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Status and Trends in State Invasive Species Policy: 2002-2009



May 2010

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Environmental Law Institute
May 2010



Acknowledgements

This publication is a project of the Environmental Law Institute (ELI). Funding was provided by the Union of Concerned Scientists. ELI staff contributing to the project included Read D. Porter, Susan Graham, and Akiva Fishman. ELI is responsible for the views and research contained in this report, including any omissions or inaccuracies that may appear. The information in this report was obtained through interviews with agency personnel and independent research on state statutes and regulations conducted from May to December, 2009. Comments or corrections are welcome and should be directed to the authors. The conclusions are solely those of ELI.

We particularly thank Dr. Phyllis Windle and Katherine Lininger of the Union of Concerned Scientists for making available their support, expertise, and patience. In addition, we gratefully acknowledge the 23 reviewers who generously provided invaluable feedback on the draft of this report.

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Status and Trends in State Invasive Species Policy: 2002-2009

I. Executive Summary

Invasive species are non-native species that cause harm to the environment, economy, or public health.¹ These species occupy diverse habitats, ranging from coastlines to deserts, and they span the entire web of life on Earth, from viruses to plants and animals. Invasive species enter and move within the United States through a variety of pathways, including geographic routes and corridors, economic activities, and transportation vectors. For example, Burmese pythons were intentionally imported into the United States in the pet trade, while emerald ash borers arrived accidentally as hitchhikers in wooden packing materials and are expanding due to the transportation of firewood. The diverse biological and anthropogenic factors influencing invasion can at times make invasive species management seem intractable. However, global efforts to understand invasion biology and invasion pathways are beginning to enable development of effective, prospective invasive species solutions.

States bear primary responsibility for on-the-ground prevention, control, and management activities related to biological invasion. States often are first to detect and react to emerging threats and pathways. In most cases, they continue to manage responses to invasion even after a species is detected in multiple states. As a result, each state government has evolved a unique, complex web of authorities to enable it to address different

types of invasive species and different invasion pathways. The status of and trends in state invasive species policy thus provide important insights into the effectiveness of invasive species management currently and into potential future needs for developments in invasive species policy. However, it is important to recognize that few states address all pathways and, because invasive species reproduce, spread, and are often moved by people, each state is hindered or helped by the quality of neighboring states' laws. As a result, state and local efforts depend on effective interstate collaboration and on federal help

“While states are the primary locus of invasive species management, they cannot act alone. Federal action is needed to support and provide a foundation and mandate for state invasive species policy.”

In 2002, the Environmental Law Institute (ELI) published a seminal report on state invasive species policy. Entitled *Halting the Invasion: State Tools for Invasive Species Management*, the report was based on a 50-state survey of state invasive species laws and regulations that states use to regulate wildlife, aquatic species, plants, plant pests and diseases, and insects. This report builds on and updates the earlier report in order to: identify how state laws and policies have changed since 2002; determine whether there are any trends in state invasive species law development; and identify needs for future policy development that are shared across states. We have identified the following recent key developments in state invasive species policy:



- **Expanded use of invasive species councils and management plans:** Since 2002, many states have created interagency invasive species councils. These councils take several forms, including those focused on aquatic species and more general, comprehensive councils. The creation of these councils has been associated with increased interagency invasive species management planning.
- **Legal authorities develop primarily in response to crisis:** States have amended many laws and regulations in the past decade, but few paradigm-shifting amendments have occurred without crisis. Recent notable invasive species crises have included expansion of quagga mussel range into the West, expansion of chronic wasting disease and other animal diseases, detection and expansion of emerald ash borer and other forest and agriculture pests, detection of new shipborne species such as Chinese mitten crab, and proposals for planting known invasive species as biofuel crops. Absent such well-publicized, “charismatic” invasions, most legal and regulatory changes have been marginal and limited.
- **Fragmented state listing and regulation authority:** Despite amendments to state laws and regulations, states continue to apply different approaches to listing and use limitations for invasive species. Several states have created white lists for wildlife since 2002. However, the majority of study states continue to rely on blacklists to prohibit import, possession, sale, purchase, transport, release, or propagation of non-native species. These blacklists may be updated rarely and may not effectively restrict all uses of non-native species that pose a threat to the economy or the environment.
- **Regulation of invasion pathways:** One major change in the past decade has been an increasing focus on prevention by closing off invasion pathways. While many states have begun to shift their regulatory focus to a pathway-based



COGONGRASS (*IMPERATA CYLINDRICAL*) HAS SPREAD THROUGHOUT THE SOUTHEASTERN U.S. SINCE IT WAS INTRODUCED IN THE EARLY 1900S AND CONTINUES TO BE SOLD IN SOME NURSERIES.

approach, this process has been slow and will continue for many years.

