REVIEW

Federal legal authorities: guidance for application to the early detection of and rapid response to invasive species

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Abstract Federal agency programs and associated actions are contingent on having the legal authority to act. There is no single authority established to direct the early detection of and rapid response to invasive species (EDRR). Rather, a patchwork of authorities unevenly addresses various aspects of the suite of EDRR measures. To support the development of national EDRR capacity, it is essential to delineate the federal legal statutes, regulations, and policies that enable or limit invasive species EDRR. Here we set forth general principles and a checklist of actions that agencies can refer to when they construct a more comprehensive EDRR legal and policy framework for addressing invasive species. This guidance is intended to complement the review and analysis of federal authorities contained elsewhere in this issue (Burgos-Rodríguez and Burgiel in Biol Invasions. <https://doi.org/10.1007/s10530-019-02148-w>, 2019, this issue).

Keywords Early detection and rapid response (EDRR) · Invasive species · Law · Legal authority · Policy · Regulation · Statute

Introduction

Federal agencies require legal authority to address invasive species, including in the context of early detection and rapid response (EDRR) (Burgos-Rodríguez and Burgiel 2019, this issue; Reaser et al. 2019a, this issue). Recognizing this, Executive Order (EO) 13112 (Executive Office of the President 1999), as amended by EO 13751 (Executive Office of the President 2016; US Department of the Interior 2016), calls for:

- EDRR to eradicate or control populations of invasive species in a manner that is cost-effective and minimizes human, animal, plant, and environmental health risks.
- An assessment of policy and regulatory frameworks pertaining to the prevention eradication, and control of invasive species, and to address regulatory gaps, inconsistencies, and conflicts.
- Efforts to promote education and action on invasive species, their pathways, and ways to address them, with an emphasis on prevention and EDRR.

With regard to the implementation of this order, the National Invasive Species Council (NISC) is tasked with ensuring that the federal agency and interagency activities concerning invasive species are coordinated, complementary, cost-efficient, and effective. Clarification of agency authorities and expansion of agency

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capabilities to more effectively undertake EDRR actions individually and with other partners are critical for advancing efforts to address invasive species and their impacts.

Complementing these orders, the *2016–2018 NISC Management Plan* calls for an assessment of federal legal authorities to inform the development of a national EDRR program for invasive species (NISC 2016). The resulting assessment (Burgos-Rodríguez and Burgiel 2019, this issue) reveals that no single federal authority encompasses EDRR for all invasive species. In many cases, existing authorities predate the broader systemic concept of EDRR described by Reaser et al. (2019a, this issue). Instead, a patchwork of statutes, regulations, and policies unevenly addresses various aspects of the suite of actions involved in EDRR with more comprehensive coverage in some areas (e.g., plants, livestock) than others (e.g., non-native wildlife). Although the creation of comprehensive invasive species EDRR legislation might be preferable, federal agencies have some flexibility to carry out and establish EDRR-related actions and programs by interpreting, expanding, and using current statutes, regulations, and policies. This document provides guidance on how to best leverage those authorities with a view toward developing a national EDRR program. This guidance is intended to complement the review and analysis of federal authorities by Burgos-Rodríguez and Burgiel (2019, this issue).

In drafting this guidance, it is important to recognize the following:

- Federal agency actions and programs require legal authorities to conduct invasive species EDRR.
- The source of such delegated powers can be explicit or can stem from other authorities as interpreted by courts or at the discretion of the agencies or the President.
- Federal agencies already use multiple authorities to carry out EDRR efforts and programs, but these are often limited to specific species, taxa, pathways, industries, and/or geographic areas.
- Invasive species do not respect jurisdictional boundaries. Hence, effective EDRR efforts and programs require the flexibility to coordinate across federal, state, and local governments, with non-governmental entities and private land-owners, as well as with other countries.
- International law and obligations need to be considered with regard to their relationship with domestic law and authorities (e.g., international trade, transport, and environmental law).
- EO 13112, as amended by EO 13751, authorizes federal agencies to use relevant authorities for invasive species EDRR. For the purpose of this guidance, final interpretation of an agency's authority rests with that agency.

General principles

The main categories of authorities applicable to improving legal and policy frameworks include those derived from explicit invasive species authorities, emergency authorities, more general authorities (e.g., related to mission implementation), and constraining authorities and legal requirements that apply to EDRR activities (Burgos-Rodríguez and Burgiel 2019, this issue). Given the case-by-case nature and specificity of authorities across jurisdictions, this guidance note does not detail how EDRR responsibilities should be arrayed across those options. Additionally, since various aspects of EDRR authorities already derive from other legislation, the guidance provided here does not provide model legislation.

