

National Environmental Coalition on Invasive Species

National Wildlife Federation ♦ Alliance for the Great Lakes ♦ Entomological Society of America
Natural Areas Association ♦ Ecological Society of America ♦ Center for Invasive Species Prevention
The Wildlife Society ♦ National Association of Invasive Plant Councils ♦ American Bird Conservancy

Recommendations to the Biden-Harris Administration, Members of the 117th Congress:

Promoting federal leadership, coordination, and resources to combat the growing impacts of invasive species.

The National Environmental Coalition on Invasive Species (NECIS), founded in 2003, is a coalition of environmental organizations and professional societies focused on promoting scientifically sound policies that prevent the introduction and spread of invasive species in the United States.

The below-listed NECIS member organizations have come together in support of a series of recommendations for tackling the diverse challenges brought on by the introduction, dispersal, and establishment of invasive species. These recommendations are organized by agency, and include specific suggestions for operational and financial improvements to the U.S. Department of Agriculture (U.S. Forest Service and Animal and Plant Health Inspection Service) and U.S. Department of the Interior (U.S. Geological Survey, U.S. Fish and Wildlife Service, and National Park Service).

Despite increased attention and understanding of the threats posed by invasive species, federal prevention and management operations have continued to suffer from inadequate funding, ineffective federal and partner collaboration mechanisms, and a lack of government-wide leadership. With compounding impacts brought on by wildlife and zoonotic diseases, plant pests, a changing climate, economic trade, and ecosystem degradation, this problem will only grow worse.

By working to implement the recommendations provided, the federal government can begin safeguarding the U.S. from invasive species at points of entry, within interstate transportation channels, and on public and private lands.

We look forward to working with you to address the growing invasive species challenge. Please reach out to any of the organization contacts listed below with questions.

Sincerely,

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United States Forest Service

Background

The United States Forest Service (USFS) manages and assists in the management of natural resources on national forests, national grasslands, and the forests managed by many public and private partners. As the world's largest research institution of forestry-related issues, this work includes studies to improve understanding of non-native pathogens and insects and effective countermeasures for the benefit of federal and partner entities.

The USFS State and Private Forestry division's **Forest Health Management (FHM) program** supports partner efforts to prevent, monitor, suppress, and eradicate insects, diseases, and invasive plants on partner and private lands through technical and financial assistance. The program operates a tree-breeding facility in Oregon that has contributed to the restoration of several western tree species decimated by non-native insects and pathogens. FHM also operates a collaborative woodborer detection survey in partnership with state agencies and the USDA Animal and Plant Health Inspection Service. In recent years, an emergency fund has been created to assist in rapid responses to newly detected pests.

The **USFS Research and Development (R&D)** program studies a broad set of natural resource challenges, including the impacts of diseases and non-native pests and wildlife on native species. These projects often target strategies for preventing introduction and spread through trade via monitoring and surveillance, along with management strategies for established pests and diseases.

The **USFS International Programs** division studies and implements strategies to improve forestry practices, reduce fraud and illegal timber harvest, and prevent the international movement and importation of invasive species in wood products.

Hurdles to Success

Forest Health Management programs have been impeded by inadequate funding and competing priorities. To date, the program has prioritized management of native pests, such as the mountain pine beetle, and those native pests which are established on national forest land. However, 56% of America's forests occur on non-federal lands. These forests provide valuable benefits and environmental services such as clean water, carbon sequestration, riparian buffers, timber products, jobs, wildlife habitat, native plant habitat, and recreation opportunities (Northern Research Station).

Furthermore, most non-native insects and pathogens are first introduced at ports of entry and warehouses – far from national forests. **Additional funding and support for the non-federal lands component of Forest Health Management** is essential to cost-effectively counter pests where they are first detected.