Although significant changes have occurred in state invasive species policy in the past decade, further developments are necessary to avoid future harm. Continued development of effective and proactive invasive species laws and regulations requires the following:

- **Prospective legal development is needed to prevent invasions across all taxa and pathways:** The positive developments in state invasive species policy notwithstanding, further work is needed specifically to prevent future invasions. Prevention of invasion is the most effective and cost-efficient approach to



THE LIONFISH (*PTEROIS VOLITANS*) IS NATIVE TO TROPICAL WATERS IN THE PACIFIC BUT WAS INTRODUCED TO THE ATLANTIC IN 1992 VIA AQUARIUM RELEASES. A VORACIOUS PREDATOR, THE LIONFISH IS NOW ESTABLISHED FROM NORTH CAROLINA TO FLORIDA AND HAS BEEN SEEN AS FAR NORTH AS NEW YORK.

addressing invasive species, yet governments have not regulated some known pathways or addressed weaknesses such as incomplete listing authorities. Attention to long-neglected statutes and regulations is needed to effectively prevent future harm.

- **Federal action is needed to support states:** While states are the primary locus of invasive species management, they cannot act alone. Federal action is needed to support and provide a foundation and mandate for state invasive species policy. In particular, the federal government bears primary authority for governing importation and trade. In addition, federal environmental laws, including those for invasive species, play an important role in

ensuring that all states meet certain minimum standards. Strong federal authority is needed to support state policymakers in the invasive species context.

- **Increased funding is needed to assist state invasive species planning and implementation:** Funding and staffing limitations are a major cause of gaps in existing state laws, regulations, and programs. States would benefit from devoting additional targeted resources to agencies for preventing introduction of invasive species. Expansion of federal grant programs for invasive species management also would aid states in carrying out their interagency management efforts.



II. Developments in State Invasive Species Policy: 2002-2009

This study is based on secondary research and interviews with key personnel in eleven representative states. States chosen represent diverse geographical areas and their known invasive species threats differ in type and severity. The study states include

California, Colorado, Florida, Louisiana, Maine, Maryland, New Jersey, New Mexico, Oregon, Rhode Island, and Tennessee. This study revealed four main themes in the development of state invasive species policies. These include: (a) an expansion in the number and sophistication of interagency invasive species councils and other interagency management planning initiatives at the state level; (b) passage

of new legal authorities primarily in response to crisis rather than as a prospective matter; (c) continued dependence on incomplete lists as the primary regulatory tool to prevent invasive species introduction; and (d) a burgeoning shift towards pathway-based management to prevent introduction of new invasive species.

A. *Expanded Use of Invasive Species Councils and Management Plans*

Since 2002, interagency councils and management plans have become the norm, rather than the exception, in invasive species management. In 2002, 36 states had established some form of interagency coordinating body, and of these, only 12 had created “comprehensive” invasive species councils – i.e., those responsible for all invasive species taxa rather than solely aquatic species, plants, or other species or habitat groups. Among the study states, Florida, Maryland, Oregon, and Rhode Island had established a comprehensive

council by 2002. In the ensuing years, the number of comprehensive councils has expanded. California and New Jersey now have established comprehensive councils, and others have established comprehensive management plans (Table 1).

Moreover, without exception, every state in the study also has established one or more councils or interagency coordinating bodies to address specific issues or taxa. Examples include aquatic invasive species councils (e.g. New Mexico Aquatic Invasive Species Advisory Council), weeds councils (e.g. Colorado Noxious Weed Advisory Committee), and wildlife councils (e.g. Florida Invasive Animal Task Team²).

“According to both economic and environmental analysis, the best way to address harm from invasive species is to prevent their introduction. In turn, the most effective way to prevent introductions is to close of the pathways through which non-native species enter the U.S.”

The expansion of invasive species councils and plans inevitably will result in increased attention to and analysis of council effectiveness. As in 2002, the structure and function of state invasive species councils vary, and their effectiveness may be limited in some cases. Legal authorization, permanent staffing, and funding may be the primary factors affecting council effectiveness. Neither these nor other factors have been studied adequately to date.³ Nonetheless, it is reasonable to assume that legal authority will play an important role in council permanence and appropriations; that hiring permanent staff increases the likelihood that councils successfully achieve the goals for which they were created; and that stable and sufficient funding is needed to enable councils to operate successfully without decreasing the effectiveness of other departmental programs. As a result, the absence of legal authority and a concomitant lack of funding or staff may present a significant hurdle to council effectiveness.

