



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
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JAN 18 2013

REPLY TO THE ATTENTION OF:

E-19J

Craig Young, Invasive Program Leader  
National Park Service  
U.S. Department of the Interior  
Heartland Network  
Inventory and Monitoring Program  
c/o Wilson's Creek National Battlefield  
6424 West Farm Road 182  
Republic, Missouri 65738

Re: Review of Draft Exotic Plant Management Plan and Environmental Assessment

Dear Mr. Young:

The U.S. Environmental Protection Agency (EPA) has received a letter dated December 3, 2012, regarding availability of a draft Exotic Plant Management Plan (Plan) and Environmental Assessment (EA) for 15 National Parks (Parks) extending across 8 states in the Midwest. This draft Plan and EA addresses resource issues associated with terrestrial vegetation management within Park boundaries, with emphasis on eradication, control, and containment of invasive plant species that threaten critical resources (i.e. threatened species, restoration areas, significant cultural landscapes). EPA has reviewed the aforementioned draft Plan and EA. As this programmatic approach to the control of exotic plant species would be relied upon by fifteen Parks in eight states across three EPA Regions in Park-specific actions, staff from EPA Regions 5, 6, and 7 have reviewed this draft Plan and its implementation in all fifteen Parks. This letter provides EPA's consolidated comments on the draft documents pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The goal set forth in the draft documents is to establish an invasive exotic plant management plan to guide control actions within the 15 Heartland Inventory and Monitoring Network (Network) Parks of the NPS. By controlling invasive plants and promoting healthy native plant communities, wildlife and fish habitat would be rehabilitated or improved at all 15 Parks. The draft Plan and EA sets forth a cooperative, multi-park program, which requires allocation of resources for monitoring and treatment of target invasive plant species in order to reduce negative effects on native plant communities and other natural and cultural resources within these parks.

Two strategies for approaching exotic plant management in addition to the No Impact Alternative were analyzed in the draft documents. Under the No Action Alternative, Parks would continue current practices based on individual general management plans and resource management program plans. The decision process, level of expertise, and funding available differs among Parks. As stated in the draft documents, activities are funded through a combination of Park base funding and project funding, and as such, are not predictable or sustainable. Mitigation and best management practices (BMPs) may be employed by Parks, but are not formally directed as a standard for all Parks. Parks complete their treatment location tracking and record keeping to varying degrees. The No Action Alternative would continue to result in variability in practices used to treat invasive plants across Parks with little collaboration under the No Action Alternative.

Alternative 2, the NPS' Preferred Alternative, proposes an Integrated Pest Management (IPM) approach to eradicate, control, and contain invasive plant species. According to the draft EA, the IPM approach coordinates knowledge of pest biology, the environment, and available technology to prevent unacceptable levels of pest damage to resources. This alternative proposes to consolidate expertise, administration, and funding to create a collaborative Network invasive plant management program that plans and organizes actions, disperses funds, lends specialized expertise, and coordinates Parks to manage invasive plants.

Alternative 3 differs from Alternative 2 only in the removal of the use of pesticides, biocontrols, and heavy equipment from the suite of potential treatment options. Without these management options, Alternative 3 is not considered an IPM approach. As stated in the draft EA, "none of the alternatives addresses treatment of aquatic invasive species in aquatic environments" and, therefore, those actions and their impacts are not included within this NEPA compliance document.

The EA is very thorough and detailed in its assessment. We particularly appreciate the decision matrix included as Appendix H which guides the prioritization of management actions addressing exotic or non-native plant species. We recognize the limitations of an individual park-specific approach to the control of invasive plants and the advantages of combining park knowledge with national agency expertise on the treatment of invasive species and implementation of a detailed and consistent management strategy. The preferred alternative will assist the NPS in its compliance with Executive Order 13112 while minimizing the possibility of negative and unintended environmental impacts. The EA/EPMP would be improved, however, if it included a formal monitoring plan addressing not only post-treatment efficacy, but also changes to the biological and chemical environment of each park. A robust monitoring program is critical to the adaptive management approach espoused in the EA/EPMP. In addition, non-native species become invasive as a result of both introduction and the change in or damage to native habitat, including the elimination or reduction of native species. Exotic species introductions will continue to occur, but it is the loss of native ecosystem balance and diversity which creates the opportunity for the spread and domination of exotics in systems. The EA would be improved if there were some background detail specific to each Park unit regarding the causes of past and continuing changes to the natural ecosystem which might have created the opportunity for invasive species to populate the park and the extent of the problem in each park unit.