Research and Development efforts targeting invasive species are impeded by both an existing lack of federal prioritization and inadequate financial resources. Appropriated funds for research conducted by the research stations on ten non-native pests decreased from \$10 million in Fiscal Year 2010 to just \$2.5 million in Fiscal Year 2020 – more than 70%. The funding deficiency is partially hidden by the absence of a specific line item for invasive species in the R&D budget.

The previous administration also repeatedly attempted to end work within the R&D Wildlife and Fisheries program, which conducts a diverse array of important research on issues ranging from conservation mechanisms for bat species decimated by the invasive pathogen responsible for white-nose syndrome, to invasive species management strategies in the sagebrush biome. There were also attempts by the previous administration to pull funding from the Joint Fire Science program, a collaborative multi-agency body that conducts decision-maker oriented research on fire and its interactions with native and non-native resources.

Recommendations for Administrative Action

- 1. Minimize the risk of future pest introductions through pathway risk mitigation and enhanced early detection of potential pests and diseases.**
 - **To minimize pathway risks**, the USFS Forest Products Laboratory should collaborate with the Agriculture Research Service, Animal and Plant Health Inspection Service, National Institute of Food and Agriculture, states, tribes, private industry, and academic partners to study alternatives to wood packaging currently used. This should include steps to facilitate adoption of manufacturing systems by smaller wood-handling facilities.
 - **To expand early detection capacity**, USFS should work with domestic and foreign partners on establishing and monitoring plantings of North American sentinel trees in the geographic areas of concern. This includes ports, nurseries, and other U.S. sites where introductions are most likely to occur, as well as in foreign countries with a U.S. trading partnership.
- 2. Improve identification of native vegetation at the greatest risk from invasive pests.** USFS scientists should build on work by European forest pathologists studying native ecosystems in Asia and other regions with the goal of detecting whether those systems harbor micro-organisms belonging to genera containing damaging pests. Follow-up studies should evaluate which taxa of U.S. woody vegetation are vulnerable to the pests so detected. This can be done in coordination with the Animal and Plant Health Inspection Service, Agriculture Research Service, National Institute of Food and Agriculture, and academic partners. USFS should then work with the Animal and Plant Health Inspection Service to include hosts of damaging pests under their “Not Authorized Pending Pest Risk Analysis” designation.
- 3. Work towards enhancement of natural pest resistance by breeding resistant trees and utilizing other technologies.** Nearly 100 introduced insects and disease pathogens are currently decimating tree species across the U.S. Severe population reductions of these trees has cascading ecological effects. In most cases, the affected tree species cannot be restored to the forest using current pest-management strategies. USFS should apply recent research to identify target species for breeding efforts and work with federal, state, and academic partners to implement long-term programs to breed resistance to damaging pests (Kevin M. Potter). USFS should also expand its engagement in testing and applying innovative pest-management strategies such as biological control and gene drive technologies.

Recommendations for Congressional Action:

1. **Utilize congressional oversight to evaluate USFS' efforts to reduce the pest risk to U.S. forests.** While there has been considerable congressional attention to the damage caused by native insects, the House Natural Resources Committee, the Senate Agriculture, Nutrition and Forestry Committee, and the Senate Energy and Natural Resources Committee have rarely evaluated USFS' efforts to manage and reduce the impacts of non-native invasive insects and pathogens. Particularly neglected has been the strategy of evaluating natural resistance to pests among tree taxa and breeding pest-resistant trees for the purpose of restoration. Hearings would provide an opportunity to evaluate the efficacy of existing programs and suggest more promising strategies. One such proposal is to create a "Center for Forest Pest Control and Prevention" to manage all aspects of non-native forest pest policy and implementation. Hearings could also explore whether current funding levels and mechanisms are adequate to support vigorous responses to new pest incursions.
2. **Increase funding for the USFS Forest Health Management program to enable vigorous containment, eradication, and restoration responses targeting introduced forest pests and diseases.** Greater resources should be devoted to exploring natural resistance and breeding trees resistant to pests and then supporting plantings to restore depleted species to the forest. In recent years, FHM has received about \$100 million in annual appropriations. However, much of this funding has been allocated to management of native pests, especially the mountain pine beetle and southern pine beetle. These programs target only about a dozen of the hundreds of non-native insects and pathogens established in the country. Of these, the European gypsy moth receives the most funds (nearly \$8 million) while the rest receive typically several hundred thousand dollars each.
3. **Work towards adequate funding for the diversity of USFS Research and Development programming.** USFS R&D programming is vital to conserving our nation's robust natural resources. Currently USFS R&D receives about \$300 million in annual appropriations, but only about 10% of the funding is allocated to research on non-native insects, pathogens, and plants. An even smaller portion goes to supporting wildlife and fisheries research. At least \$315 million should be allocated across R&D programming in the next fiscal year in order to adequately evaluate the threats of non-native pests, fish, and wildlife and determine monitoring and surveillance strategies for preventing introduction and spread. Congress should also utilize report language to affirm support for wildlife and fisheries research in the USFS R&D portfolio.

