



Invasive Exotic Plant Monitoring

*in the Northern Colorado
Plateau Network*



Tamarisk in bloom.



Flixweed.

Why Monitor Invasive Exotic Plants?

Invasive exotic plants are one of the most significant threats to natural resources in the national parks today. Exotic plants are able to reproduce prolifically, rapidly colonize new areas, displace native species, and alter ecosystem processes across multiple scales. If invasive exotic plants are discovered while their populations are still small, control efforts are likely to cost less and achieve more success than after a species has become more widespread. Early detection of exotic plants is critical.

What's the Most Recent News?

In 2014, the NCPN monitored invasive plants at Capitol Reef National Park (NP), Curecanti National Recreation Area (NRA), Fossil Butte National Monument (NM), Golden Spike National Historic Site (NHS), and Dinosaur NM. Reports on this work are available at the [network website](#).

In 2015, NCPN monitored invasive exotic plants at Black Canyon of the Gunnison NP, Capitol Reef NP, Colorado NM, Curecanti NRA, and Zion NP. Reports will be completed in the spring of 2016.

How is the Information Used?

Information gathered from this monitoring will support a long-term, park-wide strategy for controlling invasive plant species. It will also allow park managers to be well-informed about the status of ecosystems and prioritize invasive-plant control efforts. Staff from both the parks and the National Park Service Exotic Plant Management Teams use NCPN monitoring reports to guide control efforts.

Where are Invasive Exotics Monitored?

The network monitors invasive exotic plants at eight parks:

- Black Canyon of the Gunnison NP,
- Capitol Reef NP,
- Colorado NM,
- Curecanti NRA,
- Dinosaur NM,
- Fossil Butte NM,
- Golden Spike NHS, and
- Zion NP.

How is the Monitoring Done?

The objectives of Northern Colorado Plateau Network (NCPN) invasive plant monitoring are to detect incipient populations and new introductions of invasive plant species and determine the status and trends of selected populations of invasive plants of concern to park managers.

To meet those objectives, the network focuses its monitoring efforts on areas where invasive exotics are likely to first establish. First, NCPN or park staff survey established monitoring routes on a rotational basis. Along those routes, staff establish plots that can be quickly surveyed for data that will enable us to estimate trends over time. Network staff may also dedicate some time to surveying areas of high management concern to park staff.

How Can I Learn More?

Visit <http://go.nps.gov/NCPNIEP> or contact dustin_w_perkins@nps.gov.

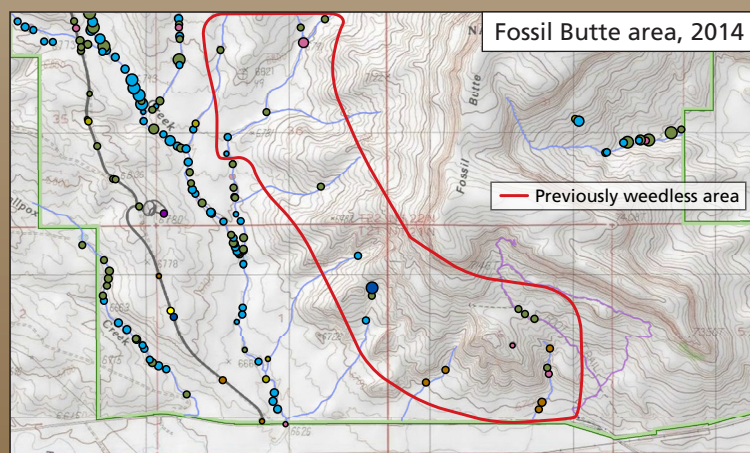
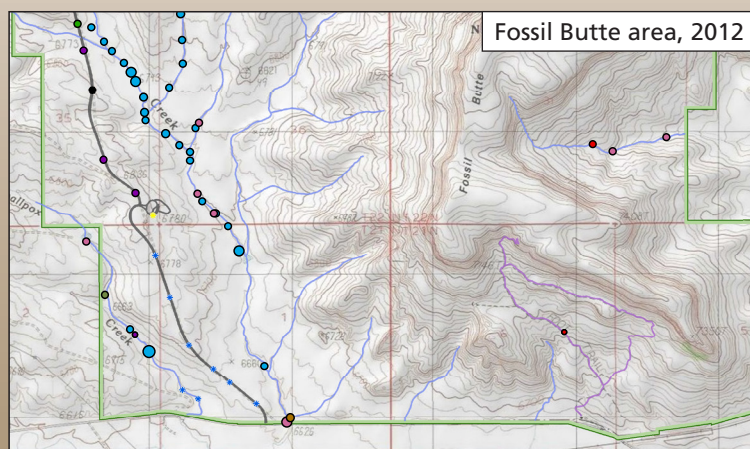
PHOTOS

