

National Park Service
U.S. Department of the Interior
Name of Office



Invasive Plant Management in the National Park Service

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Outline

- A Brief History of Invasive Plant Management in the NPS
- Mandates to Manage Invasive Plants
- Current Invasive Plant Management Efforts in the NPS
- A Look into the Future



Chemical control of Reed Canary Grass at the Sheep Camp restoration site in Klondike Gold Rush National Historical Park. NPS photo, Alaska EPMT. 2015.

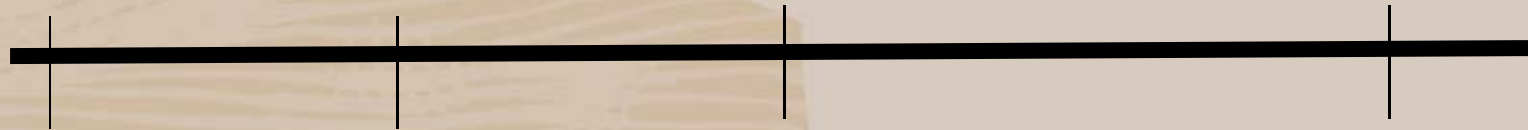
As the National Park Service begins its second century, our stewardship of these special places must be grounded in science.



The Park Road and Denali in Denali National Park and Preserve.

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A Brief History of Invasive Plant Management in the NPS



1864 -
Yosemite
Valley and
the
Mariposa
Grove of
Giant
Sequoias
ceded to the
state of
California

1872 -
Yellowstone
established
as the first
national
park

1890 –
Yosemite
National Park
established

1916 – The
National Park
Service is created



Distant view of Yosemite Valley from
the Wawona Tunnel. 2013-07-09

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The National Park Service is Created

- the Organic Act – “which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”
 - In the early days of the NPS conservation was protecting the scenic views that the public came to see, even if landscape and plant and animal populations had to be manipulated to achieve that
 - 1932 – 1934 Fauna No. 1 and Fauna No. 2, George Melendez Wright – Parks should be managed as functioning ecosystems rather than simply as scenery

A Brief History of Invasive Plant Management in the NPS

- Most parks were already altered by human activity – Native American use, mining, lumbering, grazing, oil exploration
- Early park managers manipulated natural resources to support tourism
- Early NPS policy statements in the first decade of the service did not prohibit introduction of non-native species



Rocky Mountain National Park. Young lady playing rainbow trout - Thompson River - Moraine Park. Front range of Rockies in background. Allan Rinehart. 1938.

A Brief History of Invasive Plant Management in the NPS

- 1930 – Memo from Director Horace Albright to superintendents and concessioners
 - National parks should stress the protection and conservation of native plants and animals. The introduction of exotic species endangers the native forms. It is the duty of the National Park Service to protect nature unchanged for the benefit of this and future generations
 - A serious attempt should be made to exclude all exotic seeds and plants from the national parks and monuments
 - Constant endeavor should be made to eliminate exotics already planted in developed areas
 - As far as is possible, the same ruling shall apply to all forms of life. Wider planting of native species should be encouraged, with the hope that eventually non-native forms may be largely eliminated

A Brief History of Invasive Plant Management in the NPS

- 1963 – The Leopold Report
 - A pivotal moment for the National Park Service
 - Urged that “naturalness should prevail” in park management
 - The Service should encourage native plants and animals, discourage non-native species, and minimize human intrusions in the parks
- 1967 (revisions in 1968 and 1970) – The first comprehensive management policies



Close-up profile of front half of buffalo bull.
Vertical. Ryan Hagerty. 2004.

Mandates to Manage Invasive Plants

In addition to Federal laws, policy, and regulations, NPS Management Policies (2001 and 2006)

- Exotic species will not be allowed to displace native species if displacement can be prevented.
- All exotic plant and animal species that are not maintained to meet an identified park purpose will be managed—up to and including eradication

NPS Director's Orders

- DO 77 – Natural Resource Protection
- DO 12 – Conservation Planning, Environmental Impact Analysis, and Decision-making (NEPA Compliance)



Santa Monica youth volunteers posing with their hard work. NPS photo, California EPMT. 2014.

Mandates to Manage Invasive Plants - The Natural Resource Challenge

- To provide funding and structure to support scientifically informed ecological management in the NPS
- Proposed in 1998 and funded in 2000 – 2006 at \$80 million, substantially less than the \$200 million NPS felt it needed
- Goals of the Natural Resource Challenge
 - Protect native species and their habitats
 - Provide leadership for a healthy environment
 - Connect parks to protected areas and parks to people



Lassen Volcanic Cheatgrass Treatment. NPS photo, California EPMT. 2015.

The Natural Resource Challenge

- Many of the funds went directly to parks to support specialized fieldwork needs
 - Natural resource management programs
 - Invasive plant management programs



Stones River National Battlefield, Natural Resource Challenge funded natural resource management program. NPS photos.

