



# Invasive Plant Program Strategic Plan

2016



*Northern Great Plains EPMT staff and Montana Conservation Corps treat leafy spurge at Devils Tower National Monument, 2014. NPS photo*





## Executive Summary

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National parks are facing new and diverse challenges, including impacts to natural and cultural resources from invasive species, climate change and other stressors. These impacts are exacerbated by constraints to human resources and funding. The National Park Service (NPS) is focused on addressing such challenges through innovative actions to restore, preserve, and manage resources in an unimpaired condition, providing present and future generations with the opportunity to steward, benefit from, and enjoy them. The spread of invasive species is a major factor contributing to undesirable landscape level change and ecosystem instability. The NPS is working to manage invasive species in park units through a suite of national and local programs.

The NPS Invasive Plant Program (IPP), which includes the Exotic Plant Management Team (EPMT) Program, provides leadership to individual parks, regions, and the national park system in invasive<sup>1</sup> plant management, restoration, and landscape level protection. Invasive plant management and restoration support is provided by the IPP and the Biological Resources Division (BRD) through staff expertise, assistance, funding, and guidance to parks, and by representing NPS issues and concerns at all levels related to invasive plant issues. The program is positioned to address specific biological stress factors such as invasive species, fragmentation, climate change, and other emerging issues, while working within ecosystem management and ecological contexts. In addition to NPS staff, the program collaborates with public and private partners on complex and emerging invasive plant issues, including climate change and infrastructure development (e.g., development of a national Early Detection and Rapid Response (EDRR) framework). The core of this strategic plan is the identification of goals and actions that will optimize the effectiveness of the program while increasing program and park capacity and leveraging of human and fiscal resources with other state, federal, and private entities.

This strategic plan sets the course for the IPP by articulating a mission, vision, goals, and actions for the next ten years with near-term goals that will be reported on and revisited annually. The plan will guide annual work planning and major projects and identify and help prioritize program funding needs and initiatives. The plan was developed by NPS park, regional, and Washington Office (WASO) stakeholders, and partners. It complements the Biological Resources Division (BRD) Strategic Plan (2016)<sup>2</sup>, the Natural Resource Stewardship and Science Framework, and Director's Order 100.

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1 This document uses the term 'invasive' as defined in Executive Order 13112

2 The BRD Strategic Plan referenced in this document was finalized in 2016 and is available upon request.

# Strategic Plan Elements

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## Mission:

The Invasive Plant Program provides leadership, expertise, assistance, and education to address the impacts that invasive plants pose to the resources entrusted to the National Park Service, and in doing so, helps fulfill the NPS core mission for this and future generations.

## Vision:

The Invasive Plant Program will guide the efforts of the National Park Service to enhance landscape level resource stewardship under dynamic conditions through the application of technically sound, holistic, collaborative, adaptive, and innovative approaches to protect and restore NPS resources.

## Goals

The Invasive Plant Program has five overarching goals, adapted from the Biological Resources Division Strategic Plan:

1. **Develop program standards.** Identify and clearly articulate the components of the IPP. Establish guidelines and identify policy needs not yet in place for processes and procedures essential to the efficient operations of the IPP, while allowing for flexibility and discretion to accommodate circumstantial needs. (BRD Goal 1)
2. **Promote the IPP, highlighting IPP services and the significance of the invasive plant issue.** Increase awareness of IPP knowledge, expertise, and capacity to effectively plan and implement projects, work with and train internal and external partners, and build and maintain the IPP identity. Increase awareness of the severity, scale, and complexity of the invasive plant problem and the challenges of management through implementation, research, education, communication, and outreach. (BRD Goal 6)
3. **Build park and NPS capacity to prevent the arrival of invasive plants and manage infestations that are already present.** Leverage multiple benefits of IPP services across parks and beyond park boundaries to increase capacity, efficiencies, and awareness of invasive plant management strategies such as prevention, early detection rapid response (EDRR), containment, and strategies for restoration and science-based management. (BRD Goal 1)
4. **Promote holistic and integrated invasive plant management.** Establish a multi-disciplinary and landscape scale program that ensures the preservation and restoration of the integrity of park resources and is driven by a science-informed range of prevention, EDRR, control, maintenance, and restoration strategies. (BRD Goal 3)
5. **Collaborate on invasive plant management.** Foster and encourage internal and external collaboration and coordination to leverage available resources, expertise, and knowledge, and help accomplish all NPS invasive plant management and restoration goals. (BRD Goal 1, collaboration included throughout BRD Strategic Plan)

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## Acronym List

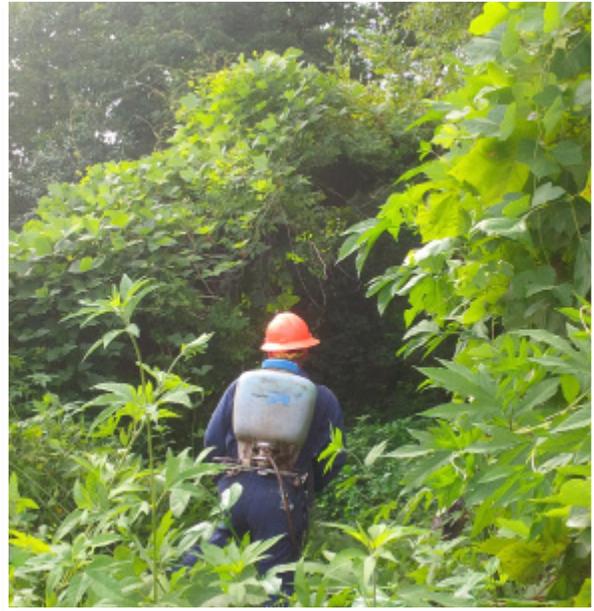
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106 – Section 106 of the National Historic Preservation Act of 1966  
BLM – Bureau of Land Management  
BMP – Best Management Practice  
BRD – Biological Resources Division  
DOI – Department of the Interior  
EA - Environmental Assessment  
EDRR – Early Detection and Rapid Response  
EPMT – Exotic Plant Management Team  
EQD – Environmental Quality Division  
IMD - Inventory and Monitoring Division  
IDIQ - Indefinite Delivery/Indefinite Quantity  
IPM – Integrated Pest Management  
IPP – Invasive Plant Program  
IRMA – Integrated Resource Management Applications  
LRAB – Landscape Restoration and Adaptation Branch  
MOU - Memoranda of Agreement  
NAISMA - North American Invasive Species Management Association  
NEPA - National Environmental Policy Act  
NHPA - National Historic Preservation Act of 1966  
NISAW - National Invasive Species Awareness Week  
NISC – National Invasive Species Council  
NISIMS – National Invasive Species Information Management System  
NPS – National Park Service  
NRSS – Natural Resource Stewardship and Science Directorate  
PEPC - Planning, Environment & Public Comment  
PWR – Pacific West Region  
S.W.O.C. - Strengths, Weaknesses, Opportunities, and Challenges  
TNC – The Nature Conservancy  
USDA – United States Department of Agriculture  
USFWS – United States Fish and Wildlife Service  
USGS – United States Geological Survey  
WASO – Washington Office

# Introduction

National parks are facing new and diverse challenges, including impacts to natural and cultural resources from invasive species, climate change, and other stressors. These impacts are exacerbated by constraints to human resources and funding. The National Park Service (NPS) is focused on addressing such challenges through innovative actions to preserve and manage resources in an unimpaired condition, providing present and future generations with the opportunity to steward, benefit from, and enjoy them. The spread of invasive species is a major factor contributing to undesirable landscape level change and ecosystem instability. The NPS is working to manage invasive species on park lands through a suite of national and local programs including the NPS Invasive Plant Program (IPP). The work of the IPP is guided by Federal Laws, Executive Orders, regulations, policies, and guidance documents that support active management of invasive plant species and restoration (Appendix C).