Table 1. Status of state invasive species councils and plans, 2009

State	Management Plan? ¹	Council Type	Authorization?
California	Yes	Comprehensive	None
Colorado	In development	Weed / In Development	Legislative
Florida	Yes	Comprehensive/Animal	None
Louisiana	Yes	Aquatic	Legislation
Maine	Yes	Aquatic	Legislation
Maryland	No	Comprehensive	None
New Jersey	Yes	Comprehensive	Exec. Order
New Mexico	Yes	Aquatic/Weeds	Exec. Order/None
Oregon	Yes	Comprehensive	Legislation
Rhode Island	Yes	Comprehensive/Aquatic	None
Tennessee	Yes	Aquatic	None

¹ Includes aquatic invasive species plans and comprehensive plans

In practice, few councils are based on explicit legal authority, and few are permanently funded through direct appropriation (Table 1).⁴ In this study, one state – New Jersey – created an inter-agency council by executive order. Oregon alone authorized its comprehensive council by statute, although a number of states have authorized tax-specific councils through legislation.⁵ The remaining councils are ad hoc groups created by agencies (generally at the behest of the governor). Even ad hoc councils differ tremendously, however. For example, Maryland’s council is not authorized by statute or other legal authority, and it operates on a volunteer basis with no permanent staff or funding. On the other hand, California’s invasive species council was created by six agency secretaries with the governor’s assent and is supported by a stakeholder advisory committee.⁶ More study is needed to determine whether such differences result in different impacts on invasive species prevention, control, or management. In most states, the invasive species council’s initial responsibility is to create an invasive species management plan, either for all species or for the subset of species for which the council bears responsibility.⁷ That is, aquatic invasive

species councils create aquatic invasive species plans, while comprehensive councils create comprehensive plans. Predictably, the expansion in the number of councils has been accompanied by an increase in invasive species management planning initiatives. These management plans are likely to yield dividends in the future by, among other things, identifying key pathways, clarifying responsibilities among agencies, identifying and addressing gaps in existing state legal authorities, and enhancing interagency cooperation and collaboration. However, little study has occurred on the outcomes of management planning in the invasive species context, and their impact remains uncertain to date.

Federal policy has played a defining role in the creation of new councils and plans. Under the National Aquatic Nuisance Prevention and Control Act (NANPCA), federal funding is available to states to implement aquatic invasive species plans. A majority of states have created federally-approved plans to qualify for this funding, and many have gone beyond the aquatic species context to create plans that address terrestrial species as well.⁸ In this respect, federal legislation



has provided effective incentives for states to create and carry out new initiatives. Some states' councils may also have been created due to a lack of federal leadership in other areas, driving them to engage increasingly with similar bodies in neighboring states.⁹

Consideration of the effects of management planning on invasive species policy remains a fruitful topic of research, however, insofar as policy development has increasingly focused on prevention of invasive species introductions and on a pathway-based approach rather than one based on habitat or on individual species. As more and more states have qualified for federal funding under NANPCA, the amount of funding per state has decreased. In addition, most states have written plans, so the statute no longer provides incentives for them to continue policy development. Given the diminishing financial returns to states and diminishing incentives for extension of invasive species policy, the time is ripe for reconsideration of NANPCA's funding mechanism. At a minimum, additional funding is needed to provide meaningful support for plan implementation. However, more substantive amendment to NANPCA could provide second-generation, targeted incentives for states that meet specific performance goals or that participate in interstate management.



DREISSENID MUSSELS, LIKE THE ZEBRA MUSSELS (*DREISSENA POLYMORPHA*), CAUSE MILLIONS OF DOLLARS OF DAMAGE EACH YEAR AND HAVE PROMPTED NEW STATE LAWS REQUIRING CLEANING OF RECREATIONAL VESSELS.

B. Legal Authorities Develop Primarily in Response to Crisis

In 1993, the Office of Technology Assessment (OTA) noted that invasive species issues “often receive governmental attention on a piecemeal basis after major infestations Attention wanes between harmful episodes.”¹⁰ This statement holds true for state invasive species laws in the 21st century. Of the many new invasive species laws and regulations that have been created since publication of *Halting the Invasion* in 2002, the vast majority of the significant amendments – particularly at the legislative level – were created in response to the discovery of a well-publicized, “charismatic” invader. As noted in the OTA report, crisis-provoked amendments generally come too late to prevent the foreseeable harm caused by the target species. As a result, the success of these amendments depends on their effectiveness at preventing or more effectively responding to future invasions.

By definition, species-specific laws and regulations created in response to crisis do not consider other species that pose a potential future harm, even those that are taxonomically similar or that share invasion pathways. While species-specific

legal authorities are important, they can be characterized as a missed opportunity unless they are developed in tandem with legal authorities that offer more general, prospective regulatory tools to prevent future introductions. Despite the importance of general regulations, the vast majority of amendments are technical in nature and wholesale amendments of invasive species authorities are rare, even in response to crisis. Nonetheless, general regulations have occurred in some states and with respect to some categories of invasive species.

Changes to wildlife regulations have been sporadic and inconsistent on a state-to-state basis. Although a few states have amended their wildlife authorities substantially, most amendments related to wildlife have occurred on the margins, without altering the fundamental requirements for wildlife importation, possession, or use. New non-native wildlife regulations have been adopted in some states, however, including Maryland and Florida, where invasive wildlife have been problematic and charismatic (e.g. nutria, Burmese python). In addition, several states, including Tennessee, Rhode Island, Louisiana, and Florida, have significantly amended their animal disease provisions to address emerging threats such as chronic wasting disease.