FROM TOP: NCPN CREW MEMBER IN MULLEIN PATCH (NPS/A. COHEN), TAMARISK (L. MAKINGS, SWBIODIVERSITY.ORG), FLIXWEED (MAX LUCHER, ASU VASCULAR PLANT HERBARIUM/SWBIODIVERSITY.ORG)

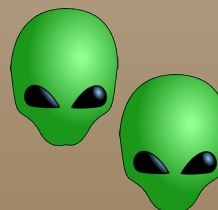
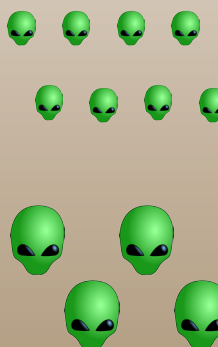


What the Totals Don't Tell Us: Invasive Exotic Plant Change at Two NCPN Parks

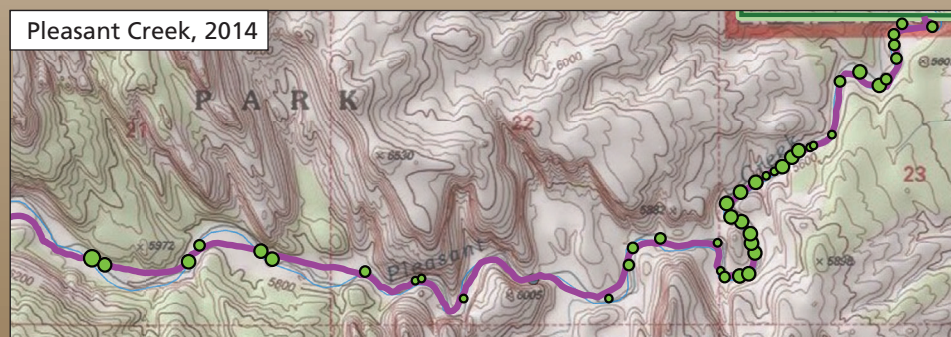
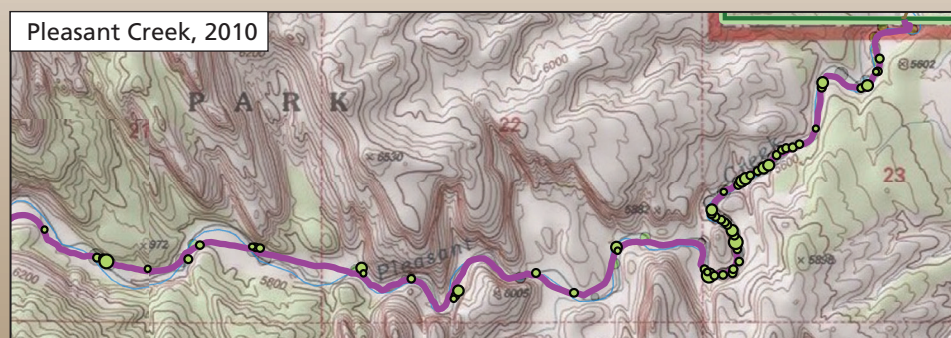
In our previous brief, we reported on decreases in the number of IEP patches seen at two network parks. But tracking numerical ups and downs, while important, doesn't capture the whole story. In some cases, numerical decreases aren't necessarily good news.



AT FOSSIL BUTTE NM, the total number of IEP patches detected on trails and parkwide jumped from 133 (in 2012) to 375 (excluding cheatgrass). Equally important, though, were the changes seen in distribution. Invasive plants were found on six routes that were formerly almost weedless. On routes in this area—which surrounds Fossil Butte, itself—observers found two infestations each in 2010 and 2012. In 2014, however, 27 IEP patches were found here. It is important that efforts be made to control these patches, particularly those at the upper end of drainages, before they become widespread.



Reports for all years
are available at
[http://go.nps.gov/
ncpnIEPreports](http://go.nps.gov/ncpnIEPreports)



AT CAPITOL REEF NP, the total number of tamarisk patches mapped along monitoring routes in 2014 declined from 2010, the overall distribution of tamarisk remained the same, and the number of patches smaller than a few plants decreased (see table). Although that may all sound like a positive development, the decline in patch number may not represent a decrease in the amount of infested area.

In this case, as the number of patches smaller than a few plants declined, the number of patches larger than 40 m² increased—by 400% (in maps, note that there are fewer larger circles in 2014 compared to more smaller circles in 2010, while distribution remained largely the same). This may indicate that smaller patches joined together into large patches, which are more difficult to control. In addition, 63% of tamarisk patches were classified as mature trees. There is a need for exotic plant control efforts to be targeted at Pleasant Creek before tamarisk becomes more widespread.

Tamarisk on Pleasant Creek, 2010–2014.

Tamarisk	2010	2014
Total patches	60	49
Patches of 1–a few plants	41	11
Patches larger than 40 m ²	5	25