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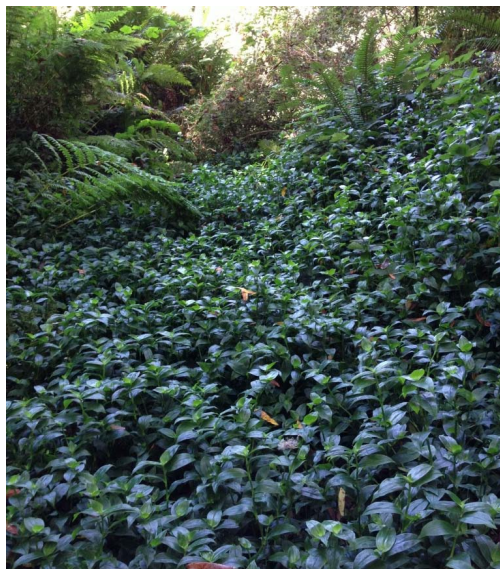
[Habitat Restoration Team](#)

The Early Detection Team (EDT) surveys roads and trails in the 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 view in your web browser click [here](#)

Noteworthy Early Detections



Small leaf spiderwort spreading down the creek in an abandoned garden. Conlon Avenue, Muir Woods

Several dense populations of uncommon weed species were observed during August surveys at Muir Woods along Conlon Avenue and Camino del Canyon. These species are horticultural escapees from abandoned homesites.

[Small leaf spiderwort \(*Tradescantia fluminensis*\)](#) is a rhizomatous perennial groundcover in the spiderwort family (Commelinaceae). It can form locally dense infestations in damp, shady places. EDT found a monoculture of this species in a seasonal creek running through an abandoned garden south of Conlon Avenue. Small leaf spiderwort is reportedly highly invasive in Florida, but has not been widely reported to be invasive in California. Once established, it is difficult to remove, because it can regrow vegetatively by numerous broken stem fragments. This species could be locally invasive in wet locations that are sheltered from wind and frost.

[Yellow archangel \(*Lamium galeobdolon*\)](#), is a perennial groundcover which is spreading into oak woodland understory from an abandoned garden at the end of Camino del Canyon. This is the only known location of yellow archangel in GGNRA. This species has recently been added to the California State Parks early detection priority list for Santa Cruz, where it has been observed spreading in a redwood forest understory.

[Lemon balm \(*Melissa officinalis*\)](#) is an herbaceous perennial in the mint family (Lamiaceae). A dense patch of lemon balm was observed growing in an abandoned dirt road at the end of Conlon Avenue. It has also been observed at scattered locations in the Redwood Creek watershed. This species is known to be moderately invasive in Oregon, but there are few reports of invasiveness in California.

Pinnacles Seasonal Summary



Salsola tragus. Photo © 2008 Kier Morse

Many thanks to Sean Zweifler, the first EDT intern to be stationed at Pinnacles National Park for a full season (March - September). Sean shared his time between early detection surveys and the Habitat Restoration Crew, serving as a liaison between the two programs.

Sean discovered five new species during the 2013 season, one native and four non-natives. The non-native species were: [tall tumble mustard \(*Sisymbrium altissimum*\)](#), [wooly distaff thistle \(*Carthamus lanatus*\)](#), [clustered dock \(*Rumex conglomeratus*\)](#), and [creeping woodsorrel \(*Oxalis corniculata*\)](#). While some of these species are highly invasive elsewhere in the State, they are not expected to cause significant ecological impacts at Pinnacles.

[Bigbract verbena \(*Verbena bracteata*\)](#), a species native to California, was found in a dry stock pond. This is the first report of bigbract verbena from San Benito County. Its isolated location indicates that it may have been introduced from elsewhere.

Significant early detections this season included [periwinkle \(*Vinca major*\)](#), [Johnsongrass \(*Sorghum halepense*\)](#), [Russian thistle \(*Salsola tragus*\)](#), and [Harding grass \(*Phalaris aquatica*\)](#). To see the mapped locations of these populations, see the survey results below.

BAEDN evaluates new EDRR targets in San Mateo County



The Bay Area Early Detection Network, a project of the California Invasive Plant Council (BAEDN/Cal-IPC), is evaluating new potential target species for eradication in western San Mateo County as part of a grant from the US Fish and Wildlife Service Coastal Program. A survey of local weed experts identified seven adventive species that are likely to be both invasive and eradicable. They include:

[Pine echium \(*Echium pininana*\)](#)

[Crete weed \(*Hedypnois cretica*\)](#)

[Italian stone pine \(*Pinus pinea*\)](#)

[Italian buckthorn \(*Rhamnus alaternus*\)](#)

[Sweet brier \(*Rosa rubiginosa*\)](#)

Tufted wallaby grass. Baquiano Trail,
Sweeney Ridge.

[Tufted wallaby grass \(*Rytidosperma caespitosum*\)](#)

[Suffocated clover \(*Trifolium suffocatum*\)](#)

Weed risk assessments will now be conducted to assess the potential environmental impacts and invasiveness of these species. The species that are determined to pose an environmental risk will be added to the current BAEDN priority list

The majority of species under consideration have only been documented on NPS lands (*Pinus pinea*, *Rhamnus alaternus*, *Rosa rubiginosa*, *Rytidosperma caespitosum*). If you know of any additional populations of any of these species in western San Mateo Co., please document their locations through the [Weed Observation Hotline](#) at Calflora.org (under Links, go to Weed Observation Entry). Accurate mapping is the first step in scoping the cost to remove these species from wildlands in San Mateo County.

GGNRA Intern Swap



Participants in the first EDT Intern Swap. More photos from the Intern Swap are posted [here](#).

On August 20th, EDT hosted our first parkwide Intern Swap. Christopher Meyer and Seth Gorelik culminated their six-month early detection internship by leading twenty visiting interns on a hike out of Fort Cronkhite on the Coastal Trail.

The visiting interns learned how early detection and rapid response can prevent the environmental impacts caused by the spread of invasive plants. Seth and Chris taught the visiting interns to identify unusual weeds such as purple awned wallaby grass (*Rytidosperma penicillatum*) and parrot's Feather (*Myriophyllum aquaticum*), and gave hands-on demonstrations of GPS mapping techniques.

Many thanks to Chris and Seth for their contribution to the success of the early detection program this season!

Survey Results

To see the survey results for the SFNPS Early Detection Team, go to:

[Calflora Observation Hotline](#)

Use the map to navigate to a survey area (listed below). You can view up to 1,000 occurrence records, and you can filter your results by date, area, or taxon.

Please contact us if you need detailed mapping products. We have additional GIS layers for tracklogs, population assessments and treatments.

Golden Gate National Recreation Area, August Survey Areas

San Francisco and San Mateo County

- Land's End
- Sweeney Ridge
- Mori Ridge

Marin Headlands

- Bunker Road
- Conzelman Road
- Kirby Cove Road

Tennessee Valley

- Marincello Trail
- Fox Trail
- Tennessee Valley Trail

Muir Woods

- Camino del Canyon
- Conlon Avenue

Pinnacles National Park 2013 Surveys

Surveys were conducted throughout the park. You can view this years' mapped occurrences at the [Calflora Observation Hotline](#).

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 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 NRA 2013](#)
[Point Reyes NS 2013](#)

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)		List 2 plants are highly invasive and usually more common than List	<i>Point occurrences</i> are recorded for all patches regardless of their size,

Plants)	 Cape ivy	1 species, but are still feasible to control in many places.	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			