Aquatic invasive species amendments have been substantial and have taken two forms. Several states have enacted new aquatic invasive species (AIS) laws in response to the detection of Dreissenid (quagga and zebra) mussels or Eurasian water-milfoil. These laws generally target recreational vessels by authorizing inspection and disinfection of those vessels and prohibiting launching of contaminated vessels. Second, California and Oregon (among the study states) have acted to prevent the introduction of invasive species from ships, whether via ballast water or hull fouling.¹¹ Recent developments suggest that Federal authorities have been monitoring these state amendments and likely will adopt many of their provisions in coming years.

In general, legal developments for plants have been limited to actions in response to specific threats, and noxious weed and noxious weed seed laws remain the primary mechanism for invasive plant prevention. Similarly, nursery authorities have been little-changed in recent years. However, there have been some incremental changes in important areas. Several states have updated and expanded their noxious weed lists, and several also have joined the Interstate Pest Control Compact. Five states, including Rhode Island, Louisiana, Maine, Maryland, and Florida,

have expanded their laws and regulations specifically to address aquatic plants. This development has been associated with increased attention to aquatic species in general.

One truly novel legal authority has occurred in the plant context; Florida has adopted a novel permit requirement for planting non-native crops for fuel production. As for the other examples cited here, this new law responded to a proposal to cultivate for fuel production giant reed (*Arundo donax*), a known invader and listed noxious weed in some states. To date, no other study state has adopted any legal authority governing the use of non-native species in biofuel production, although non-native species biofuel development projects have been proposed in at least one other study state. While the lack of attention to biofuel regulation may be troubling, it is important to recognize that some states may have determined that their general regulatory authority is sufficient to address biofuel production.

Finally, every state has altered its regulations governing plant pests and diseases, but these changes primarily have been targeted at specific issues rather than through alteration of general authorities such as import inspection or survey authority. As a result, states appear committed to continuing to take an approach based on rapid response followed by pest-specific regulations in cases where rapid response fails to successfully eradicate a pest.

In summary, several study states have altered substantially their provisions relating to invasive aquatic species, and some states have also amended their general provisions for wildlife, plants, and plant pests and diseases. Moreover, *all* states have amended their legal authorities to better address specific new and emerging species, including threats to public health or safety (e.g. mosquito-borne illness, venomous snakes), threats to agriculture or industry (e.g. Asian long-horned beetle) or threats to the environment (e.g. sudden oak death).¹² It is important to recognize





that, although species-specific legal development can be considered a missed opportunity to develop prospective general regulation, species-specific legal authority is vital to successful control and management of emerging threats. States should be commended for successfully developing and implementing timely authority to address these threats.

C. *Fragmented state listing and regulation authority for wildlife and plants*

For more than a century, legislators and agencies have used lists to separate species that are subject to regulation and those that can be possessed and used freely. Today, every state uses lists to restrict uses of particular species including, but not limited to, importation, possession, propagation, transportation, release, sale, and purchase.¹³ Thus, the content of a list in many cases is fundamental to the reach and effectiveness of a regulatory system.

States use two types of listing systems: black lists and white lists. Under a black list regulation, restrictions apply *only* to those species listed by the legislature or the agency. Conversely, restrictions apply to *all* non-native species except listed species when a white list is used. These listing paradigms can also be combined into a tiered system that include, for example, a default rule against possession except for “safe” listed species, but with enhanced penalties for certain listed high-risk species. Tiered systems thus allow states to tailor the restrictions on use of species to the risk they prevent.

While lists are key components in invasive species regulation, experience shows that they are not always effective at preventing harm from invasive species. Neither lists nor prohibitions are consistent from state to state: states have implemented different suites of restrictions, activities that are

prohibited or require a permit in one state may be unregulated elsewhere. In addition, the content of lists differs substantially from state to state, making cooperative enforcement and management difficult. Despite efforts to harmonize the treatment of certain taxa by groups like the National Plant Board, these differences tend to persist; agencies generally do not update lists regularly due to factors including, but not limited to, the costs of regulation, political pressure, and industry opposition. Lists may also be difficult to enforce effectively in practice, particularly as the internet-based trade in exotic species has developed. As a result, the efficacy of black listing as a regulatory tool is fragmented and incomplete, and its effectiveness is uncertain.

Ineffective listing regimes may be particularly problematic when they allow new invasive species introductions through intentional economic activity, such as via the pet, food, or nursery trades.



WHEN THEY ARE RELEASED FROM CAPTIVITY OR ESCAPE, SPECIES LIKE THIS AFRICAN ROCK PYTHON (*PYTHON SEBAE*) -- A RECENT DISCOVERY IN FLORIDA -- MAY BECOME ESTABLISHED IN THE WILD.

Restrictions on importation and sale may be particularly effective at reducing the risk of new species introduction through these pathways, but such restrictions apply to few species under existing listing regimes. Prospective risk screening of wildlife and plant species proposed for import is one potential solution,¹⁴ but neither any state nor

Table 2. Illustration of tiered wildlife restriction system (based on Florida I

Tier	Applies to:	Permit Needed for:
Exempt	Listed species	No permit needed
General	All unlisted species	Transport into state, introduction, possession if “reasonable expectation of liberation”
Conditional	Listed species	Possession
Prohibited	Listed species	Import, sale, possession, or transport

the federal government requires such screening at this time. However, an increasing number of states have strengthened their listing authorities tied to prohibitions on importation, sale, and other uses.