## General Comments

Although EPA recognizes the interrelatedness of the concepts of exotic species, non-native species, nuisance species, and invasive species, we recommend more consistency as related to the terminology used in the EA. For example, the EA is titled as addressing the development of a “Heartland Invasive Plant Management Plan,” but the EA references an “Exotic Plant Management Plan” and the “Exotic Plant Management Team.”

## Purpose and Need

The terminology and acronyms utilized in Chapter 1 are confusing and inconsistent. EPA recommends that NPS reevaluate the use and ‘timing’ of NPS terminology and acronyms in Chapter 1. Several terms and acronyms are not defined or described at all or not until later sections after they have been used, e.g., the Network, EPMP, EPMT in Section 1.0 and Minimum Requirements Analysis, Optimum Tool and Minimum Tool in Section 1.7.2. For example, Section 1.3 mentions the “vital signs selection process” as the process by which individual Parks determine their high priority management issues, but there is no description of this process.

The EA includes a confusing mix of terminology relating to the identification, prioritization and management of non-native plant species within NPS management units. Although the EA describes the Exotic Plant Management Plan and the Exotic Plant Management Team as the operating terminology, the document relies heavily on the use of the term “invasive species” in describing goals, objectives, scope and action. There is a confusing attempt to identify how the NPS, within its internal policies and documents, targets invasive species as a subset of a larger number of exotic species present within NPS properties. EPA suggests that the EA clarify the general relationship between exotic or non-native species and invasive species consistent with the terminology of Executive Order 13112 and that used by the National Invasive Species Council. The EA should explain why the NPS uses an “Exotic” Plant Management Plan to control “invasive” plant species and clarify the process by which the NPS narrows the scope of the Plan to less than all exotic plant species found within the Parks. The EA attempts this within Section 1.3, pages 8 and 9, but it becomes unclear with multiple references to internal NPS policy documents and statements as a means of explanation.

EPA also recommends that project need be more clearly described and concisely followed by supporting information. We offer this suggested language: "The project is needed to achieve control of non-native invasive plant infestations for the protection of federally and state threatened and endangered plant and animal species, rare and sensitive plant communities and habitats, and important cultural landscapes."

The EA depends greatly on the framework of the Heartland Inventory and Monitoring Network for program implementation, but never fully describes this important NPS construct.

EPA would caution against the use of terms such as “desired conditions”, “sustainable program” and “unacceptable threat” as part of the program objectives. These terms have no specific meaning, are very qualitative, and, therefore, are less useful measures of program achievement.

The statement of scope on page 6, last paragraph, which states that management activities must occur within park boundaries and must involve agency resources to be covered by this EA, is important to an understanding of scope and NEPA compliance. It would be better to bring this out more fully for the reader. It is somewhat 'lost' in the text in this section.

Section 1.6 describes individual park-specific efforts to manage the impacts of invasive plant species. In this narrative, only five of the fifteen parks apparently collect and manage geospatial data as part of treatment actions. The collection and management of geospatial data for the identification and treatment of invasive plant species in each park in every instance is critical to an adequate monitoring program and implementing an adaptive management approach and should be a major component of the EPMP. This might be the intent of the preferred alternative as described in Section 2.2.5, but it is not clear the extent to which a "geodatabase" would identify existing invasive plant populations and track post-treatment response. A complete baseline of current conditions regarding exotic or non-native plants within each park is important to measuring management efficacy and prioritizing management action.

The elimination of certain "impact issues" by NPS in this EA apparently includes impacts irrelevant to the alternatives and comparatively small impacts, but also includes impacts rendered minor or negligible through mitigations. As these mitigations serve as the basis for reaching a finding of "no significant impacts", it is unclear how the NPS could eliminate the assessment of those mitigated impacts from the EA (Section 1.7, Impact Issues and Topics, 1.7.1 Scoping Issues, "Elimination of impact issues are acceptable...(3) if best practices and mitigations will make impacts minor or negligible"; 1.7.2, Identifying Topics).

In 1.7.1, Scoping Issues, the EA lists issues and reasons for eliminating "impact issues." The sixth bullet states that the Federal Food, Drug and Cosmetic Act, and therefore issues associated with pesticide residue on foods, is "not directly applicable to this EPMP/EA." Although the risk of pesticide drift onto agricultural lands adjacent to NPS property is discussed in the next bullet, EPA suggests that the NPS reconsider this exclusion and its approach to evaluating impacts across 15 different parks. It appears that the EA dismisses the need to evaluate drift-related impacts on food grown on properties adjacent to NPS-managed parks solely because aerial spraying is not included in projects under this EA. However, the risk of drift-related impacts is reduced, but not eliminated, in using hand- and boom-spray methods. The assessment of drift-related risks across 15 park locations should be included in this EA.