The IPP is within the Landscape Restoration and Adaptation Branch (LRAB), of the Biological Resources Division (BRD) of the NPS Natural Resource Stewardship and Science Directorate (NRSS). The program's staff includes BRD IPP staff in Fort Collins, which consists of a program manager and program data manager. NPS funds are distributed to regions through the Washington Office (WASO) to support the Exotic Plant Management Team (EPMT) Liaisons that coordinate 15 EPMTs across the country, EPMT Data Managers, EPMT Field Crew Leaders, and EPMT field staff. The program provides specialized scientific and technical assistance to and across all organizational levels of the NPS, manages, synthesizes, and analyzes invasive plant management data and relative information, responds to current invasive plant management needs, builds partnerships to advance science and stewardship, represents the NPS on invasive plant issues, and anticipates emerging issues. The EPMT program was formed out of the Natural Resource Challenge funding for invasive species in 2000. EPMT program standards have been implemented, and are necessary where appropriate, but flexibility is required based on differences among regions. The IPP and BRD are responsible for oversight of the EPMT program, provide base funding for each team, and provide technical assistance with data management, synthesis, and analysis. The Servicewide Integrated Pest Management Program (IPM) also resides within BRD. The IPP and IPM Programs are interconnected in many ways, and thus work closely together and support each other to ensure that each is fully successful.



Gulf Coast EPMT staff treat kudzu at Big Thicket National Preserve, 2015. NPS Photo.

The IPP provides program leadership, expertise, and assistance for the management of invasive plants and education on the threat they pose to resources and values in and around parks. The program enhances the ability of parks and regions to manage a wide range of invasive plant species. This includes, but is not limited to, investigating and disseminating information on relevant ecological issues and developing and implementing strategies that solve “on the ground” problems in invasive plant management. The IPP also provides information and policy support and guidance across the national park system.

The IPP strategic planning committee has identified five major goals to address current and emerging challenges that will influence invasive plant management over the next ten years. These challenges will place increasing demands on the parks, the national park system, NPS leadership, and require greater levels of expertise.

## The Strategic Planning Process

This strategic plan was created by a NPS team of experts, park stakeholders and partners. The planning process was conducted over a period of approximately twelve months during FY 2015 and FY 2016. The first major step in the process involved the distribution of a survey of the Strengths, Weaknesses, Opportunities, and Challenges (S.W.O.C.) in the IPP to IPP and EPMT staff, program stakeholders and partners. A total of 95 S.W.O.C. surveys were returned. From these surveys, 1,700 comments were identified and coded by IPP staff.

On June 3-4, 2015, facilitators from the NPS Denver Service Center Planning Division conducted a 1-1/2 day strategic planning workshop at NRSS BRD in Fort Collins, CO, with an IPP leadership group. The group consisted of NPS staff from different regions, park units, and programs and divisions (See Appendix D).

During the workshop, participants developed mission and vision statements for the IPP that aim to address a program horizon of ten years. The participants also considered the IPP's internal systems and processes, the results of the S.W.O.C. survey, and identified program goals and associated actions. During the workshop, participant input was discussed and refined and consensus was built around each element of the plan. The facilitated sessions were structured to encourage participants to think holistically about the IPP and to encourage staff from different programs and geographic locations to work together and share ideas.



Montana Conservation Corps, Badlands National Park and Northern Great Plains EPMT treating Canada thistle in the Sage Creek Wilderness of Badlands National Park, 2014. NPS Photo.

# Goals and Associated Actions

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The goals below broadly describe what the IPP wants to accomplish and become over the next ten years. They provide the basis for decisions about the nature, scope, and relative importance of all projects and activities. Each individual goal helps the program fulfill its mission and advance towards its vision. Goals are not listed in order of importance.

Under each goal is a list of actions that will aid in the accomplishment of the goal. Each action is a measurable target that must be met on the way to attaining a goal and will be assigned to an action champion within the IPP to maintain accountability. The action champion is the person responsible for implementation of an action. WASO BRD ultimately has oversight responsibility for all actions within this plan. The actions help to “operationalize” the goals and act as benchmarks for measuring progress. The actions listed in this section represent key actions—they articulate those areas where energy and resources should be focused to effect positive change. However, because the IPP operates in a dynamic environment in parks and with partners, as well as operates at a variety of levels within the NPS from the WASO level support to boots-on-the-ground field teams (EPMTs), other priorities may arise during the life of this plan. Although the plan is intended to cover a ten year period, actions have been prioritized for the first five years only (Appendix A). This plan will be reviewed annually and actions re-prioritized as appropriate.

Collaboration is fundamental to the success of the IPP. Collaboration is identified as its own goal with associated actions but the need to collaborate on invasive plant management permeates every goal identified and can be seen in some of the subsequent actions. Collaboration both internally and externally with partners is critical to achieving the IPP mission and vision.

## Goal 1. Develop program standards

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Identify and clearly articulate the components of the IPP. Establish guidelines and identify policy needs not yet in place for processes and procedures essential to the efficient operations of the IPP, while allowing for flexibility to accommodate circumstantial needs.

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### Actions that will help achieve this goal:

#### I. Clarify and standardize administrative and operational roles and tasks.

- A. Maintain engaged EPMT Advisory Groups.
- B. Continue to support steering committees, EPMTs, and park-based teams working together to prioritize invasive plant management work and fund distribution.
- C. Continue to focus on safety as an important part of the IPP culture.
  1. Maintain standing safety committee for IPP to address safety issues related to invasive plant management.
  2. Align IPP with the NPS Safety, Health, and Wellness Strategy.
  3. Standardize types of safety documents for invasive plant management activities. Provide templates and examples to parks (e.g., hazard analysis, risk assessment, Green Amber Red (GAR), JHAs, Minimum Requirements Analysis).
  4. Make IPP safety information available to parks via the SharePoint site and intranet. Continually promote these resources to parks.
- D. Define roles and responsibilities in management and administration of IPP resources at every level (e.g., WASO, regions, parks, and EPMT program supervisors).
- E. Convene a meeting with regional representatives to discuss challenges associated with teams that serve parks in multiple regions (e.g., travel, administration, etc.). Analyze results and develop a plan of action to address challenges as needed.
- F. Develop an operational manual (with extensive assistance of NPS field staff) for invasive plant management in the NPS that will include organizational structure, funding strategies and criteria for distribution of WASO funds, guidelines for field work, safety, best management practices, and a variety of effectiveness monitoring protocols

based on a range of available resources and expertise. Use multi-media to encourage familiarity throughout the NPS and across divisions (e.g., natural resource management, maintenance, contractors) with the operational manual (e.g., video, webinar, workshop).

- G. Work to standardize and adjust the implementation of the IPP so that it accurately reflects the mission, vision, and goals of the program.
- H. Develop a standardized assessment to monitor the success of the entire program and individual team efforts, and in meeting the goals of the IPP strategic plan.

## II. Improve data procedures and provide training in NPS standards.

- A. Promote the use of the National Invasive Species Information Management System (NISIMS) to parks and regions to standardize NPS invasive plant management data through tools such as NISIMS Help Documentation and improve access to these data on a national level.
- B. Develop and provide training on the use of NISIMS to the field (e.g., parks, EPMTs). Provide technical support in NISIMS.
- C. Standardize and field check data collection, management, analysis, and reporting processes to promote consistency, efficiency, and accountability. Improve data collection, management, and analysis by developing and providing Standard Operating Procedures, protocols, and other guidance and direction. Use North American Invasive Species Management Association (NAISMA) Standards.
- D. Seek funding, develop strategies, and leverage park, regional, and WASO capacity to support good data management.