Our assessment indicates that a one-size-fits-all solution to federal EDRR authority is impractical and that existing authorities, for the most part, can be employed to determine the necessary content, form, and scope of EDRR capacity. Agencies also need to consider the various logistical, economic, and socio-political implications of legal measures as they look to underpin EDRR-related authorities. Relevant principles include the following:

- *Adaptability* Establish legal frameworks that can work across changing scenarios.
- *Cooperation* Use cooperation mechanisms when possible to create, strengthen, increase scope, and/or address gaps and inconsistencies related to invasive species EDRR actions or programs.
- *Harmonization* Consider approaches and priorities used in neighboring jurisdictions to enhance mutually supportive cooperative efforts.
- *Inclusiveness* Avoid species-specific regulations, actions, and programs in favor of those that can address a broader range of species.

- *Interdisciplinarity* Establish a legal framework utilizing scientific, technical, social, and legal expertise.
- *Proactiveness* Delineate legal authority and establish legal frameworks before a situation arises requiring EDRR efforts.
- *Synergies* Utilize current authorities and programs to enable agency activities across the EDRR spectrum.

Action checklist

These principles need to be coupled with priority actions. We encourage relevant federal agencies to refer to the following checklist:

Legal authority

Assess Agencies' Authorities

Federal agencies require legal authority to carry out EDRR actions or programs. Agencies should assess existing authorities that could enable or limit such actions and programs including

- Explicit invasive species authorities.
- Conservation, preservation, restoration, and maintenance authorities that could be applied to invasive species under an agency's discretion.
- Emergency, detection, and response authorities that could be applied to invasive species under specific circumstances or agency's discretion.
- Supporting authorities that enable invasive species EDRR, including research and innovation, funding, staffing, enforcement, resource acquisition, and cooperation.

These authorities should be analyzed in the context of the systematic approach to EDRR. Following the review of federal authorities addressing invasive species EDRR by Burgos-Rodríguez and Burgiel (2019, this issue), this analysis addresses authorities and policies in four major categories: preparedness, detection, risk screening, and response, which generally correspond to the EDRR system outlined by Reaser et al. (2019a, this issue). Agencies can build on their assessments to include agency policies, guidance, administrative adjudications, and other interpretations that supplement existing laws and regulations.

Ideally, this effort will identify gaps, inconsistencies, and authorities that require clarification.

Agencies should consider the types of authorities listed in Tables 1, 2, 3, 4 to support their EDRR activities, recognizing the need to fine-tune elements and that not all may be relevant to their mission and obligations. These categories generally include preparedness (Table 1), detection (Table 2), risk screening (Table 3), and response (Table 4). Agencies may also need to consider authorities to take any additional actions not identified below and those deemed necessary to carry out acts or programs in line with agency's mission and responsibilities.

Clarify terms

Statutes, regulations, and policies can use technical language that is not clearly defined. Agencies should thereby examine existing flexibilities built into the law or ambiguities where terms are not explicitly defined while also striving to standardize terminology as appropriate across relevant agencies and departments. For example, agencies could:

- Develop categorical exclusions and other means to expedite NEPA and other environmental compliance measures that might hamper response.
- Interpret authorities and directives for prevention and control of invasive species and how they relate to EDRR.
- Interpret conservation and maintenance authorities.
- Define what constitutes an emergency in the invasive species context.

Clarify discretion

Recognizing that there are significant gray areas in the application of available authorities, agencies can avail themselves of their legal discretion to act where consistent with their mission and authorities. Agencies currently use their discretion to address certain aspects of invasive species. This discretion could stem from invasive species or non-explicit invasive species authorities (e.g., conservation, preservation, restoration, maintenance, land management). Agency solicitors should evaluate, interpret, and provide opinions on the agency's discretionary power to address invasive species EDRR under these authorities.

