



October 9, 2020

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U.S. Department of the Interior
Office of Policy Analysis—Mailstop 3530
ATTN: Invasive Species Comments
1849 C Street NW
Washington DC, 20240

Subject: **DOI-2020-0007, “U.S. Department of Interior: Draft Invasive Species Strategic Plan”**

The Weed Science Society of America (WSSA), along with the Aquatic Plant Management Society, the North Central Weed Science Society, Northeastern Weed Science Society, Southern Weed Science Society and the Western Society of Weed Science represent over 3000 weed scientists from around the world. Members include academic, governmental, and private industry research scientists, university extension professionals, educators, graduate students, and federal, state, county, and private land managers.

GENERAL COMMENTS

The National and Regional Weed Science Societies applaud the Department of the Interior’s (DOI’s) efforts to develop a concise, yet comprehensive Invasive Species Strategic Plan (Plan). We welcome and appreciate the opportunity to comment on the Plan. Invasive weeds are a significant problem with their potential roles in displacing native species, altering structure and function of ecosystems, disrupting natural and agricultural landscapes, and causing economic damage. Invasive weeds in terrestrial and aquatic ecosystems are estimated to cost nearly \$30 billion per year. Our members

are directly involved in the research and management of invasive weeds in both agricultural and natural ecosystems and appreciate an aggressive, well-funded Plan.

The Federal Agency duties prescribed in relation to the invasive species Executive Order 13112, signed in 1999, still hold true to this day. The six main Federal Agency duties, listed in order:

- 1) Prevention
- 2) Early Detection and Rapid Response (EDRR)
- 3) Monitoring (i.e., data management)
- 4) Restoration
- 5) Research
- 6) Public Awareness

In DOI's Plan, the following five goals were identified to advance invasive species management:

- 1) Collaborate across Interior and with others to optimize operations through leveraging partnerships, educational efforts, and funding.
- 2) Cost-effectively prevent the introduction and spread of invasive species into and within the United States.
- 3) Implement early detection and rapid response efforts in coordination with other Federal agencies, States, Tribes, territories, and other partners to reduce potential damage and costs from new infestations becoming established.
- 4) Cost-effectively control established invasive species populations to reduce impacts and restore native species and ecosystems.
- 5) Improve invasive species data management for decision-making.

The National and Regional Weed Science Societies agree that leveraging partnerships, educational efforts, and funding in Goal #1 is critical to the success of the Plan. DOI invasive species efforts are extremely underfunded. In FY 2020, DOI has estimated it will spend \$143 million to manage invasive species on over 400 million acres of DOI's public lands. That's roughly 35 cents per acre for invasive species prevention, EDRR, monitoring, restoration, research and public awareness, while the USDA is spending over \$9 per acre annually. It will be impossible to implement DOI's Plan with only 35 cents per acre of funding per year. Many weed management strategies alone can cost in the \$10's to \$100's per acre per year. We realize the Congress is also involved in the federal appropriations process, but **DOI can lead the way with increased budget requests** that will be needed to successfully implement this Plan.

We agree with DOI's Plan that managing invasive species will involve identifying and counteracting pathways of introduction and spread. Given our current understanding that most invasions happen due to a confluence of environmental, anthropogenic, and biotic factors rather than being driven wholly by the species themselves, our **focus needs to shift from species as objects to invasion as a process.**

The National and Regional Weed Science Societies **strongly support Goal #5 in the Plan for the construction and maintenance of robust databases for invasive species monitoring.** The decentralized

and fragmentary data availability on invasions at a national and global level is a critical challenge that needs to be solved to move forward with effective prevention, EDRR, and management. It's very important for stakeholders to have access to real time comprehensive estimates of invasive species infestations. The development of a well-maintained and long-lived centralized database will be a critical milestone for successful implementation of the Plan.

We support the increased focus on invasion pathways and vectors. Effective management of invasive species at a national scale will need a systemic and science-based prioritization. As the Plan reiterates the importance of cost-efficiency in this venture, it should be noted that much more return on investment may be had by minimizing an introduction pathway than by eradicating a single invader whose place may be subsequently taken by another invader.

The National and Regional Weed Science Societies appreciate that the Plan documents **the importance of using integrated pest management (IPM) techniques** as one of the crosscutting principles fundamental to successful invasive species management. Weed IPM includes chemical, cultural, mechanical and biological control techniques. Relying exclusively on any one IPM tactic will likely lead to weed resistance or reduced control. We're glad that DOI plans to strengthen its capacity to gain approval for the use of additional effective herbicides for use on DOI lands. It often takes more than a decade for some DOI agencies to gain access to new herbicides approved by EPA.

We support DOI in developing and promoting decision-support tools and best practices to aid managers in planning for and responding to climate change, including extreme weather events, which may increase invasive weed spread. The success of this Plan should include metrics that quantify invasive weed impacts on native species biodiversity and ecosystem health.

The National and Regional Weed Science Societies agree that leveraging research and innovation to develop cost-effective tools are needed to manage invasive weeds and, more importantly, their invasion pathways. We need new technologies and methods to control invasive weeds, restore native species and ecosystems, and adapt to environmental change.

