

Bay Area Early Detection Team

Early Detection News

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National Park Service
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S.F. Bay Area Network
Inventory and Monitoring Program



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The Early Detection Team (EDT) surveys roads and trails in the San Francisco Bay Area Network of National Parks (SFAN). 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 [Eric Wrubel](#) (415) 289-1849.*

Newsletter archives at www.sfnps.org/weed_watchers/newsletters

Articles by Eric Wrubel, Nicholas Stevenson, Kris Daum, Raphaela Floreani Buzbee, and Ellen Hamingson

Noteworthy Early Detections



Barbed goatgrass.
Photo by Eric Wrubel ,NPS.

Barbed goatgrass (*Aegilops triuncialis*)

In mid June, the EDT rediscovered a large population of barbed goatgrass at the Bear Valley parking lot, Point Reyes NS. This highly invasive Eurasian grass was first reported in Point Reyes at the same site in 2008, by Doreen Smith. The small population discovered in 2008 was immediately removed, and seedlings were re-treated in 2009. It was not detected at the site during subsequent annual revisits between 2010-2014. Outside of this location, barbed goatgrass was recorded only once in the park, on

Drake's Beach Road .

This year's find signals an unexpected return, raising questions as to how barbed goatgrass persisted undetected at the Bear Valley parking lot for five years. One explanation is that frequent mowing removed the seed heads prior to surveys. Future surveys of this site will need to be coordinated with the mowing cycle.

Barbed goatgrass outcompetes herbaceous species by forming dense mats of growth early in the season, and dying back to a thick mulch after fruiting. The grass is generally avoided by grazing animals due to its sharp awns. Through selective grazing, livestock often increase its spread by eliminating competitors. Barbed goatgrass is one of the few introduced annual grasses that is tolerant of serpentine soils, and poses a threat to serpentine endemic species. It is expanding its range in Northern and Central California. The California Invasive Plant Council (Cal-IPC) classifies its potential impact on native ecosystems as High ([Plant Profile](#)), and it is listed as a B-rated noxious weed by the California Department of Food and Agriculture.

One week after discovery, the Bear Valley population was hand removed by a team consisting of the visiting Golden Gate Parks Conservancy Restoration Technicians, the Point Reyes Habitat Restoration Program, and the Early Detection Team. Thanks to all who helped with this very rapid response effort!

Sources:

[Aegilops trincialis](#) profile - Cal-IPC

[Aegilops trincialis](#) profile - bugwood.org

[Barb goatgrass](#)-UCANR Publication 8315



Woolly distaff thistle.
Photo by Eric Wrubel, NPS.

Woolly distaff thistle (*Carthamus lanatus*)

In early June, the EDT discovered and removed two individuals of woolly distaff thistle at Point Reyes NS, on the Inverness Ridge trail. Woolly distaff thistle is highly invasive and widespread in the rangelands of western Marin to the east of the San Andreas Fault line, but this is one of the few occurrences that have been recorded on the Point Reyes Peninsula to the west of the San Andreas Fault ([Calflora](#)).

Woolly distaff thistle is a tall, yellow-flowered annual thistle native to the Mediterranean Basin. It is considered invasive in Australia and North America. Within California it is primarily found in the Coast Ranges, in grasslands, pastures, roadsides and disturbed areas. Woolly distaff thistle is highly competitive with other herbaceous species, and can injure the eyes and mouths of livestock. Dense stands are avoided by livestock, allowing populations to expand. Cal-IPC classifies the potential impact

of woolly distaff thistle on native ecosystems as Moderate - ALERT ([Plant Profile](#)), and it is listed as a B-rated noxious weed by the California Department of Food and Agriculture.

Sources:

[Carthamus lanatus](#) profile - USDA PLANTS

[Carthamus](#) datasheet - Encycloweedia

[Woolly distaff thistle](#). DiTomaso et al. 2013. *Weed Control in Natural Areas in the Western United States*.



Purple starthistle, first year rosette.
Photo by Nicholas Stevenson, NPS.