The Natural Resource Challenge

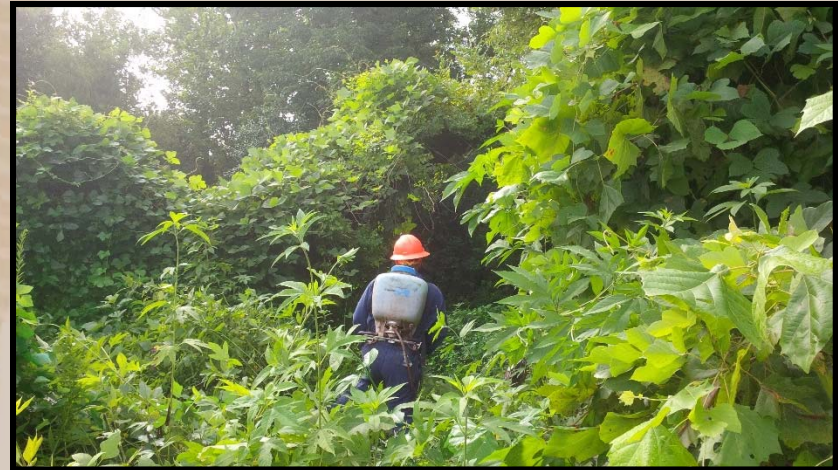
- Funded National Level Programs
 - Biological Resources Division
 - Inventory and Monitoring Program to provide baseline information on fundamental resources and monitoring of vital signs in parks
 - Strengthened air- and water-quality programs
 - Created research learning centers
 - Created Cooperative Ecosystem Studies Units (CESUs)
 - Funded Exotic Plant Management Teams (EPMTs) – ca. 5M



Pinnacles NP invasive plant removal, Mike Shelley (left) and Gavin Emmons (right). NPS Photo, California EPMT. 2014.

Current Invasive Plant Management Efforts in the NPS - National Office, Invasive Plant Program (IPP)

- Lead on invasive terrestrial plant issues, some aquatic and semi-aquatic plants are also addressed
- Advises NPS senior management on invasive plant species policy and regulations
- Provides technical assistance and policy guidance to parks and regions on matters related to invasive plant prevention, containment, management, and monitoring
- Funds and provides oversight of the EPMT program



Kudzu treatment at Big Thicket National Preserve. NPS photo, Gulf Coast EPMT. 2015.

Exotic Plant Management Team Program

17 EPMTs across the country

- 15 are funded from the national office
- One is funded through a park
- One is funded through an Inventory and Monitoring Network



Exotic Plant Management Team Program

- Lake Mead EPMT – Pilot NPS Program
- EPMTs serve as the source of regional invasive plant management expertise and boots-on-the-ground support to nearly 290 park units
- EPMTs conduct invasive plant inventories and treatment; many teams also engage in other aspects of ecological restoration



Lake Mead EPMT controlling tamarisk along the Muddy River, NV (BLM). NPS photo, Lake Mead EPMT. 2015.



Youth Corps conducting restoration at Denali National Park & Preserve. NPS photo, Alaska EPMT. 2014.

Current Invasive Plant Management Efforts in the NPS - Invasive Plant Management in Parks

- Many parks are not served by an EPMT
- Some parks have robust invasive plant management programs, others do not
- Erosion of base funding and lack of new dollars have limited natural resource management professionals in the parks



Cutting Scotch thistle, Horse Ranch Mountain, Zion National Park.

Invasive Plant Management in Parks

- Parks are responsible for submitting Pesticide Use Proposals for pesticides, biocontrol agents, and genetically engineered organisms and getting approval at the regional or national level
- Parks are responsible for establishing desired condition for resources
- Parks are responsible for all compliance



Post-treatment, Scotch thistle, Horse Ranch Mountain, Zion National Park.

NPS Initiatives

- National Invasive Species Information Management System (NISIMS)
 - Adopted and adapted from BLM
 - Inventory and Monitoring Networks and parks are beginning to use the system
- Completion of Invasive Plant Program Strategic Plan
- Initiating Management Prioritization Tool
- Implementing National Seed Strategy
- National grassland restoration project



Haleakala Crater and endangered silversword plants.
NPS photo, Pacific Islands EPMT. 2015.

The Future of Invasive Plant Management in the NPS

- Invasive species activities are a DOI high-priority (especially EDRR)
- Setting the direction for the NPS
 - Revisiting Leopold – Establish goals of resource management in the NPS; develop policies for resource management to achieve these goals; identify actions required to implement these policies
 - DO – 100 - update the guiding principles and policies of resource management and stewardship in the National Park System
 - NPS Invasive Plant Program Strategic Plan



Jubata grass is one of the San Francisco Bay Area National Parks highest priority invasives. NPS photo, California EPMT. 2015.

The Future of Invasive Plant Management in the NPS

- Management decisions must be science-based
- NPS must look beyond its boundaries and work with partners on a landscape scale
- Planning must include anticipating impacts of climate change – interim climate change policy “ecological and cultural core of a national and international network of protected lands and waters.”



EPMT staff conducts invasive plant survey at Abra Cove in Kenai Fjords NP. NPS photo, Alaska EPMT. 2015.

Stewardship grounded in science



The Park Road and Denali in Denali National Park and Preserve.

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FY2015 Invasive Plant Species Snapshot

- 371 of 413 NPS units reported for the Government Performance and Results Act (GPRA) data call
 - ~1.4 million acres of NPS lands infested with invasive plants (2.6% “under control”)
- Exotic Plant Management Team (EPMT) program surveyed for or treated 364 species of plants
- NPS spent \$18.27 million, overall, on invasive species management (plants, animals, aquatics)



Removing water hyacinth from Spanish Pond, Timucuan Ecological and Historic Preserve. NPS photo, Florida Caribbean EPMT. 2015.