USDA Animal and Plant Health Inspection Service

Background

USDA Animal and Plant Health Inspection Service (APHIS) is responsible for preventing the introduction and mitigating the impacts of pests, diseases, and plants that harm plants, livestock, poultry, native wildlife, and people.

Plant Protection and Quarantine (PPQ), a unit of APHIS, carries out the agency's legal responsibilities to prevent introduction and mitigate impacts of plant pests, invasive plants, and noxious weeds. PPQ works to detect and delineate outbreaks through extensive pest detection networks, manage activities aimed at eradication or suppression, adopt and implement quarantines and regulations aimed at preventing pest spread, and apply studies to develop or improve pest detection and containment methods. APHIS has historically prioritized pests that threaten agriculture, but since the late 1990s has devoted considerable effort to insects and pathogens that attack tree species.

Wildlife Services, a unit of APHIS, resolves human-wildlife conflicts and protects wildlife, agriculture, and human interests from wildlife damage and wildlife-borne diseases in the United States. This includes the National Rabies Management Program, which distributes targeted oral rabies vaccines to wildlife with the goal of disease eradication, and the Feral Swine Management Program, which works with cooperators to protect natural and manmade resources against this highly destructive non-native species. The Methods Development Program within Wildlife Services funds the **National Wildlife Research Center (NWRC)**, which provides tools that federal, state, tribal, and local partners need to deter human-wildlife conflict and manage associated wildlife health challenges in the field setting.

Veterinary Services, also a unit of APHIS, works to protect and improve the health, quality, and marketability of our nation's livestock and wildlife. This includes management of the **Captive Cervid Herd Certification Program**, a voluntary program that captive cervid farmers and states can opt into in order to allow for interstate movement of captive deer, elk, and moose species.

Hurdles to Success

The Animal and Plant Health Inspection Service has adequate authority to address invasive species management for known plant pest threats, including seizure of the “pest” and associated materials and conveyances, quarantining properties or geographic areas, and penalizing violators. However, **APHIS Plant Protection and Quarantine is hampered by inadequate resources and reluctance both within the agency and among higher USDA authorities to impose measures to restrict international and interstate trade, even when those measures are necessary to prevent pest introduction and spread.**

Additionally, **APHIS does not have the legal authority to address pathways, host species, or commodities in the absence of a known federally regulated pest.** As a result, the agency does not have the tools to address many issues that arise in modern trade practices. To date, APHIS has proven unable to adopt policies that promise to curtail pest and disease introduction, instead focusing on less effective strategies tied to inspection, detection, and early response. APHIS has also avoided utilization of its penalty powers except in egregious cases of outright smuggling.