## III. Incorporate programmatic science-informed procedures to support park invasive plant management.

- A. Assure that approaches like IPM are used to determine best management practices (BMPs) for invasive plant management. An IPM approach is an ecosystem-based strategy that focuses on long-term prevention of invasive species or their damage through a combination of techniques such as biological control, habitat manipulation, and modification of cultural practices to reduce human and environmental risks from pesticides (e.g., actions taken under the National Strategy to Promote the Health of Honey Bees and Other Pollinators).
- B. Promote prevention (Appendix B, Figure 1), the most effective and efficient way to address invasive plant species, and Early Detection and Rapid Response (EDRR). Identify emerging and potential threats and broadcast information about these. Provide NPS with appropriate BMPs to improve preventative efforts that are pertinent to all divisions. Promote and adopt national EDRR effort recommendations.
- C. Quantify the extent of invasive plant infestations as well as possible using existing data on invasive plant species at parks and beyond park boundaries to establish a baseline (e.g., EPMT legacy data, NISIMS, noxious weed lists, etc.) and to quantify threat and effort needed to manage it. State where we lack information about the extent of the invasive plant infestations, then identify the amount of effort needed to address the infestations. Clearly show the gap between the amount of effort needed



Northeast EPMT crew trek miles along Atlantic Ocean side of Fire Island National Seashore looking for early detection species in dune washouts caused by Hurricane Sandy, 2014. NPS Photo.

to treat and monitor the infestation and actual resources currently available. Effectively communicate this information to decision makers. Use NAISMA Standards.

- D. Provide science-based procedures and criteria to inform prioritization of invasive plant species management efforts (e.g., invasive species risk models, invasive species range expansion models, ecosystem-changing species, conservation priorities such as rare communities).
- E. Incorporate most recent BRD Invasive Plant Management Planning: Technical Considerations guidance (in draft to be published as a Natural Resource Report) and EQD Invasive Plant Management Plan and EA template (in development for Redwood National and State Parks and Santa Monica Mountains National Recreation Area) in planning and make documents easily available throughout the NPS. Links to these documents will be included when they are finalized.

## Goal 2. Promote the IPP, highlighting IPP services and the significance of the invasive plant issue

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Increase awareness of IPP knowledge, expertise, and capacity to effectively plan and implement projects, work with and train internal and external partners, and build and maintain the IPP identity. Increase awareness of the severity, scale, and complexity of the invasive plant problem and the challenges of management through implementation, research, education, communication, and outreach.

**Actions that will help achieve this goal:**

- I. **Increase recognition of the IPP to foster understanding and awareness of the invasive plant problem internally and with stakeholders to generate momentum and support for the IPP.**
  - A. Improve accessibility to IPP resources for parks (including information on invasive plant management, safety documents, training materials, current research, and IPP services).
  - B. Develop and distribute NPS position papers (e.g., NPS position on biological controls).
  - C. Prepare a program brief that details the IPP, the IPP strategy, and a summary of IPP services, and deliver it to all relevant NPS directorates, programs, and staff.
  - D. Establish an annual award that recognizes an individual or a team that exhibits excellence in IPP.



Elodea survey at Grizzly Lake in Wrangell-St. Elias National Park and Preserve, 2015. NPS Photo.

- E. Develop and provide invasive plant webinars and training opportunities to promote IPP services and knowledge of invasive plant problems.
- F. Assure that IPP efforts parallel goals of the DOI Invasive Species Action Plan, and promote these efforts within DOI.
- G. Develop a marketing strategy for IPP, including a marketing campaign. This will require identification of target audiences.
- H. Consult and collaborate with NPS staff from other programs to increase the visibility of IPP.
- I. Revise the annual accomplishment report that is distributed to all stakeholders to increase IPP accountability to the field.

## II. Develop an invasive plant communication and outreach strategy for NPS to promote invasive species as a NPS issue.

- A. Develop cross media education tools such as brochures, flyer's, web-based education outlets, and social media about high priority invasive plant management issues and stories of success.
- B. Facilitate communication of invasive plant management efforts, treatment methods, successes, etc. throughout the NPS to leverage learning opportunities and develop a community of practice.
- C. Incorporate NPS into existing invasive plant species awareness campaigns (e.g., Working Together Against Weeds program, State Weed Program education and outreach, National Invasive Species Awareness Week (NISAW)).
- D. Identify candidate institutions or types of institutions that are good partners.



Lake Mead EPMT staff pulling tamarisk slash at Muddy River, NV BLM, 2014. NPS Photo.



NPS staff and volunteers plant cordgrass during a restoration planting on the banks of the Potomac River at George Washington's Birthplace National Monument, 2014. NPS Photo

### Goal 3. Build park and NPS capacity to prevent the arrival of invasive plants and manage infestations that are already present

Leverage multiple benefits of IPP services across parks and beyond park boundaries to increase capacity, efficiencies, and awareness of invasive plant management strategies such as prevention, EDRR, containment, and strategies for restoration and science-based management.

#### Actions that will help achieve this goal:

##### I. Work with parks.

- A. Continue to identify, develop, and enhance resource sharing outlets and opportunities (e.g., the IPP SharePoint, internal NPS web site, potential shared positions) as resources for parks.
- B. Conduct field-based training, including inviting park staff and managers to participate in training for new EPMT crew members, to promote knowledge at the park level for treatment of invasive plants. Under some but not all circumstances, training of park staff may increase park invasive plant management capacity and reduce reliance on EPMTs for small scale treatments. Provide standardized training materials to parks.
- C. Improve communications between the national IPP and regions to determine parks' invasive plant management needs and methods to address those needs that will increase park staff capacity. Develop tools, guidance, and services needed by parks. Examples could include: policy interpretation, planning templates (e.g., NEPA, 106 and Tribal Consultation), development of an information repository, Memoranda of Agreement (MOA), indefinite delivery/indefinite quantity (IDIQ) contracts, and prioritization tools to aid parks in prioritizing invasive plant management.
- D. Share prevention BMPs across parks, divisions, and programs, and facilitate workshops in parks aimed at customizing these general BMPs to address park-specific situations (e.g., Pacific West Region's Working Together Against Weeds initiative).
- E. Encourage parks to follow up on work conducted by EPMTs.
  1. Develop strategies to improve park engagement in EPMT efforts within parks (e.g., reward engagement when parks commit resources, take into account park support when prioritizing EPMT work, submit annual EPMT work plans in the NPS Planning, Environment & Public Comment System (PEPC) to be reviewed by parks as part of National Environmental Policy Act (NEPA), give awards for most engaged parks (California EPMT Weedzilla)).

2. Provide support, tools, and guidance as EPMT invasive plant management projects are handed off to parks.
  3. Seek outside funding to support continued invasive plant management efforts within parks including follow-up to EPMT work.
- F. Analyze how park needs can best be met (e.g., what mix of park based, network, EPMT, volunteer, citizen science, and partnership efforts would be most effective and efficient in meeting park needs), and promote action to increase capacity accordingly. Identify which parks receive training and handle their own management, and determine thresholds for EPMT involvement beyond training.
- G. Work in collaboration with parks, regions, the NPS Fire Program, and the NPS Inventory and Monitoring Program to plan and execute restoration projects, and to design and implement effectiveness monitoring and adaptive management strategies.

## II. Increase EPMT Program efficiency.

- A. Complete the business planning process by reviving the NPS Business Management Group's (BMG) 2015 effort and implement recommendations as appropriate.
- B. Investigate options that will reduce the negative impacts of travel ceilings to EPMTs.
- C. Share positions among EPMTs based on geography and seasonality of work (e.g., staff and interns from parks with severe winters work on southern teams in the winter).
- D. Investigate advertising grouped position announcements as is done for positions in Interpretation Divisions. This may include grouped position announcements via Public Land Corps Programs. Pursue this option if it is feasible.
- E. Examine the range of possibilities to increase service provided by the EPMT program (e.g., create field-based teams (sub-EPMTs) at the local level that can serve 2-4 parks to reduce travel costs, investigate a range of hiring options, increase team and park capacity, and engage volunteers and youth as practicable, as well as expand EPMT service to all NPS units).
- F. Conduct needs assessments for parks, evaluate the structure and effectiveness of each EPMT. Use needs and inefficiencies as a starting point for developing a strategy for planning, treatment, restoration, communication, education, and training.
- G. Investigate development of an NPS pesticide applicators certification course that would provide applicators the ability to apply pesticides on federal lands without a specific state license, similar to the Department of Defense and BLM pesticide applicator programs.