We also support the formation and use of a **science advisory committee** populated with invasive species managers and experts to help guide DOI in achieving the goals, objectives, strategies, and metrics of this plan.

The National and Regional Weed Science Societies commend DOI for the transparency and outreach of the current process. We appreciate the opportunity to provide both general and specific comments on the Plan and look forward to working with DOI on refining and updating this Plan.

SPECIFIC COMMENTS

Page ii: Importance of Goal #5

- Shared central databases are needed for effective collaboration within DOI, as well as with other agencies and sectors.

- Collaboration on invasive species data management will facilitate the other goals of prevention, EDRR, and control of invasive species in the Plan.
- Accurate invasive species data and reporting are needed to estimate prevention and management costs and **update economic impacts**.

Page 1 - 7: Introduction- Include a table or figure on key invasion pathways.

- Hulme et al. (2008) developed an invasion pathway scheme that linked policy options to six broad mechanisms by which invasive species might be introduced to a region:
 - 1) as a deliberate release or planting
 - 2) an escape from captivity
 - 3) a contaminant of a commodity
 - 4) a stowaway on a transport vector
 - 5) via an anthropogenic corridor
 - 6) unaided from other invaded regions
- Most invaders are passengers, not drivers, that rely on vectors (e.g., disturbance, fragmentation, transportation infrastructure, globalization) (e.g., [MacDougall & Turkington, 2005](#)).
- For example, one of our most troublesome invasive weeds, Palmer amaranth (*Amaranthus palmeri*), was spread as a contaminant in seed mixes for pollinators and conservation plantings. Next generation DNA tools were needed to develop a rapid screening process to identify it from other similar looking seeds to stop its spread via contaminated seed mixes.
- If we can develop the tools necessary to manage invasion pathways, we will cost-effectively prevent the introduction and spread of invasive weeds.

Page 12: Objective 2.3: Leverage research and innovation to develop cost-effective tools, technologies, and methods to prevent invasive species introductions and secondary spread.

- We encourage DOI to explore the possibility of working with the insurance industry to develop tools to mitigate the economic impacts of invasive species.
- Public and private invasive species managers can benefit if they have access to a pool of funds that is ready to disperse the moment a potential threat is identified.
- Insurance may offer a solution to fill funding gaps during the critical stage of rapid response.

Page 13: Objective 3.1, Strategy d: “*Selectively strengthen Interior taxonomic expertise and ability to verify species identification for programs where Interior has a mandate (e.g., fish and wildlife health and wildlife inspection at designated wildlife ports of entry)*”.

- We agree that research and training in taxonomic expertise is critical for identifying invasive species. The lack of invasive weed taxonomic expertise and identification tools has hindered progress in understanding and managing biological invasions ([Pysek et al., 2013](#)).

- DOI can play a key leadership role in funding and supporting taxonomic training not just for internal use, but also for citizen science programs, such as [Wild Spotter](#), that engage and empower citizens and groups to identify and map invasive species.
- The National and Regional Weed Science Societies would be happy to work with DOI on these efforts.

Page 17: Objective 5.1: *“Promote user-friendly, interoperable databases to increase efficiency and cost-savings.”*

- We strongly agree with this objective. It will be important to survey land and water managers, researchers, and other stakeholders before database creation and release.
- WSSA is currently working with USDA-NRCS to update their [Plants Database](#) with accepted common and scientific names of weeds with a future goal of updated weed species distribution maps. We would be happy to work with DOI on similar efforts to maintain consistent taxonomic information across agency databases.

Page 17: Objective 5.2: *“Increase invasive species data collection and its accuracy, consistency, level of reporting, and utility across Interior.”*

- We agree that all five strategies in this objective are important and that invader distribution data continues to be compiled.
- Useful invasive weed information to incorporate would be history of management associated with locations and populations.
- Collection of temporal aspects of invasive species such as introduction dates and spread rates would lead to useful research findings and recommendations.

Page 27: Appendix C: Invasive Species Plan Metrics

- Goal 4: *“Cost-effectively control established invasive species populations to reduce impacts and restore native species and ecosystems.”*
- The National and Regional Weed Science Societies would be happy to work with DOI to provide key metrics on invasive weeds. Because invasive weeds can have long-lived soil seedbanks, metrics that evaluate percent reduction over time will be a better approach.
- In addition, metrics that quantify impact on biodiversity and ecosystem health are important.

CONCLUSION

The National and Regional Weed Science Societies applaud DOI’s efforts to develop a succinct invasive species Plan that includes goals, objectives, strategies, and metrics and commend DOI for the transparency and outreach of the current process. We feel the five goals identified in the Plan are appropriate with Goals #1 and #5 being the most important to the success of the Plan. We encourage DOI to continue to work with stakeholders as you move forward with implementation of the Plan and

use science-based decision-making to prevent the introduction and inhibit the spread of invasive species. The National and Regional Weed Science Societies would welcome the opportunity to partner with DOI in the future refinement and implementation of the Plan.

Sincerely,



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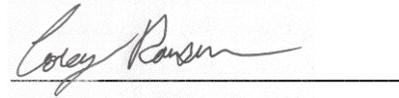
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