Some states studied for this report have moved towards proactive, tiered regulatory systems with respect to wildlife regulation, and to a lesser extent, plant importation. In surveying all 50 states, *Halting the Invasion* described no active tiered systems combining white and black listing paradigms. Today, Florida uses such a system (Table 2), and other states have extensively supplemented or altered their wildlife listing paradigms to tailor restrictions to the risks posed by particular users. For example, Colorado now prohibits any possession or other uses of listed aquatic wildlife species, and also prohibits releasing any live aquatic wildlife without a license for a particular purpose. Nonetheless, although restrictions on animals are generally stronger than for other taxa, they continue to differ from state to state (Table 3). In addition, agencies may struggle to implement and enforce even sophisticated systems.

Development of listing and pre-screening requirements for plants has not developed equally with wildlife listing systems in most states. Many states continue to lack noxious weed laws and/or list few species of noxious weeds or noxious weed seeds, and no state has established a comprehensive prohibition or white list for all plants (Table 4). However, several states now prohibit introduction of any or specific species of non-native aquatic

plants into state waters (Table 5). These laws were often introduced as an element of heightened efforts to prevent and manage aquatic invasive species generally. As a consequence, restrictions on aquatic plants are generally broader than those that apply to terrestrial plant species.

Among the study states, Florida has created legal language requiring its noxious weed listing program to use information from scientific experts to determine whether a plant will negatively impact native communities in the future.¹⁵ Revised listing and permitting provisions can be characterized as a first step toward a more thorough pre-screening paradigm for all taxa. However, the criteria for listing and permitting remain limited in most states, potentially undermining the effectiveness of novel listing regimes. Few states in the study use explicit standards or criteria based on science or on potential harm to the economy or environment to determine whether to list a species or to issue permits, in either the wildlife or plant contexts. Some states, however, do use such standards. For example, Maine law requires the Commissioner of the Department of Inland Fisheries and Wildlife, during wildlife permitting decisions, to consider the likelihood that an organism will survive if introduced into the wild, the organism’s history of causing adverse environmental impacts in other places, the possibility that it harbors harmful agents, the possibility that it will inflict serious bodily harm on humans, and the organism’s health status. Maine also has developed criteria to evaluate non-native terrestrial plant species for potential invasiveness. Similar requirements apply in California, Florida, and New



Mexico for certain taxa, but have not been developed in other study states.

In summary, since 2002, state actions generally have tended to strengthen the legal authorities available to agencies engaged in invasive species prevention, control, and management. The trends in state law are for increased use of white listing and tiered systems. Despite this trend, no states provide comprehensive white listing authority over all taxa; instead, they continue to rely on black lists for invasive species management for at least some taxa. In addition, reliance on scientific listing or permitting criteria remains the exception to the norm. As a result, state lists in general remain limited in scope and effectiveness.

D. Regulation of Invasion Pathways

According to both economic and environmental analysis, the best way to address harm from invasive species is to prevent their introduction. In turn, the most effective way to prevent introductions is to close off the pathways through which non-native species enter the U.S. Non-native species invade and spread through three types of pathways, including geographic routes and corridors, economic activities, and transportation vectors.¹⁶ Pathway analysis can identify the mechanisms through which species enter and disperse, enabling policymakers to address weaknesses through appropriate regulation. In practice, however, pathways can be difficult to identify and regulate, especially as they

often cross jurisdictional and political boundaries and, if not carefully considered, can run afoul of the Constitution's commerce clause. As a result, regulation of even well-recognized pathways often requires a complex legislative and regulatory response, as well as extensive and sophisticated public outreach efforts.

Pathway analysis requires a shift in long-standing agency responsibilities. Invasive species are regulated by a variety of state and federal agencies with different perspectives, responsibilities, and regulatory approaches, resulting in a patchwork legal system that contains significant gaps and overlaps.¹⁷ This system regulates invasive species from different taxa and ecosystems in substantially different ways – aquatic species, wildlife, plants, and plant pests are regulated through entirely separate mechanisms by agencies that place different priorities on and use different strategies to address invasive species.¹⁸ Despite the difficulty of the task, states are increasingly taking action to shift from regulation based on historical agency mandates to a system that regulates specific invasion pathways.



EMERALD ASH BORER (*AGRILUS PLANIPENNIS*) ARRIVED IN MICHIGAN IN 2002 AS STOWAWAYS IN UNTREATED WOOD PACKING MATERIAL. DESPITE QUARANTINES, THEY HAVE SPREAD RAPIDLY VIA USED FIREWOOD AND OTHER PATHWAYS.



