

Addressing Invasive Exotic Insects Affecting Eastern Parks

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Abstract

FOUR NATIONAL PARK SERVICE (NPS) REGIONS OF THE EAST CO-RELEASED AN ELECTRONIC document in 2010, *Rapid Response to Insect, Disease and Abiotic Impacts: Practical Guidance for Field Practitioners*, that assists field practitioners and decision-makers to identify, understand, and manage invasive insect, pathogen, and abiotic threats. Though targeted to NPS staff, people outside the NPS will benefit from several of its helpful features. The focus is upon invasive exotic species. Several native and abiotic threats are also included to aid identification discernment. The text advocates monitoring and planning prior to pest outbreaks to improve management outcomes. It also emphasizes the importance of collaborating with outside agencies to increase knowledge, gain operational inertia, and obtain project funding.

The document is most powerful in its electronic format, with hundreds of outside resources available through internet links, as well as internal hot links for fast navigation within the document. A few of the resource features include the following:

1. Dichotomous key to determine likely pest problems.
2. Robust appendix of pest descriptions and associated internet links.
3. Summary of law and policy for pest management.
4. Summarized process of integrated pest management.
5. Checklist for setting up and implementing pest/pathogen response plans.
6. Technical assistance contact lists and email links.

Introduction

Invasive exotic species introductions are occurring at an increasing rate, many believe, due to increased international trade, and the United States government's laissez-faire customs administration (Campbell and Schlarbaum 2002). Both cultural and natural resources are threatened by invasive exotic insect and pathogen epidemics. Where the NPS is obliged to preserve and protect its resources, it cannot afford to allow invasives to degrade and impair cultural landscapes, his-

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toric and archeological sites, rare species and communities, and natural ecological functioning. Field practitioners need ready access to the information that can help them work through the phases of pest identification, rallying experts to respond and develop action plans, obtaining project funding, and implementing subsequent suppression or containment projects.

The NPS released an electronic document in August 2010 that addresses these needs. Four eastern NPS regions approved and co-released the document, including Northeast, Midwest, National Capital, and Southeast regions. The focus was to assist managers of eastern forests, but the resource has utility for practitioners throughout the country.

Design and features

The electronic resource has the following features:

- Table of contents with hot links to jump within the document.
- Dichotomous key to quickly determine the pest/disease/abiotic factor causing recognized tree problems. There are hot links to jump to specific pest descriptions, with additional navigational links to jump back to the key if continued decision analysis is necessary.
- Pest descriptions with maps of pest infestation range, biological descriptions, and management alternatives (if they exist). Internet hot links are provided for accessing much more additional information.
- Tables of step-by-step procedures to conduct IPM analysis, prepare forest pest treatment projects, conduct an environmental clearance process, and acquire project funding through the U.S. Forest Service.
- Summary of law and NPS policy in the main body, with full texts in the appendix. This can be helpful as practitioners write grant and funding proposals to copy/paste pertinent sections into their proposals.
- Technical assistance lists and training opportunities with internet links to obtain additional information. The listings include contacts within the NPS, USFS, U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), cooperative extensions, and universities—all specific to each NPS region.
- Necessary forms to apply for funding assistance through the NPS and USFS.

This document is appropriate for the following audiences:

- Persons outside the NPS will benefit from the dichotomous key and pest descriptions in appendix C. Appendices B, E, and F will also be helpful.
- NPS decision-makers interested in policy aspects should skim the main body and appendix D.
- NPS resource practitioners should generally become familiar with the entire document.

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Dichotomous Key

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- 1.1 Introduction
- 1.2 Authorities and References
- 1.3 Cooperation Across Borders
- 1.4 Authorities References
- 2.0 Effective Rapid Response⁷
- 2.1 Plan Ahead to Prevent a Future Emergency
- 2.2 Prevention Tasks

RAPID RESPONSE
TO INSECT, DISEASE & ABIOTIC IMPACTS

PROCEDURES TO PROTECT FOREST INTEGRITY
IN UNITS OF THE NATIONAL PARK SYSTEM
WITHIN EASTERN FORESTS

2010



2.3 Response Tasks

3.0 References

Appendices

Appendix-1

Appendix A – Forms and Documents

Defining a Complete Project Proposal Package.

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Appendix B – Technical Assistance and Training

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Insect Pests

Pathogens

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Appendix D – Law and Policy Statements

NPS Organic Act

National Park Service Policies (excerpted)

Director's Order #77-7: Integrated Pest Management

Federal Insecticide, Fungicide, and Rodenticide Act

Cooperative Forestry Assistance Act of 1978 (Section 5), as amended

Inter-agency Agreement

Interim & Immediate Recommendations for Preventing Spread of Invasive Forest Pests

Environmental Impact Issues and NEPA Compliance

Cultural Resources Management

Appendix E – Native Tree Species Characteristics

Picture Keys to Common Trees and their Leaves (web links)

Vegetative Characteristics

Appendix F – Miscellany

Emergency Action Procedure Checklist

Document Citation

References

Campbell, Faith Thompson, and Scott E. Schlarbaum. 2002. *Fading forests II: Trading away North America's natural heritage*. Smithville, TN: Healing Stones Foundation. <http://fwf.ag.utk.edu/Schlarbaum/FadingForestsII.pdf>.

NPS [National Park Service]. 2010. *Rapid response to insect, disease and abiotic impacts: Procedures to protect forest integrity in units of the National Park System within Eastern forests*. James Åkerson and Wayne Millington, eds. Philadelphia, PA: NPS. www.nps.gov/nero/ipm/Forest-Insect-n-Disease-Rapid-Response-Plan_final-2010-08-05.pdf.