### Alternatives

EPA supports the development and use of an IPM approach to address terrestrial invasive exotic plant species. After reviewing the draft Plan and EA, EPA staff offer the following comments that we believe would enhance the NEPA analysis and overall plan for this project: a more robust cumulative impacts analysis, an adaptive management (AM) plan that goes beyond the monitoring and record-keeping components mentioned in the draft documents, and suggestions to enhance visitor education opportunities.

Section 2.0 lists the goals of the invasive management program for the Network and the 15 parks. Although it includes a 'plan', the list does not include reference to a monitoring plan or specifically

mention adaptive management or the essential 'feedback loops' empowering this approach. It might be implied, but it's always better to be inclusive and explicit.

In Section 2.0.1, Management Actions Defined, the EA describes the scope of actions not covered by this NEPA compliance document, e.g., developed areas around the visitor facilities, aquatic invasive species in aquatic environments, etc. The EA should clearly and explicitly state (p. 35), in association with these and every 'exclusion,' that NEPA compliance coverage for those actions is not provided by this EA.

Section 2.0.5, Monitoring and Record Keeping, describes "protocols in place for long-term monitoring of invasive plants and plant communities" within "The Network." As mentioned previously, EPA could find no description of "The Network" in the EA and how this NPS organizational component affects EPMP implementation. Further, there is reference to data from "Vital Signs" monitoring in this and earlier sections without explanation of what this is. Generally, monitoring is a key component of any successful management program and adaptive management, specifically. This aspect of the EPMP is significantly under-addressed in the EA. Perhaps most critical, the monitoring frequencies identified for each Park and for various indicators is not adequate for an assessment of potential impacts associated with the use of any of the management actions, but particularly the use of pesticides and biocontrols. We assume that the frequencies specified in Table 2.0.5 and discussed in Section 2.1.5 are intended for determinations of treatment efficacy, but that level of monitoring is inadequate for assessing impacts on non-target plant and animal species and water quality resulting from the treatment and control of invasive plants.

Section 2.2 describes Alternative 2, identified as both the preferred alternative and an alternative based on the implementation of Integrated Pest Management. Under this alternative, park management and the EPMT would identify management objectives to guide actions to address invasive plant problems within individual parks. After reviewing the text under "Identify Invasive Plants That meet Action Thresholds," EPA suggests NPS consider the following: if the extent and distribution of invasive plants is not known, that data should be collected and assessed prior to establishing objectives; the text states that objectives would be specific and measurable, but some of those identified on page 52 as examples are not specific; plant species lists for the park should be reviewed to identify invasive species before establishing management objectives rather than after (p. 52); and we suggest you consider a two tier classification of exotic plant threat which would provide for an 'early detection' "action threshold" in addition to the "action thresholds" reflected by criteria in current NPS policy. Further, the successful implementation of the EPMP and an adaptive management approach to invasive species control is greatly dependent upon a robust monitoring program which establishes a baseline of environmental conditions and presence and extent of exotic plants in the park. The EPMP would be greatly improved if more attention were paid to this component of adaptive management such that a monitoring strategy would address the collection of environmental (e.g., biological and chemical data in park resources) and exotic plant data to establish a baseline condition and a post-action condition.

## Affected Environment

EPA strongly recommends the adaptive management plan included in the draft Plan and EA be revised to include triggers for determining effectiveness, sampling to determine extent of impacts to non-target species, etc. which allow for feedback and adjustment of programs at each Park. EPA is available to discuss these matters.

EPA commends the NPS' enlisting the assistance of volunteers to restore NPS lands. Nevertheless, we recommend the NPS consider using interpretative signs to the fullest extent possible to communicate the purpose behind and value of conservation landscaping. Signage at visitor centers, trailheads, and restoration sites would allow visitors to be prepared for the often unsightly look of ongoing eradication/restoration activities. Including "before" and "after" photographs would allow visitors to get an idea of what the site should look like once restoration activities are complete and the project enters the maintenance phase. Providing additional information, such as the number of growing seasons before the vegetation recovered to produce the "after" shot, would supply visitors with an idea of how long the process should take to restore desired habitat. Telling the "story" of exotics (i.e., lack of ground cover caused by some exotics and the ground-dwelling species affected) provides a chance to educate visitors regarding the rationale behind removing living vegetation, albeit exotic species, and why it is important to maintain the habitat type(s) necessary to maintain species.

Lastly, EPA has added our standard BMPs to reduce diesel emissions and measures to minimize impact to wetlands. We recommend the NPS include these BMPs in the Preferred Alternative, as appropriate.

