because it can displace native wetland species. A USDA risk assessment for hanging sedge estimated that 70 percent of the climate zones in the United States are suitable for establishment of the species, including all of California.

In 2008, hanging sedge was discovered at Muir Woods, in Redwood Creek. Since then park staff have conducted several sweeps of Redwood Creek in an attempt to eradicate hanging sedge from the watershed. Another sweep of the creek is planned for 2016 in conjunction with the One Tam early detection program and the Redwood Creek Collaborative.

Sources:

[USDA Weed Risk Assessment for Carex pendula](#)



A patch of senescent narrow leaved clover. Point Reyes NS.

Photo by Eric Wrubel, NPS.

[Narrowleaf clover](#) [\(Trifolium angustifolium\)](#)

In May, the ISED team documented several large populations of narrowleaf clover in Golden Gate NRA at the Marin Headlands. A large new population was found along the Bobcat Trail, and a patch on Conzelman Road at Battery Rathbone has expanded significantly this year.

Narrowleaf clover is native to the Mediterranean Region, and is naturalized in Australia, New Zealand, South Africa and Chile. In 2005, it was noted in a Cal-IPC "Red Alert" as rapidly expanding its range

along the central California coast. This species can disperse large distances by adherence to clothing, fur, etc.; otherwise there is little published information on its invasiveness or impacts.

At Pinnacles NP, ISED recorded the first known occurrence of narrowleaf clover during this year's May surveys. The three plants were located near the medusahead infestation noted above, and were immediately removed.

ISED has mapped a significant number of narrowleaf clover occurrences in Point Reyes NS, and Golden Gate NRA. In Marin County, the first report of this species occurred in 2005, and there are now 112 records for the county in the Calflora database. It is also prevalent on park lands at Rancho Corral de Tierra in San Mateo County.

Survey Results

[November 2015 – May 2016 ISED survey results](#)

The April and May 2016 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.

Cal-IPC News Features ISED Program

Be sure to check out the [article featuring the ISED program](#) in the Fall 2015 issue of [Cal-IPC News](#), which is now available online.

What We Do

The Weed Watchers map, assess, and report 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 (Highest Priority Plants)	 Fertile capeweed	List 1 plants are highly invasive and are typically not widespread. Control or even eradication is often feasible.	<i>Point occurrences*</i> and <i>polygon assessments**</i> are recorded for all patches, regardless of their size.
List 2 (High Priority Plants)	 Cape ivy	List 2 plants are highly invasive and usually more common than List 1 species, but are still feasible to control in many places.	<i>Point occurrences</i> are recorded for all patches regardless of their size, and <i>polygon assessments</i> are recorded for all patches smaller than 100 square meters.
List 3 (Medium Priority Plants)	 Sweet fennel	List 3 plants are usually widespread and difficult to control at the scale of the park. Uncommon species of concern are also listed here to improve our understanding of their distribution in the park.	<i>Point occurrences</i> are recorded for all patches smaller than 100 square meters.
List 4 (Lower Priority Plants)	 Rattlesnake grass	List 4 plants include all other exotic species that are not captured by Lists 1 – 3. Typically, these are ubiquitous invasive plants and are beyond control, or they are waifs.	These plants are not mapped. Skilled observers may record presence/absence.
*Point occurrences are individual points recorded to represent an entire patch of invasive plants **Polygon assessments describe the size, shape and coverage of a patch			