U.S. CUSTOMS AND BORDER PROTECTION IMPORT INSPECTIONS ARE HINDERED BY LIMITED RESOURCES AND LAX LAWS. BECAUSE FEW STATES INSPECT SHIPMENTS THAT CROSS STATE LINES, SPECIES THAT ARE NOT DETECTED BY CUSTOMS MAY SPREAD RAPIDLY ONCE INTRODUCED.

States have begun to transition to laws and regulations based on invasion pathways in an attempt to address the most harmful sources of new invasions. To the extent that interagency cooperation is required to effectively regulate problematic pathways, however, states may struggle to craft and implement effective solutions. In part, these complications have driven the development of invasive species councils and management plans, as state agencies increasingly require a comprehensive understanding of invasive species issues to enable cooperative regulation. In general, states have implemented new taxa- and pathway-specific laws and regulations as demanded by specific threats and as recommended by these management plans and coordination bodies.

For example, California has begun a process of evaluating how its legal frameworks apply to known invasion pathways, with an eye toward comprehensively regulating problematic pathways to eliminate gaps. In practice, a number of new regulations take a pathway-based approach – including, but not limited to, Oregon’s ballast water management law, Florida’s biofuel production law, and Rhode Island’s cervid importation inspection regulations. It is likely that the shift to pathway-specific regulation will continue in the future as an outcome of management planning and increased interagency communication.



III. Needs for the Future: Meeting the Invasive Species Challenge

Trends in the development of state invasive species law and policy suggest that states are increasingly focused on interagency coordination and pathway regulation to prevent harm caused by invasive species. However, states also continue to struggle with implementation of some regulation, particularly with respect to listing. Continued attention to these problems is needed to prevent future invasions. This section of the report recommends actions that can fill gaps in invasive species policy to address these regulatory challenges.

E. Prospective legal development is needed to prevent invasions across all taxa and pathways

State invasive species laws and regulations have advanced significantly in many states since 2002, but further legal development is necessary to prevent future invasions. Most amendments to state laws and regulations have responded to crisis by creating species-specific provisions in existing regulatory frameworks rather than by creating new legal structures that may be needed to anticipate and prevent future harm. In particular, state laws remain highly dependent on agency listing to be effective, and restrictions on the use of non-native species remain irregular. The iterative, crisis-driven approaches to legal development may be politically expedient, but it is also resource-intensive and has resulted in laws that do not comprehensively address all invasion pathways and taxa (Table 3).

Enhanced legal authorities are needed to fill gaps and shortcomings in existing authorities and to alter the default rules governing species listing. No state is likely to re-imagine its biodiversity regulation framework in order to implement a new, comprehensive framework specifically for invasive species, but many states could profit from investments in understanding interactions

between and among their agencies responsible for different elements of invasive species regulation. Efforts to develop councils and plans are an effective start, as is California's pathway analysis. These are only first steps, however; binding legal authorities are needed to support invasive species management activity.

“Enhanced legal authorities are needed to fill gaps and shortcomings in existing authorities and to alter the default rules governing species listing.”

Examination of existing authorities is particularly important in light of new and emerging threats. To prevent harm, states must predict and respond to species that are foreseeable future invaders. Moreover, they must identify and predict new species and invasion pathways that are likely to emerge in the future due to climate change or other factors.¹⁹ Prediction of emerging threats is necessary to enable effective response before harm is unavoidable. However, until legal authorities mandate such prospective analysis, the default response will continue to echo the “too little, too late” story exemplified by the Dreissenid mussels in the West.

Box 1. Recent Key Federal Actions and Proposals on Invasive Species

Plant importation: The United States Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS) recognizes the need for enhanced authority with regard to the intentional importation of nursery stock ("quarantine 37").²⁴ In 2004, the agency issued an advance notice of proposed rulemaking to evaluate the invasive potential of nursery stock, and it recently released a proposed rule, including a category called "Not Approved Pending Pest Risk Assessment" (NAPPRA) that would restrict the importation of certain species until a risk assessment has been performed.²⁵

Wildlife importation: In the last Congress, legislators introduced a draft bill, H.R. 669, which would amend the Lacey Act to require the Fish and Wildlife Service to screen imported animals for invasiveness before they can be imported. While H.R. 669 was not enacted, discussion of the issue continues. Until legislators reach a final disposition of animal screening issues, states may be unlikely to substantially alter their own importation requirements.

Ballast water: In 2008, EPA issued a vessel general permit for vessel discharges under the Clean Water Act in response to a judicial order. USCG followed in 2009 by issuing a proposed rule governing living organisms in ballast discharges based on its authority under the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA). These rules largely respond to ballast water management laws and regulations previously established by states that are significantly affected by vessel-borne invasions.

F. Federal action is needed to support states

This report focuses on state laws and regulations. However, effective invasive species prevention, control, and management require cooperation between and among states and the federal government. Federal regulation is important to states, framing their regulatory paradigms and enabling them to build from a uniform foundation, as well as providing financial and technical support to state agencies.²⁰ For example, state noxious weed laws elaborate on federal authority (particularly in the West), and state wildlife importation restrictions are generally similar to the federal Lacey Act model. Similarly, inconsistencies and weaknesses in state laws can be connected to similar flaws in federal authorities in many cases. Federal agencies also play an important direct role, in cooperation with states, in enforcing laws governing the trade in non-native species.