## III. Increase partnerships (note that some actions associated with this bullet may be out of IPP's control).

- A. Work with parks and partners on invasive plant management as opportunities arise to increase efficiency of coordinated efforts to address invasive plant issues occurring in and around parks.
- B. Participate in regional and national invasive plant council organizations, cooperative invasive species management areas and weed management areas, in order to share NPS interests and identify non-federal organizations to be involved with at the national level.
- C. Collaborate with external partners, such as The Nature Conservancy (TNC), states (e.g., State Weed Coordinators, State Highway Weed Coordinators, State Land Boards, State Land Management Agencies), universities, and local land trusts, to identify successful techniques, conduct control and restoration efforts, and improve and implement efficient invasive plant management across park boundaries.
- D. Actively seek willing partners to engage youth for on-the-ground invasive plant management and education and outreach efforts (e.g., treatment, monitoring, social media development).

- E. Actively seek willing partners to engage volunteers for on-the-ground efforts (e.g., treatment, monitoring, social media development).
- F. Contribute to the National Seed Strategy for Rehabilitation and Restoration efforts to assure that appropriate seed of native plant species is available for NPS restoration work.

#### IV. Promote volunteer efforts such as citizen science early detection monitoring.

### Goal 4. Promote holistic and integrated invasive plant management

Establish a multi-disciplinary and landscape scale program that ensures the preservation and restoration of the integrity of park resources and is driven by a science-informed range of prevention, EDNR, control, maintenance, and restoration strategies.

Actions that will help achieve this goal:

#### I. Work with other NPS programs and parks (across all divisions) to establish resource stewardship and landscape preservation and restoration goals.

- A. Work closely with the IPM Program to assure that IPM is well incorporated within the IPP and that the IPM process is integral to the development of management actions.
- B. Continue close collaboration with the Climate Change Response Program to assure that impacts of climate change are incorporated in invasive plant management efforts. This coordination is needed to ensure effective and efficient invasive plant management and climate change adaptation.
  - 1. Produce a guidance document on integrating adaptation and invasive plant management.
- C. Conduct a series of interdisciplinary workshops at parks or groups of parks to develop a conceptual framework to create a working relationship with parks to achieve desired conditions for fundamental resources.
- D. Consider park goals and objectives related to resource stewardship and landscape preservation and restoration prior to treatment to inform the development of effectiveness monitoring protocols and determine our ability to meet park goals in treating and restoring habitats. Work with parks and other programs that support parks (e.g., fire) to refine resource management goals and objectives.
- E. Collaborate with other disciplines, divisions, departments, programs and offices, and contractors and stakeholders to prevent infestations and plan invasive plant treatment and restoration efforts.

#### II. Develop protocols for effectiveness monitoring and identify roles and responsibilities for conducting effectiveness monitoring, analyzing and reporting results, and using results to adaptively manage.

- A. Engage NPS (e.g., Inventory and Monitoring Division) and outside expertise (e.g., USGS, academia, university cooperative extensions, chemical companies if appropriate) to identify strategies appropriate for effectiveness monitoring at a range of levels of expertise and intensity.
- B. Develop or adapt existing written minimum standards for site specific photo point monitoring.
- C. Provide or support training in monitoring protocols.
- D. Use data analysis and results to improve interpretation of invasive plant issues of concern to parks' resource protection efforts and to inform decision making.

#### III. Outline steps and strategies for identifying research needs, then research those needs, and develop partnerships to address them.

## Goal 5. Collaborate on invasive plant management

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Foster and encourage internal and external collaboration and coordination to leverage available resources, expertise, and knowledge, and help accomplish all NPS invasive plant management and restoration goals.

Actions that will help achieve this goal:

- I. Work collaboratively to increase effectiveness and look for efficiencies with existing national NPS programs, park programs, and others within the NPS, as well as other agencies and partners.
  - A. Identify parks, NPS programs, partner agencies, organizations, and related initiatives that have similar objectives to increase efficiency and effectiveness.
  - B. Coordinate with NPS Inventory and Monitoring, Fire Effects Monitoring, and other NPS programs to increase capacity for effectiveness monitoring via vegetation monitoring programs, data management, and sharing of data to help uncover issues such as emerging concerns. Work with others to provide effectiveness monitoring training for park staff, and development of training materials.
  - C. Engage in the “strategic planning” efforts and actions with BRD and NRSS to ensure strategic alignment, influence actions, and capitalize on opportunities.
  - D. Cost share positions or co-locate EPMTs with NPS Inventory and Monitoring, Fire Effects Monitoring Teams, and other appropriate NPS programs.
  - E. Partner with BLM and United States Fish and Wildlife Service (USFWS) to cooperatively manage NISIMS.
  - F. Partner with adjacent agencies in coordinating widespread treatment and restoration of areas within and adjacent to parks.
  - G. Work with WASO and regional staff and across park divisions (Facilities Management, Cultural Resources, Concessions, etc.) to maximize efficiencies in IPP operations, education, staff time, and NEPA and National Historic Preservation Act of 1966 (NHPA) compliance and to share resources and meet needs across the NPS (e.g., development of invasive plant best practices around sensitive sites including rare threatened and endangered species occurrences, cultural resources, post-fire sites).
  
- II. Develop annual work plans for the IPP and with EPMTs that utilize input from agency programs and partners, in addition to the goals of this IPP strategic plan.

## Implementation Strategy

Effective strategic plans include mechanisms for implementing the plan and monitoring progress toward fulfilling the goals and actions included within them. This section describes how and when the IPP will implement the strategic plan and monitor progress over the next ten years. Appendix A is a prioritized subset of actions identified within the strategic plan that will be the focus of IPP efforts for the five year period from 2017 to 2021. The implementation of the IPP strategic plan will include the following:

- I. The program will develop an annual high-level work plan in order to set program-wide milestones, and to review progress toward program goals. This “implementation” level planning will be guided by the vision, mission, goals, and actions contained in this plan and will involve everyone within the program. The program-wide work plan will also be based on the content of annual LRAB workplans and will have a nexus to annual financial planning and accomplishment reports.
- II. Each IPP unit (BRD IPP staff and EPMT) will develop an annual work plan that aligns with an annual financial plan by revisiting the collection of actions in this strategic plan. Prioritization of actions would be part of this process annually. Each IPP unit will also submit an annual accomplishment report at the end of each fiscal year.
- III. The program will develop criteria and processes that will be used in prioritization of work, fund distribution, target species, and sites. In addition to specific ranking criteria, two general variables to be considered in the action prioritization are: (1) feasibility of accomplishing the action, and (2) effectiveness of the action in achieving a goal.
- IV. To help monitor the implementation of goals, the program may develop a tracking system that will be applied to each assigned action. This action tracking would include the following information:
  - A. Description of the action
  - B. Action “champion” (person identified as action lead who is responsible for action)
  - C. Time frame of implementation (start date and critical finish date, if applicable)
  - D. Key resource needs (specific people, equipment, funds, etc.)
  - E. Key steps to implement action
  - F. Measures of success (how the action outcome will be evaluated)
  - G. Challenges expected
- V. The program will revisit the IPP strategic plan annually and prepare a status report that reviews progress in achieving the program’s mission, vision, goals, and actions. Actions will be re-prioritized as needed.
- VI. Both the IPP strategic plan and the annual status reports will be uploaded to the IPP website to update stakeholders and partners.

The strategies above are intended to help the program ensure the strategic plan remains a useful document over the next ten years, through reasonably smooth and rapid implementation.

## Additional Resources, References, and Citations

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### National Park Service guidance for preparing an invasive plant management plan (Drafts in Progress)

1. BRD will complete a draft guidance document, "Invasive Plant Management Planning: Technical Considerations," to help park units develop a robust plan that complies with law and policy and invests available resources efficiently to address invasive plant management needs on a programmatic basis. This document summarizes foundational information regarding laws and policies on which to build an invasive plant management plan, describes best practices for invasive plant management planning, and details technical considerations for the development of an invasive plant management plan. It will be published on the Natural Resource Stewardship and Science (NRSS) Integrated Resource Management Applications (IRMA) Data Store portal.

2. In 2014 BRD and Environmental Quality Division (EQD) began writing a document in conjunction with the Environmental Assessment (EA) process at Redwoods and Santa Monica Mountains. That document goes into the details of the components of an Invasive Plant Management Plan and its associated compliance. It does not deal with the strategic decisions that are needed nationally, regionally, and at the park level to efficiently and effectively manage invasive plants. When completed, it will be published on the NRSS IRMA Data Store portal.