Within APHIS-Veterinary Services, the existing regulations dictating the Captive Cervid Herd Certification Program are woefully inadequate to stop the spread of Chronic Wasting Disease, a deadly prion disease that continues its expansion across the country. The state-by-state buy-in and relaxed standards for enrolled operators has created a patchwork of enforcement and allowed captive heard operations to go without adequate oversight, further exacerbating the spread of the disease.

Recommendations for Administrative Action:

1. **Take emergency action to prohibit use of solid wood packaging by importers from countries with a record of not complying with import regulations, and strengthen existing authorities by aggressively prosecuting repeat offenders.** Existing regulations require countries shipping goods to the U.S. to use internationally accepted treatments on packaging made from solid wood (crates, pallets, etc.) in order to kill any pests that might be present. These requirements have been in place since at least 2006 for most countries. However, solid wood packaging has continued to be infested or otherwise failed to meet these requirements, resulting in continued introductions. To increase compliance, **APHIS should begin fining importers for each incoming shipment that does not comply with regulation.** When that response does not prove sufficient, emergency action should be taken to prohibit the importation of solid wood packaging by non-compliant entities under the authority of the Plant Protection Act and the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary Measures.
2. **Prohibit importation of plants that are known to have invasive tendencies, and plants that pose a high risk of transporting insects and pathogens that would kill or damage tree species important to natural ecosystems and urban forests and plantings.** APHIS has existing authority [7 U.S.C. §§ 319.37 through 319.37-14] to block importation of specific plant taxa if a rapid administrative evaluation determines evidence that the plant type hosts an insect or pathogen of threat to a domestic species. This authority is known as "Not Authorized for Importation Pending Pest Risk Assessment" (NAPPRA). To date, APHIS has used this authority to list the hosts of 21 taxa of plant pests as not authorized for importation. The hosts of an additional 19 pest species are currently under consideration for listing. To provide for an adequate, proactive approach, **APHIS should accept an existing petition to include all tree species in all genera that are important to U.S. forests and cities under NAPPRA.** This should be followed by a collaborative evaluation of which domestic tree species are vulnerable to pathogens present in the ecosystems of trade partners. The Agriculture Research Service, National Institute of Food and Agriculture, and USDA Forest Service should be involved in this process. Potential approaches can include the establishment and monitoring of plantings of North American trees in the geographic areas of concern.
3. **Update Captive Cervid Herd Certification Program Standards to provide for meaningful enforcement in combating the spread of Chronic Wasting Disease.** The existing standards provide for little enforcement capabilities and instead primarily rely on suggestions to herd owners and regulators. This includes baseline intervention and monitoring methods that would benefit from clearer requirements, including how to tag captive animals and proper fence enclosure height. Inability to come into compliance with the program should also be determined and followed up on in a timely manner. Significant grace periods for herd operators to undergo reinspection and remain compliant with program standards is a core weakness of the program.

Recommendations for Congressional Action:

1. **Amend the Plant Protection Act [7 U.S.C. §7701, et seq. (2000)] to prioritize the protection of natural and agricultural resources over the facilitation of trade.** Currently APHIS prioritizes trade facilitation over effective actions aimed at preventing pest introduction and spread. This priority is mandated by the Plant Protection Act and strongly supported by USDA and agricultural commercial interests. Amending the “findings” section of the statute would accomplish two goals: 1) shift the legal mandate to give higher priority to pest prevention, and 2) demonstrate a higher priority on environmental protection in the face of economic pressure.
2. **Conduct oversight hearings on APHIS’ efforts to reduce pest risk to U.S. forests.** House and Senate Agriculture Committee hearings would provide an opportunity to evaluate current program efficacy and suggest more promising strategies. Hearings should also explore whether current funding levels and mechanisms are adequate to support vigorous responses to new pest incursions. Congressional oversight will additionally provide the added benefit of bringing greater member and public attention to the threats posed by invasive species.
3. **Increase funding of key agency programs.** Congress should increase funding for APHIS Plant Protection and Quarantine programs and activities to enable vigorous prevention, containment, and eradication responses targeting introduced forest pests and diseases. Congress should also increase funding for methods development work targeting detection of insects and pathogens in shipping, insect and disease monitoring/surveillance, biological control, fraudulent or inadequate treatment of incoming solid wood packaging, alternatives to solid wood packaging material, management of established pests, resistance breeding, and restoration of impacted tree species. Additionally, Congress should commission a study through the Government Accountability Office, Library of Congress, or National Academy of Sciences to determine the feasibility, costs, and benefits of establishing a “Center for Forest Pest Control and Prevention” to coordinate research and policy on this issue.