Table 1 Preparedness

Having the knowledge, plans, financial resources, tools, trained personnel, delineated responsibilities, programmatic prioritization, and coordination structures in place to streamline activities at each stage in the EDRR process
Appropriate funding, authorize expenditures, and/or collect user fees from services, fines, and penalties. This could include the establishment and resourcing of rapid response funding mechanisms
Establish and implement federal and intergovernmental response plans, programs, pilot projects, and regional efforts. This can include construction of facilities and other physical means to support EDRR activities
Collect and submit data to relevant information and record keeping systems (Reaser et al. 2019b, this issue)
Generate watch lists for priority invasive species and geographies (Reaser et al. 2019c, this issue)
Develop and enforce regulations, including limitations or prohibitions on importation and movement of organisms and their means of conveyance
Review obligations under environmental compliance authorities (e.g., National Environmental Policy Act [NEPA], Federal Insecticide, Fungicide, and Rodenticide Act [FIFRA]) and identify means to facilitate EDRR activities (e.g., categorical exclusions for rapid response activities)
Develop best practice guidance and voluntary standards to support relevant aspects of EDRR
Provide financial and technical assistance for capacity building, training, research, innovation, and outreach and education
Authorize cooperation and delineation of jurisdictions and responsibilities among federal and nonfederal partners. This should include the ability to enter into cooperation mechanisms with subnational and international governments, industry, academia, and others to conduct joint activities, work across jurisdictional boundaries, and share resources

Table 2 Detection

A process of surveying for, reporting, and verifying the presence of a non-native species before the population becomes established or spreads so widely that eradication is no longer feasible
Carry out and provide technical and financial assistance for monitoring and inspection activities, including surveys and assessments (e.g., surveillance, population inventories, sampling), automated targeting systems, record keeping, information gathering and analysis to predict occurrence of organisms, research and development of detection tools and technologies (e.g., eDNA, canine teams), and demonstration programs (Martinez et al. 2019, this issue; Morissette et al. 2019, this issue)
Enhance and expand detection capacity at the federal and subnational levels, including through the development and enhancement of monitoring programs and early warning systems for advance notice of new introductions
Enter into cooperation mechanisms for monitoring, detection, and surveillance
Establish and coordinate with a network of laboratories for identification and assessment of detected organisms (Lyal and Miller 2019, this issue)
Establish and use funds for monitoring and detection equipment, resources, and related efforts
Establish, cooperate, and maintain inspection stations and other relevant facilities

Consideration should be given to whether current actions and programs can be used synergistically for invasive species EDRR (e.g., monitoring, detection, surveys) as well as the use of emergency authorities for invasive EDRR.

Delineate the legal framework

Building on the assessment and clarifications, agencies should delineate the legal framework for invasive species EDRR. This could be done using guidance, memoranda, and protocols. Drafting of such

documents should detail when, how, where, and what type of authority exists, as well as instances where the current legal framework cannot answer those questions.

Create and implement programs

Using their delineated legal frameworks for invasive species EDRR, federal agencies should create and implement policies and programs as appropriate.

Table 3 Risk screening

A rapid characterization of the types and degree of risks posed by a population of non-native species in a particular spatio-temporal context
Implement and provide technical and financial assistance for systematic information gathering to support assessments, including research on innovative risk screening techniques (Reaser et al. 2019b, this issue)
Conduct science-based assessments, including species-specific risk screening, risk analyses, and/or impact assessments (Meyers et al. 2019, this issue)
Establish and implement threat identification programs, including comprehensive horizon scanning activities
Develop lists based on risk screening and risk analysis efforts to support regulatory and non-regulatory means to reduce risks of introduction
Provide authority to take any other actions deemed necessary to carry out acts or programs in line with the agency's mission and responsibilities

Table 4 Response

A process that is employed to eradicate or control the founding population of a non-native species from a specific location
Develop, administer, and implement response plans (e.g., invasive species or geography specific) and related eradication and control programs
Declare emergencies and establish quarantines triggering resource and funding assistance, streamlining of certain environmental and administrative compliance, conduct of response actions, and enforcement of special prohibitions and restrictions
Establish and manage responses employing the National Incident Management System and Incident Command System frameworks in conjunction with federal and non-federal partners (Burgiel 2019, this issue)
Establish and deploy rapid response teams
Create and operate response coordination centers
Reassign and use employees, resources, funds, and equipment during emergencies
Implement and provide technical and financial assistance for rapid response, including but not limited to control, eradication, elimination, destruction, treatment, fumigation, disinfection, disposal, reduction of population, debris removal, and other remedial actions, as well as for research and innovation for eradication and control
Support emergency restoration, including the establishment and use of restoration funds
Enforce laws and regulations, including holding, seizing, or destroying contaminated or infested materials
Enter into cooperation mechanisms for enforcement, eradication, control, rapid response, and fire suppression
Authorize non-federal entities to enter and perform eradication and control programs on federal land
Clarify the authority to work on private and other non-federal lands