## Appendix A: Prioritized Action Items 2017-2021

### Goal 1. Develop program standards

Identify and clearly articulate the components of the IPP. Establish guidelines and identify policy needs not yet in place for processes and procedures essential to the efficient operations of the IPP, while allowing for flexibility to accommodate circumstantial needs.

#### Actions that will help achieve this goal:

##### I. Clarify and standardize administrative and operational roles and tasks.

- A. Maintain engaged EPMT Advisory Group.  
*Time frame of implementation:* Ongoing, implemented  
*Action Champion(s):* WASO IPP Manager, EPMT Liaisons
- B. Continue to support steering committees, EPMTs, and park-based teams working together to prioritize invasive plant management work and fund distribution.  
*Time frame of implementation:* Ongoing, implemented  
*Action Champion(s):* WASO IPP Manager, EPMT Liaisons
- C. Continue to focus on safety as an important part of the IPP culture.
  1. Maintain standing safety committee for IPP to address safety issues related to invasive plant management.  
*Time frame of implementation:* Ongoing, implemented  
*Action Champion(s):* WASO IPP Manager
  2. Align IPP with the NPS Safety, Health, and Wellness Strategy.  
*Time frame of implementation:* In concert with Strategy assessment and implemented  
*Action Champion(s):* WASO IPP Manager
  3. Standardize types of safety documents for invasive plant management activities. Provide templates and examples to parks. (e.g., hazard analysis, risk assessment, Green Amber Red (GAR), JHAs, Minimum Requirements Analysis)  
*Time frame of implementation:* Ongoing, implemented  
*Action Champion(s):* WASO IPP Manager, EPMT Safety Committee
  4. Make IPP safety information available to parks via the SharePoint site and intranet. Continually promote these resources to parks.  
*Time frame of implementation:* Ongoing, implemented  
*Action Champion(s):* WASO IPP Manager, EPMT Safety Committee
- D. Define roles and responsibilities in management and administration of IPP resources at every level (e.g., WASO, regions, parks, and EPMT program supervisors).  
*Time frame of implementation:* Begin fiscal year 2017  
*Action Champion(s):* WASO IPP Manager
- E. Convene a meeting with regional representatives to discuss challenges associated with teams that serve parks in multiple regions (e.g., travel, administration, etc.). Analyze results and develop a plan of action to address challenges as needed.  
*Time frame of implementation:* Begin fiscal year 2017  
*Action Champion(s):* WASO IPP Manager, EPMT Advisory Group
- F. Develop an operational manual (with extensive assistance of NPS field staff) for invasive plant management in the NPS that will include organizational structure, funding strategies and criteria for distribution of WASO funds, guidelines for field work,

safety, best management practices, and a variety of effectiveness monitoring protocols based on a range of available resources and expertise. Use multi-media to encourage familiarity throughout the NPS and across divisions (e.g., natural resource management, maintenance, contractors) with the operational manual (e.g., video, webinar, workshop).

**Time frame of implementation:** Fiscal year 2017 - 2020

**Action Champion(s):** All Liaisons, WASO IPP Manager

- G. Work to standardize and adjust the implementation of the IPP so that it accurately reflects the mission, vision, and goals of the program.

**Time frame of implementation:** Fiscal year 2017 - 2021

**Action Champion(s):** WASO IPP Manager, EPMT Advisory Group

## II. Improve data procedures and provide training in NPS standards.

- A. Promote the use of the National Invasive Species Information Management System (NISIMS) to parks and regions to standardize NPS invasive plant management data and improve access to these data on a national level. (NISIMS Help Documentation)

**Time frame of implementation:** Ongoing, implemented

**Action Champion(s):** WASO IPP Manager, WASO IPP Data Manager

- B. Develop and provide training on the use of NISIMS to the field (e.g., parks, EPMTs). Provide technical support in NISIMS.

**Time frame of implementation:** Ongoing, implemented

**Action Champion(s):** WASO IPP Data Manager, LRAB Chief

- C. Standardize and field check data collection, management, analysis, and reporting processes to promote consistency, efficiency, and accountability. Improve data collection, management and analysis by developing and providing Standard Operating Procedures, protocols and other guidance and direction. Use North American Invasive Species Management Association (NAISMA) Standards.

**Time frame of implementation:** Fiscal years 2017 - 2020

**Action Champion(s):** WASO IPP Data Manager, LRAB Chief

## III. Incorporate programmatic science-informed procedures to support park invasive plant management.

- A. Assure that approaches like IPM are used to determine best management practices (BMPs) for invasive plant management. An IPM approach is an ecosystem-based strategy that focuses on long-term prevention of invasive species or their damage through a combination of techniques such as biological control, habitat manipulation, and modification of cultural practices to reduce human and environmental risks from pesticides (e.g., actions taken under the National Strategy to Promote the Health of Honey Bees and Other Pollinators).

**Time frame of implementation:** Ongoing, implemented

**Action Champion(s):** WASO IPP Manager, WASO IPM Manager

- B. Promote prevention (Appendix B, Figure 1), the most effective and efficient way to address invasive plant species, and Early Detection and Rapid Response (EDRR). Identify emerging and potential threats and broadcast information about these. Provide NPS with appropriate BMPs to improve preventative efforts that are pertinent to all divisions. Promote and adopt national EDRR effort recommendations.

**Time frame of implementation:** Begin fiscal year 2017

**Action Champion(s):** WASO IPP Manager, EPMT Liaisons

- C. Quantify the extent of invasive plant infestations as well as possible using existing data on invasive plant species at parks and beyond park boundaries to establish a baseline (EPMT legacy data, NISIMS, noxious weed lists, etc.) and to quantify threat and effort

needed to manage it. State where we lack information about the extent of the invasive plant infestations, then identify the amount of effort needed to address the infestations. Clearly show the gap between the amount of effort needed to treat and monitor the infestation and actual resources currently available. Effectively communicate this information to decision makers. Use NAISMA Standards.

**Time frame of implementation:** Begin fiscal year 2017

**Action Champion(s):** WASO IPP Manager, WASO IPP Data Manager

- D. Provide science-based procedures and criteria to inform prioritization of invasive plant species management efforts (invasive species risk models, invasive species range expansion models, ecosystem-changing species, conservation priorities such as rare communities, etc).

**Time frame of implementation:** Fiscal years 2017 - 2019

**Action Champion(s):** WASO IPP Manager, WASO IPP Data Manager

- E. Incorporate most recent BRD Invasive Plant Management Planning: Technical Considerations guidance (in draft to be published as a Natural Resource Report) and EQD Invasive Plant Management Plan and EA template (in development for Redwood National and State Parks and Santa Monica Mountains National Recreation Area) in planning and make documents easily available throughout the NPS. Links to these documents will be included when they are finalized.

**Time frame of implementation:** Fiscal year 2018 - 2019

**Action Champion(s):** WASO IPP Manager

- F. Provide templates for Contracting Statements of Work and make documents easily available throughout the NPS.

**Time frame of implementation:** Fiscal year 2019 - 2020

**Action Champion(s):** WASO IPP Manager



Northern Rocky Mountain EPMT crew members treating Canada thistle along the Sun Road through Glacier National Park, 2014. NPS Photo.

## Goal 2. Promote the IPP, highlight IPP services and the significance of the invasive plant issue

Increase awareness of IPP knowledge, expertise, and capacity to effectively plan and implement projects, work with and train internal and external partners, and build and maintain the IPP identity. Increase awareness of the severity, scale, and complexity of the invasive plant problem and the challenges of management through implementation, research, education, communication, and outreach.

### Actions that will help achieve this goal:

#### I. Increase recognition of the IPP to foster understanding and awareness of the invasive plant problem internally and with stakeholders to generate momentum and support for the IPP.

- A. Improve accessibility to IPP resources for parks (including information on invasive plant management, safety documents, training materials, current research, and IPP services).

*Time frame of implementation:* Ongoing, implemented

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager

- B. Develop and distribute NPS position papers (e.g., NPS position on biological controls).