Although strong federal laws and regulations are essential to the overall success of invasive species policies, existing federal laws and regulations do not comprehensively address invasive species issues. This is particularly true with respect to prospective risk screening for intentional importation of animals and plants; neither the federal government nor any state in this study has established a comprehensive risk screening framework. Federal legislative action is needed in this and other urgent areas to provide a model for adequate state regulation and to provide a baseline for environmental protection across state lines.

In the last decade, much of the attention to invasive species at the federal level has focused on intentional trade in non-native species. The three most important developments in the past decade include proposed regulatory actions for plant importation, wildlife importation,²¹ and vessel discharge.²² (see box). The federal Lacey Act currently



prohibits importation of a few “injurious” species, but proposed legislative amendments would require risk screening of wildlife species prior to importation into the United States. Similarly, the Department of Agriculture (USDA) does not currently screen plants for invasiveness before they can be imported for sale or other use. USDA’s proposed “Quarantine 37” regulation would establish new standards for screening plants imported into the United States. In both cases, the proposed federal actions would be innovations that would support states in areas where they do not regulate currently – and, in fact, where they may face constitutional restrictions on regulation.

In contrast to the two examples previously discussed, vessel discharge regulations address unintentional introduction and have a complex interaction with state regulation. In the past decade, states have focused on regulation of particular pathways that pose particular threats within their borders – notably including ballast water discharge. In this area, states that have suffered particular adverse impacts from this pathway have driven regulatory innovation.²³ More recently, the Environmental Protection Agency (EPA) has finalized and the Coast Guard (USCG) has proposed regulations on ballast water discharge, which neither agency previously regulated despite long-standing statutory authority. A series of bills also has been introduced in Congress to specifically regulate this pathway. As written, the agency rules do not preempt the existing state programs, but rather provide a minimum standard with which regulated entities must comply in all states. However, some proposed bills have preempted such state actions, which could weaken standards in states that have been innovators on regulation of this pathway.

Insofar as the federal government intends to support state management and to fill gaps in state authority, its appropriate response should vary depending on the status of state legal regimes. Where states are regulatory innovators, the federal government should avoid providing disincentives for or preemption of this innovation.



PURPLE LOOSESTRIFE (*LYTHRUM SALICARIA*) HAS WELL-DOCUMENTED IMPACTS ON WETLANDS BUT IS NOT A FEDERAL NOXIOUS WEED AND MAY BE SOLD FOR USE IN LANDSCAPING IN SOME STATES.



KUDZU (*PUERARIA LOBATA*), A NOTORIOUSLY FAST-GROWING VINE BLANKETING LARGE SWATHES OF THE SOUTH, IS POISED TO EXPAND NORTHWARD AS CLIMATE CHANGES.

Noxious and Exotic Weeds (FICMNEW).²⁶ These efforts attempt to coordinate the diverse initiatives, programs, and divisions within the at least 21 federal agencies with responsibility for some element of the invasive and non-native species issues.²⁷ However, the adequacy of these and other existing federal coordination initiatives has been questioned; in 2003, for example, a Government Accountability Office (GAO) report on its survey of state invasive species managers

On the other hand, where states have not effectively responded to or cannot legally address invasion pathways, or where they have not acted to constrain the spread of species that have successfully invaded, the federal government should act more assertively to create legislative and regulatory solutions.

In addition to promoting invasive species management through legislative and regulatory action, the federal government also can support states through non-regulatory mechanisms. Federal agencies have significant technical expertise in invasion biology and are well-situated to assist states in listing and other program areas. Development of the scientific information required to support listing (whether for black or for white lists) is difficult and expensive, but regulatory agencies can reduce their costs by sharing information and experience. Shared access to this information among agencies can enhance the effectiveness of listing by state agencies even without amendments to existing laws.

The federal government has established some information-sharing infrastructure, including, but not limited to, the National Invasive Species Council (NISC), the Aquatic Nuisance Species Task Force (ANSTF) and its regional panels, and the Federal Interagency Committee for the Management of

noted that respondents characterized the existing federal effort as “fragmented” and “ineffective” and that coordination with multiple levels of multiple agencies is complicates communication and coordination, particularly with respect to interstate issues.²⁸ Modification of existing programs, or creation of a new, centralized program, potentially could address these criticisms by simplifying federal-state coordination.²⁹

Finally, the federal government may not be as crisis-motivated as states, enabling it to be relatively more forward-looking and comparative. Invasive species crises occur in one or a few states at a time, and rarely promote regulatory action outside affected states. Federal agencies can take a wider view by characterizing trends in invasions rather than by responding to particular cases. A prospective approach may enable the federal government to assist states in identifying and responding effectively to emerging invasive species pathways and species. The federal government has been active in assisting states in some areas; for example, EPA’s Global Change Research Program evaluated consideration of climate change in state aquatic invasive species management plans.³⁰ Further investment in such prospective activities an substantially aid states in their management planning efforts.