United States Geological Survey

Background

As the research arm of the Department of the Interior, the United States Geological Survey (USGS) provides federal agencies and stakeholders with the science and tools needed to better understand how to conserve and manage our nation's natural resources.

The **Biothreats and Invasive Species Program** in USGS' Ecosystems Mission Area monitors threats from hundreds of invasive animals, plants, and pathogens for the benefit of federal, state, tribal, and private interests. USGS invasive species research focuses on control and management, early detection and rapid response, and habitat effects and restoration.

The USGS also plays a major role in directly connecting this science to on-the-ground stakeholders. Through the **Cooperative Research Units program, the Climate Adaptation Science Centers, and the Ecosystems Science Centers**, USGS scientists work with partners to provide science that is reactive to the conditions being faced by natural resources managers at all levels of governance. This work ranges from the study of movement patterns of invasive Asian carp to the evaluation of threats brought on by invasive grasses in the sagebrush biome.

Also core to the nation's challenges are the rapidly evolving threats of emerging wildlife and zoonotic diseases. The **National Wildlife Health Center (NWHC)** is the only national center dedicated to wildlife disease detection, control, and prevention in the U.S. Their work includes research on emerging and established diseases that present high economic and environmental costs, including virulent strains of avian influenza and the yet to be established *Batrachochytrium salamandrivorans* (Bsal) in salamander species. The work of the NWHC is especially pertinent as SARS-CoV-2 (the novel coronavirus) virus likely emerged from wildlife and could affect protected species such as black-footed ferrets.

Hurdles to Success

In order for robust resources to be provided by Congress, recognition by the administration of the benefits of conducting cooperative science for the good of America's native resources is key. Good science must be conducted through buy-in of and scientific co-production with multiple stakeholders, including the federal government.

In recent years, the Survey's cooperative science model has been plagued by **accusations of scientific censorship from agency and Interior Department leadership**. There have been multiple reports of DOI scientists being prevented from publishing valid scientific work under their agency affiliation or pressured to alter their work for political reasons. Scientific censorship erodes the public's trust of USGS' scientific products and harms the agency's ability to recruit and retain top scientific talent. This political interference has greatly impacted employee retention and morale within the agency.

The effects of political interference are amplified by the lack of financial support for vital invasive species and wildlife disease programming. These challenges cannot be overcome by the current funding provided to the program areas outlined above. In order to provide the funding needed to allow USGS to assist stakeholders in responding to the threats brought on by invasive species and disease, adequate funding of the agency programming and much-needed infrastructure improvements are required. This includes updates to the National Wildlife Health Center, which presently requires a complete overhaul of its infrastructure in order to maintain and enhance disease diagnosis, surveillance, risk assessment and control activities.

Recommendations for Administrative Action:

1. **Strengthen the Department of the Interior's Scientific Integrity Policy.** To restore scientific integrity at USGS, the administration should work to protect scientists against attempts to censor them or pressure them to alter their work. Department and agency leadership should protect scientists' ability to freely engage in professional development activities such as publishing and presenting at scientific conferences. Strengthened scientific integrity policies should also include stronger procedural protections for scientists who file scientific integrity complaints.
2. **Reinstate adequate requests for funding and initiate long-planned expansions of cooperative science programs within the Survey.** Nevada, Michigan, Indiana, and Kentucky have long requested the housing of Cooperative Research Units in their states. Congress has made great headway in providing needed CRU program funding that will allow for expansion. However, utilization of these funds for expansion has yet to occur. Additionally, a long-hoped for addition to the Climate Adaptation Science Centers to meet the needs of Midwest stakeholders was recently approved in the FY 2021 omnibus package. The administration should work expediently to begin the solicitation of applications for housing of the new Center.