*Time frame of implementation:* Ongoing, implemented

*Action Champion(s):* WASO IPP Manager

- C. Prepare a program brief that details the IPP, the IPP strategy, and a summary of IPP services, and deliver it to all relevant NPS directorates, programs, and staff.

*Time frame of implementation:* Fiscal year 2017

*Action Champion(s):* WASO IPP Manager

- D. Establish an annual award that recognizes an individual or a team that exhibits excellence in IPP.

*Time frame of implementation:* Fiscal year 2018

*Action Champion(s):* WASO IPP Manager, EPMT Liaisons

- E. Develop and provide invasive plant webinars and training opportunities to promote IPP services and knowledge of invasive plant problems.

*Time frame of implementation:* Fiscal year 2018 - 2021

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager

- F. Assure that IPP efforts parallel goals of the DOI Invasive Species Action Plan and promote these efforts within DOI.

*Time frame of implementation:* When DOI document is complete

*Action Champion(s):* WASO IPP Manager

#### II. Develop an invasive plant communication and outreach strategy for NPS to promote invasive species as a NPS issue.

- A. Develop cross media education tools such as brochures, flyers, web-based education outlets, and social media about high priority invasive plant management issues and stories of success.

*Time frame of implementation:* Ongoing, implemented

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager

- B. Facilitate communication of invasive plant management efforts, treatment methods, successes, etc. throughout the NPS to leverage learning opportunities and develop a community of practice.

*Time frame of implementation:* Fiscal year 2017 - 2021

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager, EPMT Liaisons

- C. Incorporate NPS into existing invasive plant species awareness campaigns (e.g., Working Together Against Weeds program, State Weed Program education and outreach, National Invasive Species Awareness Week (NISAW)).

**Time frame of implementation:** Fiscal years 2018 - 2021

**Action Champion(s):** WASO IPP Manager, EPMT Liaisons

### Goal 3. Build park and NPS capacity to prevent the arrival of invasive plants and manage infestations that are already present

Leverage multiple benefits of IPP services across parks and beyond park boundaries to increase capacity, efficiencies, and awareness of invasive plant management strategies such as prevention, EDRR, containment, and strategies for restoration and science-based management.

#### Actions that will help achieve this goal:

##### I. Work with parks.

- A. Continue to identify, develop, and enhance resource sharing outlets and opportunities (e.g., the IPP SharePoint, internal NPS web site, potential shared positions) as resources for parks.

**Time frame of implementation:** Ongoing, implemented

**Action Champion(s):** WASO IPP Manager, EPMT Liaisons, EPMT Advisory Group

- B. Conduct field-based training, including inviting park staff and managers to participate in training for new EPMT crew members, to promote knowledge at the park level for treatment of invasive plants. Under some but not all circumstances, training of park staff may increase park invasive plant management capacity and reduce reliance on EPMT teams for small scale treatments. Provide standardized training materials to parks.

**Time frame of implementation:** Ongoing, implemented

**Action Champion(s):** EPMT Liaisons

- C. Improve communications between the national IPP and regions to determine parks' invasive plant management needs and methods to address those needs that will increase park staff capacity. Develop tools, guidance, and services needed by parks. Examples could include policy interpretation, planning templates (e.g., NEPA, 106 and Tribal Consultation), development of an information repository, Memoranda of Agreement (MOA), indefinite delivery/indefinite quantity (IDIQ) contracts, and prioritization tools to aid parks in prioritizing invasive plant management.

**Time frame of implementation:** Fiscal year 2018 - 2021

**Action Champion(s):** WASO IPP Manager

- D. Share prevention BMPs across parks, divisions, and programs, and facilitate workshops in parks aimed at customizing these general BMPs to address park-specific situations (e.g., Pacific West Region's Working Together Against Weeds initiative).

**Time frame of implementation:** Fiscal year 2018 - 2021

**Action Champion(s):** WASO IPP Manager, WASO IPP Data Manager, EPMT Liaisons

- E. Encourage parks to follow up on work conducted by EPMTs.



North Coast Cascades Network EPMT Treat Scotch broom (*Cytisus scoparius*) at Lewis and Clark National Historical Park, 2014. NPS Photo.

1. Develop strategies to improve park engagement in EPMT efforts within parks (e.g., reward engagement when parks commit resources, take into account park support when prioritizing EPMT work, submit annual EPMT work plans in the NPS Planning, Environment & Public Comment system (PEPC) to be reviewed by parks as part of National Environmental Policy Act (NEPA), give awards for most engaged parks (California EPMT Weedzilla)).

**Time frame of implementation:** Fiscal year 2017 - 2021

**Action Champion(s):** WASO IPP Manager, EPMT Advisory Group

2. Provide support, tools, and guidance as EPMT invasive plant management projects are handed off to parks.

**Time frame of implementation:** Fiscal year 2019

**Action Champion(s):** WASO IPP Manager, WASO IPP Data Manager, EPMT Liaisons

- G. Work in collaboration with parks, regions, the NPS Fire Program, and the NPS Inventory and Monitoring Program to plan and execute restoration projects, and to design and implement effectiveness monitoring and adaptive management strategies.

**Time frame of implementation:** Fiscal year 2017 - 2021

**Action Champion(s):** WASO IPP Manager, EPMT Liaisons

#### I. Increase EPMT Program efficiency.

- A. Complete the business planning process by reviving the NPS Business Management Group's (BMG) 2015 effort and implement recommendations as appropriate.

**Time frame of implementation:** Fiscal year 2017 - 2018

**Action Champion(s):** WASO IPP Manager, LRAB Chief

- B. Investigate options that will reduce the negative impacts of travel ceilings to EPMTs.

**Time frame of implementation:** Fiscal year 2017

**Action Champion(s):** WASO IPP Manager, LRAB Chief, EPMT Advisory Group

- C. Share positions among EPMTs based on geography and seasonality of work (e.g., staff and interns from parks with severe winters work on southern teams in the winter).

**Time frame of implementation:** Begin fiscal year 2017

**Action Champion(s):** EPMT Liaisons

- D. Investigate advertising grouped position announcements as is done for positions in Interpretation Divisions. This may include grouped position announcements via Public Land Corps Programs. Pursue this option if it is feasible.

**Time frame of implementation:** Begin fiscal year 2017

**Action Champion(s):** WASO IPP Manager, EPMT Liaisons

#### II. Increase partnerships (note that some actions associated with this bullet may be out of IPP's control).

- A. Work with parks and partners on invasive plant management as opportunities arise to increase efficiency of coordinated efforts to address invasive plant issues occurring in and around parks.

**Time frame of implementation:** Ongoing, implemented

**Action Champion(s):** WASO IPP Manager, WASO IPP Data Manager, EPMT Liaisons

- B. Participate in regional and national invasive plant council organizations, cooperative invasive species management areas and weed management areas in order to share NPS interests and identify non-federal organizations to be involved with at the national level.

**Time frame of implementation:** Ongoing, implemented

**Action Champion(s):** WASO IPP Manager, WASO IPP Data Manager, EPMT Liaisons

## Goal 4. Promote holistic and integrated invasive plant management

Establish a multi-disciplinary and landscape scale program that ensures the preservation and restoration of the integrity of park resources and is driven by a science-informed range of prevention, EDRR, control, maintenance, and restoration strategies.

### Actions that will help achieve this goal:

#### I. Work with other NPS programs and parks (across all divisions) to establish resource stewardship and landscape preservation and restoration goals.

- A. Work closely with the IPM Program to assure that IPM is well incorporated within the IPP and that the IPM process is integral to the development of management actions.

*Time frame of implementation:* Ongoing, implemented

*Action Champion(s):* WASO IPP Manager, WASO IPM Manager

- B. Continue close collaboration with the Climate Change Response Program to assure that impacts of climate change are incorporated in invasive plant management efforts. This coordination is needed to ensure effective and efficient invasive plant management and climate change adaptation.

