

San Francisco Bay Area Network Early Detection Program

Early Detection News May 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 would you like to be added to the newsletter? 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

Field Season Begins!

Welcome Early Detection Field Lead Nicolas Graver, and interns Sarah Inman, Amber Antonison, and Cheyenne Liddicote. The ISED field season began in mid-May, and we got off to a great start with surveys in the Marin Headlands in the Oakwood Valley area and at Point Reyes in the Olema Valley.

Noteworthy Early Detections



Narrow Leaved Clover (*Trifolium angustifolium*)

Narrow leaved clover populations have expanded this year in Golden Gate NRA and Point Reyes NS. Known locations have visibly increased, and the largest patch observed consisted of thousands of plants over a 1.6 acre area on the Alta Fire Road in the Marin Headlands.

Narrow leaved clover is an annual herb that can be distinguished from other clovers by its long, fuzzy flower heads, and narrow linear leaves. In the San Francisco Bay Area National Parks narrow leaved clover is

spreading along mowed road and trail shoulders, but has been shown elsewhere to disperse across long distances via livestock. The first California collection of this clover was in Santa Cruz in 1958. By 2007 it was reported to be spreading rapidly along the Central Coast. It has been reported as an environmental weed in Chile, Australia, and Japan.

Sources:

Narrow leaved clover along the Alta Trail.
Photo by Eric Wrubel, NPS.

[Cal-IPC Weed Alerts! 2007](#)

[Biosecurity Queensland Weeds of Australia](#)

[Manzano, P., & Malo, J. E. \(2006\). Extreme long-distance seed dispersal via sheep.](#)

[Frontiers in Ecology and the Environment, 4\(5\), 244-248.](#)

Andean Tussockgrass **(*Stipa manicata*)**

The ISED team discovered and removed two patches of Andean tussockgrass in the Marin Headlands, on Marincello Road and Rodeo Avenue Fire Road.

Andean tussockgrass is a tall bunch grass that can grow to shoulder height. It is a high priority target for early detection, due to its similarity to the ecologically important native purple needlegrass (*Stipa pulchra*). Andean tussockgrass is more robust than purple needlegrass, and tends to grow in moister, disturbed areas. Cal-IPC classifies the potential threat of Andean tussockgrass to native ecosystems as LIMITED.

To distinguish Andean tussockgrass from native needlegrasses, examine the fruit with a hand lens. Mature Andean tussockgrass fruits have a distinctive “crown”, which is constricted at the base, and have few hairs apart from those at the base of the fruit. Fruits on native needlegrasses have indistinct crowns, and are evenly hairy.

Sources:

[Cal-IPC Plant Profile: *Stipa manicata*](#)
[Grass Manual on the Web](#)



Andean tussockgrass on the Marincello Trail
Photo by Eric Wrubel, NPS.



Nick Graver, Amber Antonison, and Lynnette Norman take measurements on a patch of Japanese knotweed.

Japanese knotweed **(*Fallopia japonica*)**

To kick off the field season, ISED joined forces with the NPS Exotic Plant Management Team and the Golden Gate Parks Conservancy to continue ongoing mapping and survey efforts for Japanese knotweed in Lagunitas Creek.

Japanese knotweed is listed by the World Conservation Union as one of the world's most invasive species. It invades riparian systems in temperate regions worldwide, and is considered one of the worst invasive plants in the eastern United States. It is a deciduous perennial that forms dense hedges that can reach 2-4 meters tall in one growing season. It grows rapidly by deep rhizomes, forming colonies that choke out all other vegetation. The vigorous root systems can cause serious damage to roadways, pavement and concrete foundations.

This pernicious weed was first observed in San Geronimo in 2013, and was found to be well distributed downstream in Lagunitas

Photo by Eric Wrubel, NPS.

Creek to the confluence with Nicasio Creek.

We discovered two new patches so far during this year's surveys, and we established permanent photopoints, and collected additional environmental data on known populations. These data will inform management plans to control the spread of Japanese knotweed in the watershed.

Pinnacles National Park Surveys

At the end of May, the Early Detection team traveled to Pinnacles National Park in San Benito County to conduct surveys for target invasive plants. We surveyed over 10 miles of roads, trails and other use areas in four days. Notable findings from these surveys include new infestations of rose clover (*Trifolium hirtum*), goat's beard (*Tragopogon dubius*), Italian thistle (*Carduus pycnocephalus*) and cheatgrass (*Bromus tectorum*). Although these species are widespread in other parts of California, they are relatively uncommon at Pinnacles.

Goat's beard is a perennial herb in the Asteraceae originally native to Eurasia, but now widespread in many parts of California. It has a strong taproot and milky sap. ISED detected new populations in high use areas of the park and along the North Wilderness trail. Many states in the southwestern US have classified goat's beard to be weedy or invasive. This species has been on the Cal-IPC Watchlist since 2010.

Cheatgrass is an invasive annual grass found throughout California and much of the world. It is thought to have been introduced to the state in the late nineteenth century. Cheatgrass replaces native grasses which affects the frequency, timing and extent of wildfires. The change in fire regime can, in turn, alter or destroy entire plant communities. The ISED discovered a new population near a picnic area and reassessed an earlier observation on the Balconies trail. Cal-IPC classifies the potential impact of cheatgrass on native ecosystems as HIGH.

Sources:

Jepson eFlora: [Tragopogon dubius](#)
USDA PLANTS Profile: [Tragopogon dubius](#)
Cal-IPC Plant Profile: [Bromus tectorum](#)

Survey Results

May 2017 ISED survey results

The May 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 a 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.	<i>Polygon assessments*</i> 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, but are still feasible to control in many places. Uncommon species of concern are also listed here to improve our understanding of their distribution in the park.	<i>Polygon assessments</i> are recorded for patches smaller than 100 square meters, and <i>Point occurrences**</i> are recorded for larger patches.
List 3 (Lower Priority Plants)	 Sweet fennel	List 3 plants are usually widespread and difficult to control at the scale of the park.	<i>Presence/absence</i> is recorded by subwatershed. No points or polygons are mapped.
*Polygon assessments describe the size, shape, percent cover, and number of plants in a patch **Point occurrences are individual points recorded to represent an entire patch of invasive plants			