Recommendations for Congressional Action:

1. **Adopt funding for invasive species and disease research and infrastructure needs.** For FY 2022 and beyond, NECIS recommends \$180 million program-wide for the USGS Ecosystems mission area and at least \$40 million for the Biothreats and Invasive Species program, \$26 million for the Cooperative Research Units program, and full funding for the Climate Adaptation Science Centers at \$60 million, an increase of \$22 million, with funding increases of at least 4% each year of the administration. The Coalition requests continued and robust funding for the NWHC within the Ecosystems Mission Area and that Congress provide at least \$101 million appropriated until expended to modernize the National Wildlife Health Center.
2. **Adopt funding for use in surveillance and monitoring of diseases.** NECIS supports the Wildlife Borne Disease Prevention Act, included in the House's HEROES coronavirus response bill. This language provides \$40 million to USGS and NWHC for technical assistance, biosurveillance of wildlife, environmental persistence studies, and related research. The bill directs NWHC to "establish and maintain a national database of wildlife disease, including diseases that cause a human health risk." Notably, the legislation would also authorize the USGS to collaborate with the U.S. Agency for International Development to strengthen global capacity for wildlife health monitoring.
3. **Provide appropriated funds as authorized in the "America's Conservation Enhancement Act".** NECIS recommends the yearly appropriation of authorized funds in the recently passed "America's Conservation Enhancement Act" targeted at combating wildlife diseases and invasive species. This includes \$1.2 million to USGS to review and compare science-based best practices, standards, and guidance regarding the prevention, detection, and management of Chronic Wasting Disease, as well as \$400,000 annually for use in carrying out scientific and technical assistance for Fish Habitat Partnerships and conservation.

United States Fish and Wildlife Service

Background

The US Fish and Wildlife Service (USFWS) is tasked with combating threats to native public trust wildlife through the implementation of federal wildlife law and the management of a network of 150 million acres of federal lands and waters.

Chief among these laws is the Endangered Species Act, which provides a framework for federal intervention in the recovery of a species considered to be threatened or endangered. The Service is also responsible for the implementation of several other public trust wildlife laws, including the Migratory Bird Treaty Act, the Marine Mammal Protection Act, the Bald and Golden Eagle Protection Act, and others that provide protections for native species susceptible to invasive species and other risks that transcend state boundaries. The Service's main legislative tool in protecting these native species from invasive introductions is the **Lacey Act**, which provides authority for the Service to regulate the import and transit of species determined to be harmful to native natural resources or economic interests.

Within the USFWS **National Wildlife Refuge System**, the Service is responsible for working to ensure native species thrive alongside human-associated recreation and interpretation activities. They do this in part through the use of strike teams, which are regionally-based teams that can be easily and efficiently deployed to federal lands to manage an emerging invasive species before it becomes established.

Hurdles to Success

Sections 16 and 18 of the Lacey Act are the main tools the US Fish and Wildlife Service use to regulate the import and transit of non-native species into the US and between state lines. Unfortunately, interpretation of Section 18 of the Act was gutted as a result of the *USARK v. Jewell* decision, and the Service no longer has the authority to regulate the interstate transport of listed injurious species. While Section 16 of the Act provides the authority for the Service to enforce any state-based laws that restrict movement of invasive species, it does not provide the coordinated federal approach and understanding of what species have already entered the US and should not be in interstate commerce. As a result, the Service is left to deal with a patchwork approach to the transport of harmful species.