*Time frame of implementation:* Ongoing, implemented

*Action Champion(s):* WASO IPP Manager

1. Produce a guidance document on integrating adaptation and invasive plant management.

*Time frame of implementation:* Fiscal year 2017

*Action Champion(s):* WASO IPP Manager, EPMT Liaisons

- C. Conduct a series of interdisciplinary workshops at parks or groups of parks to develop a conceptual framework to create a working relationship with parks to achieve desired conditions for fundamental resources.

*Time frame of implementation:* Begin fiscal year 2017

*Action Champion(s):* WASO IPP Manager, EPMT Liaisons

- D. Consider park goals and objectives related to resource stewardship and landscape preservation and restoration prior to treatment to inform the development of effectiveness monitoring protocols and determine our ability to meet park goals in treating and restoring habitats. Work with parks and other programs that support parks (e.g., fire) to refine resource management goals and objectives.

*Time frame of implementation:* Begin fiscal year 2017

*Action Champion(s):* WASO IPP Manager, EPMT Liaisons

#### II. Develop protocols for effectiveness monitoring and identify roles and responsibilities for conducting effectiveness monitoring, analyzing and reporting results, and using results to adaptively manage.

- A. Engage NPS (e.g., Inventory and Monitoring Division) and outside expertise (e.g., USGS, academia, university cooperative extensions, chemical companies if appropriate) to identify strategies appropriate for effectiveness monitoring at a range of levels of expertise and intensity.

*Time frame of implementation:* Fiscal year 2017

*Action Champion(s):* WASO IPP Manager

- B. Develop or adapt existing written minimum standards for site specific photo point monitoring.

*Time frame of implementation:* Fiscal year 2018

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager, EPMT Effectiveness Monitoring Committee

- C. Provide or support training in monitoring protocols.

*Time frame of implementation:* Fiscal year 2019

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager, EPMT Effectiveness Monitoring Committee

- D. Use data analysis and results to improve interpretation of invasive plant issues of concern to parks' resource protection efforts and to inform decision making.

*Time frame of implementation:* Fiscal year 2020 - 2021

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager, EPMT Effectiveness Monitoring Committee

## Goal 5. Collaborate on invasive plant management

Foster and encourage internal and external collaboration and coordination to leverage available resources, expertise, and knowledge, and help accomplish all NPS invasive plant management and restoration goals.

### Actions that will help achieve this goal:

- I. Work collaboratively to increase effectiveness and look for efficiencies with existing national NPS programs, park programs, and others within the NPS, as well as other agencies and partners.

- A. Identify parks, NPS programs, partner agencies, organizations, and related initiatives that have similar objectives to increase efficiency and effectiveness.

*Time frame of implementation:* Ongoing, implemented

*Action Champion(s):* WASO IPP Manager, EPMT Liaisons

- B. Coordinate with NPS Inventory and Monitoring, Fire Effects Monitoring, and other NPS programs to increase capacity for effectiveness monitoring via vegetation monitoring programs, data management, sharing of data to help uncover issues such as emerging concerns. Work with others to provide effectiveness monitoring training for park staff, and development of training materials.

*Time frame of implementation:* Begin fiscal year 2017

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager, EPMT Liaisons

- C. Engage in the "strategic planning" efforts and actions with BRD and NRSS to ensure strategic alignment, influence actions, and capitalize on opportunities.

*Time frame of implementation:* BRD Strategic Plan - ongoing, implemented; NRSS Strategic Plan – will engage as process advances

*Action Champion(s):* WASO IPP Manager, LRAB Chief

- E. Partner with adjacent agencies in coordinating widespread treatment and restoration of areas within and adjacent to parks.

*Time frame of implementation:* Begin fiscal year 2017

*Action Champion(s):* WASO IPP Manager, WASO IPP Data Manager, EPMT Liaisons

- II. Develop annual work plans for IPP and with EPMTs that utilize input from agency programs and partners, in addition to the goals of this IPP strategic plan.

*Time frame of implementation:* Ongoing, implemented

*Action Champion(s):* WASO IPP Manager, EPMT Liaisons, EPMT Advisory Group

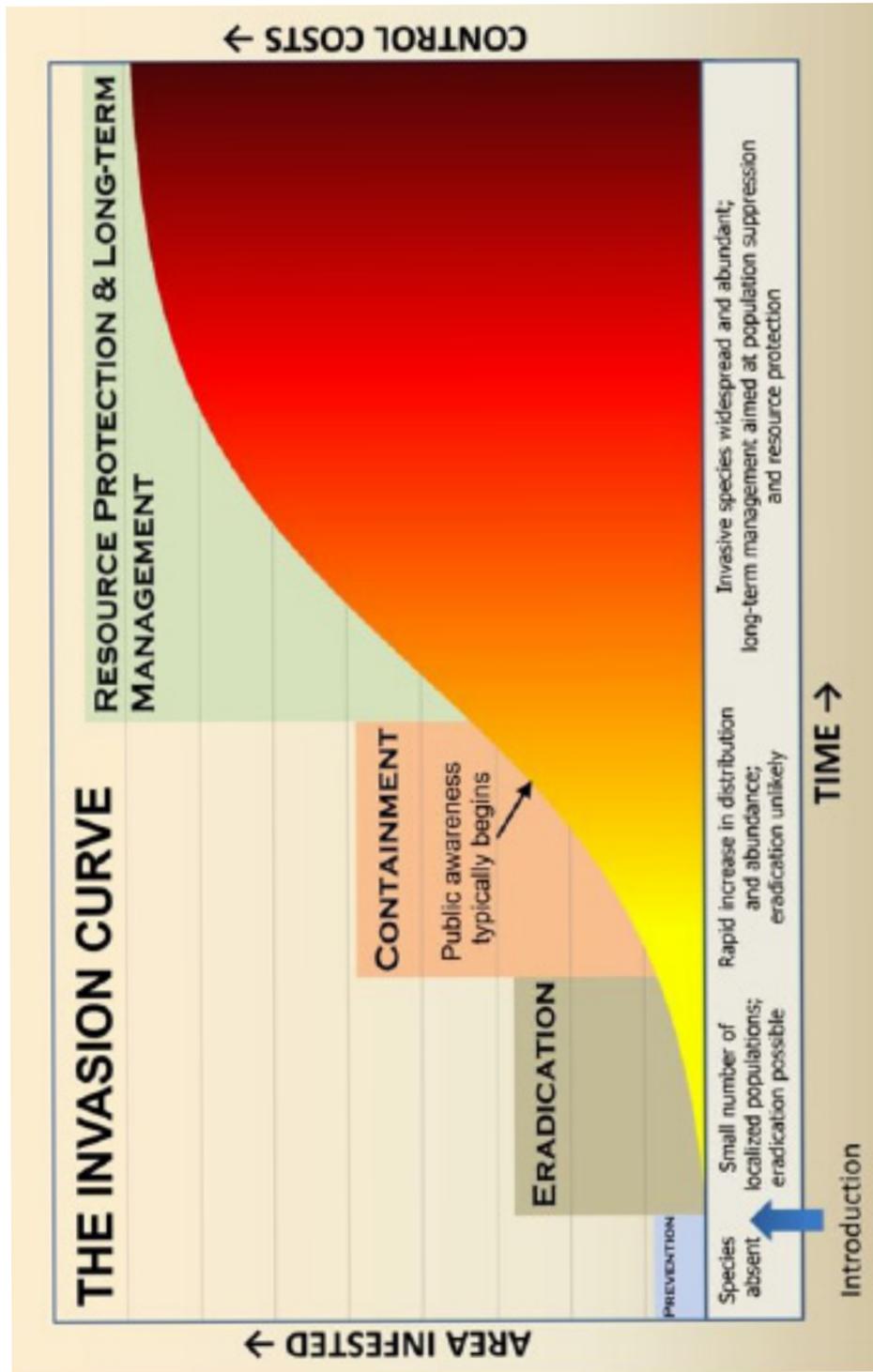


Figure 1: Invasion Curve, from Everglades Cooperative Invasive Species Management Area (CISMA) (Harvey and Mazzotti 2014)

## Appendix C: Federal Laws, Executive Orders, Regulations, Policies, and Guidance

The work of the IPP is guided by Federal Laws, Executive Orders, regulations, policies, and guidance documents that support active management of invasive plant species and restoration. The list below does not include all that pertain to work conducted through the IPP but highlights some key law, policy, and guidance.