### *Diesel Emissions*

The National Institute for Occupational Safety and Health (NIOSH) has determined that diesel exhaust is a potential occupational carcinogen, based on a combination of chemical, genotoxicity, and carcinogenicity data. In addition, acute exposures to diesel exhaust have been linked to health problems such as eye and nose irritation, headaches, nausea, asthma, and other respiratory system issues.

**Recommendation:** Although every construction site is unique, common actions can reduce exposure to diesel exhaust. EPA recommends that the NPS commit in the Final EA to the following actions during construction:

- Using low-sulfur diesel fuel (less than 0.05% sulfur).
- Retrofitting engines with an exhaust filtration device to capture diesel particulate matter before it enters the construction site.
- Positioning the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, thereby reducing the fume concentration to which personnel are exposed.
- Using catalytic converters to reduce carbon monoxide, aldehydes, and hydrocarbons in diesel fumes. These devices must be used with low sulfur fuels.
- Using enclosed, climate-controlled cabs pressurized and equipped with high efficiency particulate air (HEPA) filters to reduce the operators' exposure to diesel fumes.

Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any incoming air is filtered first.

- Regularly maintaining diesel engines, which is essential to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance. For example, blue/black smoke indicates that an engine requires servicing or tuning.
- Reducing exposure through work practices and training, such as turning off engines when vehicles are stopped for more than a few minutes, training diesel-equipment operators to perform routine inspection, and maintaining filtration devices.
- Purchasing new vehicles that are equipped with the most advanced emission control systems available.
- With older vehicles, using electric starting aids such as block heaters to warm the engine reduces diesel emissions.
- Using respirators, which are only an interim measure to control exposure to diesel emissions. In most cases, an N95 respirator is adequate. Workers must be trained and fit-tested before they wear respirators. Depending on work being conducted, and if oil is present, concentrations of particulates present will determine the efficiency and type of mask and respirator. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a NIOSH approval number. Never use paper masks or surgical masks without NIOSH approval numbers.

### *Aquatic Resources*

**Recommendation:** EPA strongly encourages that impacts to wetlands be avoided. Should impacts to wetlands be unavoidable, we recommend the following measures to further minimize impacts to wetlands during management activities and recommend these measures be included in the FONSI:

- Perform activities in wetlands during frozen ground conditions, if feasible;
- Minimize width of temporary access roads;
- Use easily-removed materials for construction of temporary access roads and staging areas (e.g., swamp/timber mats) in lieu of materials that sink (e.g., stone, rip-rap, wood chips);
- Use swamp/timber mats or other alternative matting to distribute the weight of heavy equipment to minimize soil rutting and compaction;
- Use vehicles and equipment with wider tires or rubberized tracks, or use low ground pressure equipment to further minimize impacts during construction access and staging;
- Use long-reach excavators, where appropriate, to avoid driving or staging in wetlands; and
- Place mats under equipment to contain any spills.

### Consequences

#### *Cumulative Impacts*

EPA recommends more in depth and thorough analysis of cumulative impacts. 40 CFR §1508.7 states "Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” We recommend the analysis focus on private agricultural practices adjacent and near the NPS lands as those practices have the potential to add pesticides to the environment. We suggest you refer to the Council on Environmental Quality’s “Considering Cumulative Effects Under the National Environmental Policy Act”<sup>1</sup> and EPA’s “Consideration Of Cumulative Impacts in EPA Review of NEPA Documents”<sup>2</sup> for assistance with identifying appropriate temporal and spatial boundaries and identifying appropriate past, present, and reasonably foreseeable future projects to include in the analysis.

#### Editorial Comments

In section 2.2.4 Mitigations, page 58, it states “An extensive list of mitigations appears in Appendix X.” It appears that the appendix being referenced is “H”.

Thank you in advance for your consideration of our comments. EPA is available to discuss the contents of this letter. If you have general questions, contact Kathy Kowal *of* my staff at 312/353-5206 or via email at [kowal.kathleen@epa.gov](mailto:kowal.kathleen@epa.gov). Please send a copy of the revised documents once they are available to the address listed on this letterhead.

Sincerely,



 Kenneth A. Westlake, Chief  
NEPA Implementation Section  
Office of Enforcement and Compliance Assurance

cc: Nick Chevance, National Park Service  
Mary Knapp, Ph.D, U.S. Fish and Wildlife Service, Columbus, OH

<sup>1</sup> <http://ceq.hss.doe.gov/nepa/ccenepa/ccenepa.htm>

<sup>2</sup> <http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf>