



Invasive Exotic Plant Monitoring

Importance

Invasive exotic plants represent one of the most significant threats to natural resources in national parks. Exotic plants are a concern because they are able to reproduce prolifically, rapidly colonize new areas, displace native species, and alter ecosystem processes across multiple scales. Established invasive exotic plants may exist in small populations for long periods, making detection difficult. However, if discovered in these early stages, control efforts are likely to cost less and achieve higher success rates than after a species has become more widespread. Therefore, it is critical to detect exotic plants during this time-lag between introduction and subsequent rapid expansion.



SdN

NCPN staff conduct invasive plant monitoring at Golden Spike NHS.

Long-term Monitoring

In order to provide early warning of new exotic threats, the Northern Colorado Plateau Network (NCPN) will focus its invasive-plant monitoring efforts on areas where invasive exotics are likely to first establish. The network will implement a three-pronged approach to the early detection of exotic plants. First, NCPN or park staff experienced with a wide range of exotics will survey established monitoring routes on a rotational basis to maximize both efficiency and ground coverage. Along those routes, staff will establish plots that can be quickly surveyed for data that will enable trend estimates to be made over time.



Dalmatian toadflax.

In addition, NCPN staff may dedicate approximately 25% of their time to one-time inventories of areas that are of high concern to park managers but might be missed on the routine monitoring routes. Finally, the network has designed “monitoring lite,” a method by which park staff or volunteers with less knowledge of invasive species may collect data for use in NCPN databases and reporting.

Preliminary objectives of invasive plant monitoring are to:

1. Detect incipient populations and new introductions of invasive plant species; and

2. Determine status and trends of selected populations of invasive plants of management significance.

Management Applications

The NCPN tested the protocols described above during a pilot field season at Fossil Butte NM and Golden Spike NHS in 2008; a report will be prepared in winter 2008–2009. The network will expand invasive plant monitoring to Colorado NM and Capitol Reef NP in 2009. Together, these four parks are representative of the wide range of habitats found within the NCPN. It is anticipated that a draft protocol for monitoring invasive exotics will be ready for peer review in winter 2009–2010. Information gathered from this monitoring will support a long-term, ecosystem-wide strategy for controlling invasive plant species and provide park managers with access to systematically collected information that will inform them about the status of ecosystems and allow them to prioritize the dedication of limited resources to invasive-plant control efforts.

Contact

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Network park units where invasive exotic plants will be monitored

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

NP = National Park; NM = National Monument;
NRA = National Recreation Area; NHS = National Historic Site