### NPS Organic Act, Act of August 25, 1916, PL 64-235, 39 Stat. 535, 16 USC 1 et seq., as amended

Establishes the National Park Service, allows for the administration of Yellowstone and Sequoia National Parks, and provides for criminal penalties if certain infractions occur. The Act authorizes the Secretary of the Interior to make rules and regulations for the use and administration of national park system areas.

### Public Law 110-229, Consolidated Natural Resource Act of 2008

Authorizes the Secretary of the Interior to “enter into cooperative agreements with State, local, or tribal governments, other Federal agencies, other public entities, educational institutions, private nonprofit organizations, or participating private landowners for the purpose of protecting natural resources of units of the National Park System through collaborative efforts on land inside and outside of National Park System units.”. The act also sets cooperative agreements’ terms and conditions, limitations, and authorizes appropriations including providing clear and direct benefits to natural resources in NPS units such as eradication of invasive exotic species and restoration of native wildlife habitat.

### The Federal Insecticide Fungicide and Rodenticide Act of 1972 (FIFRA), As Amended

Governs the registration, distribution, sale and use of pesticides in the United States. The Act outlines Federal responsibilities which include using pesticides according to label instructions, ensuring that applicators are properly trained and certified if necessary and that appropriate personal protective equipment is used when applying pesticides, managing pesticide storage facilities properly, disposing of pesticides and wastes appropriately, and maintaining pesticide application records.

### Noxious Weed Control and Eradication Act of 2004 (7 U.S.C. §§7781-7786)

Directs the USDA to establish a grant program to provide financial and technical assistance to weed management entities to control or eradicate harmful, invasive plants on public and private lands. The law also authorizes the USDA to enter into cooperative agreements with weed management entities to fund weed eradication activities and to enable rapid response to outbreaks of noxious weeds. The law is administered by the USDA’s APHIS (CRS 2013).

### Executive Order 13112, Invasive Species

Directs federal agencies to identify actions that may affect the status of invasive species and, “within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them”. Agencies are directed to neither support nor carry out activities that they believe may either cause or promote the introduction of invasive species.

## United States Department of the Interior National Invasive Species Action Plan (2008 - 2012)

An updated document is currently in draft. When it is completed, it will be available at the National Invasive Species Council (NISC web site). The 2008-2012 Plan lays out five Strategic Goals for the Department:

1. Prevent introduction and establishment of invasive species to reduce their impact on the environment, economy and health of the United States.
2. Develop and enhance the capacity to identify, report and effectively respond to newly discovered/localized invasive species.
3. Contain and reduce the spread and populations of established invasive species to minimize their harmful impacts.
4. Restore native species and habitat conditions and rehabilitate high-value ecosystems and key ecological processes that have been impacted by invasive species to meet desired future conditions.
5. Maximize organizational effectiveness and collaboration on invasive species issues among international, federal, state, local and tribal governments, private organizations and individuals.

## National Park Service Management Policies (2006)

Sets the policy on how NPS views and treats invasive species but does not spell out a strategy for management. Section 4.4.1.1 directs the NPS to “prevent the introduction of exotic species into units of the national park system, and remove, when possible, or otherwise contain individuals or populations of these species that have already become established in parks.” Section 4.4.4. identifies the obligation NPS has to control invasive plant populations that are affecting park resources. In addition, Section 4.4.5.2 identifies the Integrated Pest Management Framework that guides all control activities.

## National Park Service Invasive Species Action Plan (2006)

Finalized in 2006, although never published, the National Park Service Invasive Species Action Plan builds upon the Natural Resource Challenge Action Plan on Exotic Species and addresses the categories required under the National Invasive Species Management Plan and Executive Order 13112 for all park units. These categories include leadership and coordination, prevention, early detection and rapid response, control, education, research, and restoration.”

## Appendix D: Plan Contributors and Workshop Participants

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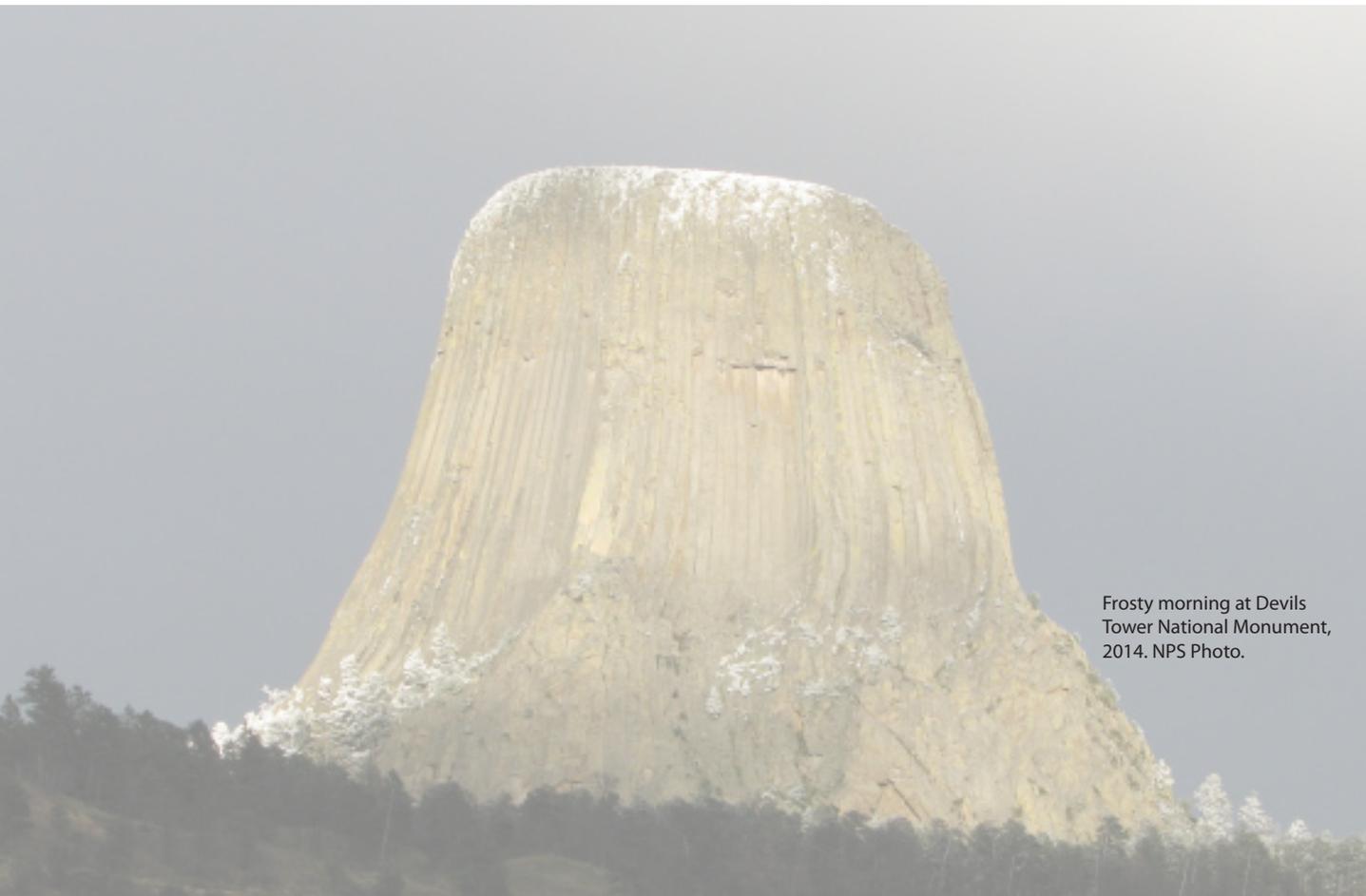
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Frosty morning at Devils Tower National Monument, 2014. NPS Photo.

*External website: [www.nature.nps.gov](http://www.nature.nps.gov)*

*Internal website: [www1.nrintra.nps.gov](http://www1.nrintra.nps.gov)*