While the Service does still have the authority to regulate injurious species at points of entry into the United States under Section 18, there was a complete abdication of this responsibility by the previous administration. **Since 2017, the Service has proposed zero injurious species listings despite the ever-increasing threats facing not only native species but the nation's economy.**

This problem is exacerbated by an inefficient regulatory framework for communicating and coordinating on potential threats of invasive species. Inspection processes at points of entry are underfunded, cumbersome, and often logged on paper forms. There is little direct coordination between these points of entry and USFWS headquarters and regions on what species are being imported into the U.S. This breakdown in communication results in inefficiencies in attempts to conduct early detection and rapid response by on-the-ground managers. If natural resource managers are not aware of the species being imported, there is a reduced ability to prepare for and combat against potential introduction and spread.

On-the-ground management of invasive species has also suffered from a lack of financial support within the agency. **There are over 2.4 million acres infested with invasive plants in the National Wildlife Refuge System.** Unfortunately, current funding and capacity only allows treatment of 10% of those acres. **The Refuge System also has at minimum 1,749 invasive animal populations and currently only controls 5.3% of those** (US Fish and Wildlife Service - Invasive Species). This lack of management funding will have major implications in implementation of the recently-passed Dingell Conservation Act, which requires a noticeable and sustained reduction of invasive species across federal lands in the coming fiscal years.

Recommendations for Administrative Action:

1. **Adopt a standardized electronic process for logging live imports into the U.S.** The creation of a standardized electronic process will improve coordination between USFWS law enforcement, wildlife inspectors, on-the-ground wildlife managers, and partner agencies. Providing ease in access to live species import data by all parties will aid in the understanding of what is being imported, with the goal of stopping the import if determined necessary based on USFWS risk-assessment.
2. **Reinitiate the Lacey Act injurious species listing process.** Work through consideration of completed and needed species risk assessments in order to determine needed listings. Re-initiation of the listing process will require additional Congressional funding requests for increased staff capacity to allow for risk-assessments and any required rulemaking to efficiently get through all steps of the regulatory process.

Recommendations for Congressional Action:

1. **Pass legislation to provide the US Fish and Wildlife Service with the authority to once again regulate the interstate transport of listed injurious species.** This legislation should be complimented by an associated increase in financial support for enforcement. This can be accomplished through increased appropriations or the adoption of a live wildlife inspection fee at ports of entry. Legislation such as the previously introduced “Invasive Fish and Wildlife Prevention Act” would provide the Service with the authority needed as well as the associated financial support.
2. **Provide adequate funding for on-the-ground implementation of invasive species management projects on Refuge System lands,** including for the Refuge System’s operations and maintenance account and for the increased deployment and operation of invasive species strike teams. An increase in funding will allow for the Refuge System to be responsive to mandates laid out in the Dingell Conservation Act. Strike teams also work cooperatively with partner agencies once deployed, and additional resources will provide for increased coordination between USFWS and partner federal, state, and tribal agencies.

National Park Service

Background

The National Park Service (NPS) is committed to protecting parks, natural landmarks and other properties under its stewardship from invasive species. NPS separates its invasive species management into three broad program areas: terrestrial plants, terrestrial animals, and aquatic species.

NPS invasive species management activities are guided by Executive Order 13112 (1999) which established the National Invasive Species Council and mandated development of a national management plan, and Executive Order 13751 (2016) which amended E.O. 13112 and directs actions to continue coordinated federal prevention and control efforts related to invasive species.

The National Park Service (NPS) manages more than 83 million acres, and approximately 200 parks have identified exotic species as an important resource management threat (Aquatic Nuisance Species Task Force). NPS' management policies prohibit the introduction of exotic invasive species to a few situations and require the use of an Integrated Pest Management approach to remove or control species on NPS units. As part of its regulation of fishing in park units, NPS prohibits the use of most bait fish (live or dead), except in specially designated waters in order to reduce the likelihood of the introduction or spread of invasive species.