Purple starthistle (*Centaurea calcitrapa*)

The EDT spotted, and treated, a single plant of purple starthistle at Point Reyes NS, on Pierce Point Road between Kehoe Ranch and the elk fence.

Purple starthistle (*Centaurea calcitrapa*) is a thistle species bearing deeply lobed leaves with grayish hairs and long, sharp spines around the flower heads. Purple starthistle usually grows as a biennial. It forms a mounding basal rosette in its first year, then bolts, flowers and sets seed during the following growing season.

Purple starthistle, a Mediterranean native, was first noted in California near Vacaville in 1886 and has since spread across much of the state. It has been found in scattered locations in the Golden Gate National Recreation Area, but has only been sighted once previously on the Point Reyes Peninsula, in Inverness. It is most commonly invasive in disturbed areas, especially pasturelands. Grazing is not an effective suppression method as cattle avoid thistles, preferentially grazing on any other plants that would potentially compete. Cal-IPC classifies its potential impact on native ecosystems as Moderate ([Plant Profile](#)), and it is listed as a B-rated noxious weed by the California Department of Food and Agriculture.

Sources:

[Centaurea calcitrapa profile - Cal-IPC](#)



Smilo grass.
Photo by Luigi Rignanese ©2006

Smilo grass (*Stipa miliacea*)

During surveys in early June, the EDT recorded the presence of Smilo grass at John Muir National Historic Site, on the northern border of the park near Franklin Canyon Road. This species was not previously known to occur in the park, and has only rarely been detected in the other San Francisco Bay Area National Parks.

Smilo grass is a perennial grass native to the Mediterranean Basin. It is found in disturbed areas, and

can be invasive in riparian habitats such as streambanks, canyons, and ditches. *Stipa miliacea* is a tall grass which can produce large numbers of viable seeds, and can re-sprout easily from burning or cutting. Cal-IPC classifies its potential impact on native ecosystems as Limited ([Plant Profile](#)).

Sources:

[Stipa miliacea profile - Cal-IPC](#)

Invasive *Spartina* eradicated from Point Reyes



Smooth cordgrass
Photo by USDA-NRCS PLANTS

Smooth cordgrass (*Spartina foliosa*)

Thanks to dedicated efforts of the San Francisco Estuary Institute Invasive Spartina Project (ISP), a top-priority invader has been locally eradicated from Point Reyes NS.

Five clones of smooth cordgrass (*Spartina alterniflora*), an East Coast native, were found in Drakes and Limantour Esteros in 2001-2002.

Smooth cordgrass, an “ecosystem engineer,” rapidly colonizes open mud-flats and channels in Pacific Coast estuaries, converting them to dense meadows and reducing important foraging habitat for shorebirds including the federally endangered California clapper rail, and out-competing rare marsh plant species and native California cordgrass (*Spartina foliosa*). For more on ecological impacts, see <http://www.spartina.org/invasion.htm>. Additionally, smooth cordgrass hybridizes with the native cordgrass, with hybrids capable of even more rapid expansion. Hybridization has been so extensive in some San Francisco Bay marshes that no pure California cordgrass remains. Identification of hybrid plants can only be accomplished through genetic testing.

Since 2000, ISP has implemented a very successful regional Spartina control project, achieving 99% reduction of North Bay infestations. ISP has collaborated with the Point Reyes Habitat Restoration Program since 2002, conducting annual surveys and genetic sampling and assisting with control. Clones were treated by smothering them under heavy black tarps placed flush over the plants and held in place with wooden stakes. Each infestation was visited at low tide annually to repair and if needed, extend, the tarps. To declare a population eradicated, three years of no visible or genetic evidence of hybrids was required. While some tarps were removed in 2003 and 2004, additional clones were discovered nearby. However, since 2011, no Spartina has been detected at the Drakes Head or Limantour sites. On June 25, ISP Treatment Program Manager Drew Kerr visited these as well as the Home Bay site and was able to declare all infestations eradicated.

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 data presented via the Google Earth KML files 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			