Environmental compliance

Assess environmental compliance waivers and protocols

Laws and regulations requiring compliance with various environmental, historical preservation, and public health regulations are of particular importance (e.g., NEPA, Endangered Species Act, FIFRA, National Historic Preservation Act, Clean Water Act). While not typically viewed as invasive species regulations, these can have a major impact on the conduct of invasive species control and management,

particularly in the context of rapid response. Response efforts can be hindered by administrative steps that may be overly burdensome in emergency situations. Some of the disaster and emergency statutes do include exceptions for such situations. However, those exemptions are not uniformly implemented through legislation that specifically relates to invasive species. Other agencies already have protocols and waivers for certain non-emergency environmental compliance laws and regulations. Agencies should assess their current invasive species and emergency environmental compliance waivers and protocols.

Streamline environmental compliance

Agencies should consider how current protocols and waivers could be used for invasive species EDRR and how they should be amended, expanded, reinterpreted, or created to streamline compliance, as permitted by law. On the one hand, agencies should aim to amend policies or create waivers to expedite EDRR efforts. On the other hand, agencies should also aim to increase their efficiency in compliance with the requirements of environmental laws and regulations.

Mechanisms of cooperation

Assess cooperative mechanism authority

EDRR generally involves a large suite of actors, not just federal agencies working in isolation. Agencies have a broad degree of flexibility in how they can work with subnational governments and other non-governmental entities in support of activities that address potential impacts on federal lands and, in some cases, non-federal lands as well. Cooperation mechanisms can be used to create or carry out EDRR programs and actions. Such mechanisms could be used to resolve jurisdictional issues, delineate responsibilities, establish protocols and standards, and address resource and funding allocation. In addition, such agreements could be used to address gaps in federal authority that are covered under the authority of non-federal partners (e.g., state agencies). Agencies should assess what cooperation mechanisms could best be used for invasive species EDRR in view of their specific mission and roles. Cooperation mechanisms may include

- Compacts
- Enforcement agreements
- Good neighbor authority
- Interagency agreements
- International agreements
- Memoranda of understanding and agreement
- Technical and financial assistance

Establish mechanisms of cooperation

Building on the assessment, agencies should establish cooperation mechanisms with federal and non-federal partners beforehand. Cooperation mechanism

templates and protocols should be readily available to address unforeseeable circumstances not covered by existing cooperation mechanisms. Cooperation mechanisms could be used, as permitted by law, to delineate responsibilities, roles, and jurisdiction between federal and nonfederal partners; carry out EDRR actions and programs with federal and nonfederal partners both on federal and nonfederal land; allow states to create compacts for invasive species EDRR and management (e.g., Tahoe Regional Planning Agency); share enforcement responsibilities, enforce subnational laws and regulations, or allow subnational entities to enforce federal laws and regulations; create invasive species partnerships (e.g., Cooperative Invasive Species Management Areas and Cooperative Weed Management Areas); share resources with federal and non-federal partners; and establish volunteer programs and standards.

Legal clearinghouse

Create a legal authorities clearinghouse

Building on the legal framework, environmental compliance, and cooperation mechanisms assessments, agencies should contribute to a centralized clearinghouse that contains policy- and law-related guidance, memoranda, and protocols; environmental compliance waivers, exemptions, and assessments (e.g., categorical exclusions, permits, environmental assessments, environmental impact statements, programmatic environmental impact statements); and mechanisms of cooperation. Such a clearinghouse would provide a centralized repository, reduce redundancy, and foster rapid response by facilitating access to legal documentation on invasive species EDRR.

Conclusion

The invasive species issue is one of urgency and importance at international, national, and subnational scales. Collaboration and coordination among the federal government, subnational governments, academia, the private sector, and stakeholders are needed to minimize the impact of invasive species on the environment and economy, as well as human, animal, and plant health. Since federal agencies need legal authority to carry out programs and actions, it is

imperative that they are able to consistently interpret and delineate enabling and constraining authorities relevant to invasive species EDRR. The guidance offered here is not intended to be comprehensive but does provide a framework for exploring the options, jurisdictional arrangements, and limits of applicability (e.g., gaps and inconsistencies) that need to be resolved for an effective national EDRR system.

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