Since 2002, NPS has developed a network of Invasive Plant Management Teams across the U.S. to control invasive plants in 290 parks. The agency maintains a website that describes its efforts to control established species, prevent the establishment of new introductions, and provide educational materials for the public and park visitors (National Park Service - Biological Resources Division).

In 2016, NPS completed an Invasive Plant Program Strategic Plan that describes the overall goals, approaches and strategies for managing invasive plants on properties it manages (National Park Service). In 2017, a NPS science panel published a report "Invasive Animals in U.S. National Parks" that describes the dire conditions facing parks from invasive species and associated lacks of funding and coordination (Redford).

Hurdles to Success

The NPS 2016 Invasive Plant Program Strategic Plan is largely an aspirational document lacking regional and national coordination. Individual parks incorporate invasive species into their strategic plans and carry out on-the-ground management. These efforts would be more effective with improved national and regional coordination.

The 2017 NPS science panel report on invasive animals clearly states the challenges to success: "Our nation's national parks are managed to preserve unimpaired America's natural and cultural resources. This mission is under a deep and immediate threat as a consequence of invasive animal species, yet the National Park Service does not have a comprehensive understanding of the costs and impacts of invasive animals or a coordinated strategy for their management (Redford)."

There are 1,500 reported populations of invasive animals in national parks and very few are being managed. The depth of the problem and the impact is summed up in the report as "demonstrably obstructing national parks from fulfilling their mission." Without increased funding and well-

developed programs, the damage from invasive species to the natural and cultural resources in America's treasured national parks will continue and likely accelerate.

Recommendations for Administrative Action:

1. **Identify funding needs for invasive species management in national parks and establish a separate budget line in the Resource Stewardship subactivity account.** Invasive species management efforts are vastly underfunded. Clearly identifying these costs as part of the budget process will allow for better tracking of funding needs for invasive species management. Of the \$3.2 billion 2022 NPS budget, \$228,522,000 was allocated to Natural Resource Stewardship, without specific funding designated for invasive species management.
2. **Develop a strategic plan that unifies NPS management of invasive plants and animals and improves national and regional invasive species management coordination.** Currently there is a wide gap between national and regional offices and individual parks when addressing invasive species. Known problematic inconsistencies, such as variations in aquatic invasive species prevention programs related to watercraft and regulations on firewood allowed to be brought into campgrounds, could be addressed first. Additionally, building a database of case studies of invasive species prevention and management in parks and rolling these projects up to regional and national scale will help identifying gaps that can be solved with existing rules and statutes.
3. **Expand use of Memorandums of Agreement (MOAs) for on-the-ground management.** NPS should coordinate more proactively with Bureau of Land Management, Bureau of Indian Affairs, Fish and Wildlife Service, US Forest Service, and other federal agencies on cooperative federal lands management discussions. This should also occur with states, tribes, municipalities, and private organizations that manage lands adjacent to national parks.
4. **Reinstate Directors Order 100—Resource Stewardship for the 21st Century.** In response to the challenges that rapid climate change and other emerging threats pose to NPS lands and resources, Director's Order 100 (DO 100) established a new and forward-looking framework for stewardship decision making within the NPS. Although not focused specifically on invasive species, DO 100 provides a foundational framework for managing NPS natural and cultural resources in an era of continuous change, including those related to non-native invasive species. DO 100 was rescinded by the previous administration and should be immediately reinstated as NPS policy.

Recommendations for Congressional Action:

1. **Provide adequate funding of Invasive Species Management Teams to support on-the-ground invasive species management, prevention and restoration projects on national park lands.** An increase in funding specifically for invasive species management and prevention will allow the National Park Service to more adequately track and manage established invasive species, prevent newly introduced invasive species from becoming established, and restore park lands and waters post-treatment. Additional funding will also facilitate interagency cooperation, coordination and communication on invasive species prevention, management, and restoration.

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