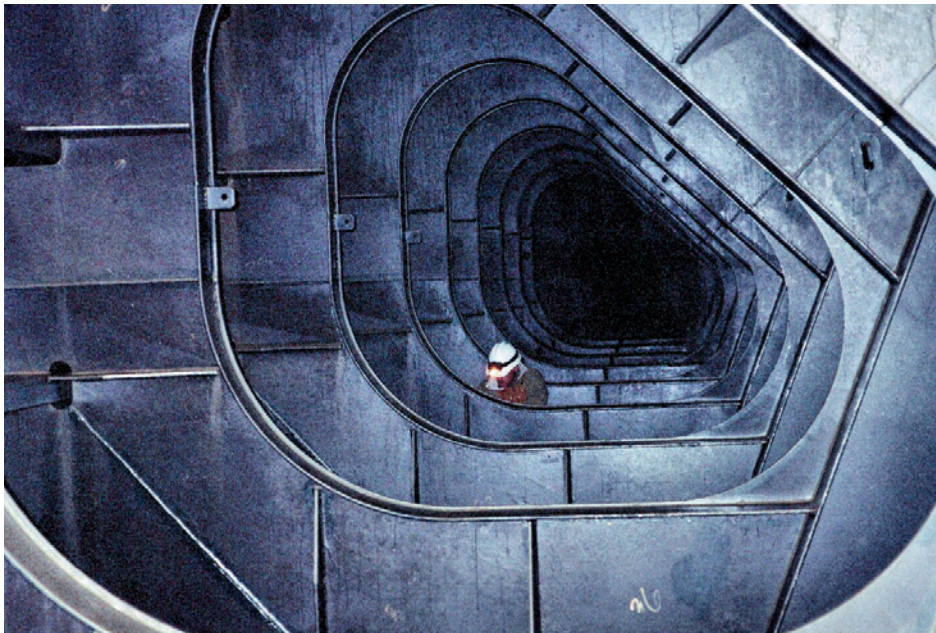
G. Increased funding is needed to assist state invasive species planning and implementation

While this report focuses on the provisions of state laws and regulations, implementation of those legal authorities is equally important. Invasive species threaten to impose massive economic and environmental harm, and states face a massive burden in attempting to prevent, detect, control, and manage those harms. Unfortunately, state agencies are underfunded and understaffed, hindering their ability to implement existing laws and regulations or to plan for future impacts. As invasive species funding is unlikely to significantly increase at the state level, agencies must seek efficiencies to enable more effective management.

In particular, increased funding for intra- and inter-state coordination may be particularly valuable. Although the number of state invasive species councils has dramatically increased in recent years, these councils often have limited or no staff or ongoing funding, and management planning funding often is taken from already-strapped

agency budgets. Under such conditions, coordination is unlikely to succeed over a long term, and management plans may not receive the attention they need for effective implementation. States can improve this situation through provision of legal authority for their councils and by creating direct appropriations for council staff. Small investments in council personnel in particular are likely to pay outsized dividends to multiple agencies.

While states could do more to support invasive species management on their own, federal support plays a critical role in promoting prospective thinking. The federal government provides limited funding for aquatic invasive species management through the Aquatic Nuisance Species Task Force.³¹ This funding arguably is a primary reason why state aquatic invasive species planning has advanced so significantly since 2002, and in this sense it has been a success. However, the program now has become a victim of this success – as more states take advantage of federal funding, less funding is available to each participating state. Enhanced funding for the program and development of similar programs targeted at specific



invasion pathways, terrestrial ecosystems, or other purposes, would strengthen coordination efforts on a nationwide basis and potentially drive prospective regulation. In addition, the ANSTF regional panels have successfully driven interstate coordination on a regional level. Increasing the funding for and profile of these regional panels could benefit cooperative prevention efforts.

WATER DISCHARGED FROM BALLAST TANKS LIKE THIS ONE NOW IS SUBJECT TO REGULATION IN MANY STATES. THESE PROGRAMS PROMISE TO PREVENT INVASIONS THROUGH THE BALLAST PATHWAY IF EFFECTIVELY IMPLEMENTED AND ENFORCED.

Endnotes

- 1 Exec. Order No. 13,112, 64 Fed. Reg. 6183 (Feb. 8, 1999).
- 2 The Task Team was not created by the state of Florida, but rather is an initiative of the South Florida Ecosystem Restoration Task Force, which oversees Everglades restoration. Nonetheless, the Task Team plays an important role in bringing together state, federal, and private sector stakeholders to address invasive wildlife issues.
- 3 Efforts are underway to better understand these dynamics in Oregon.
- 4 Funding and legal authority may not be directly linked.
- 5 Although they are not addressed in this study, additional states, including New York and Indiana, have developed councils through legislation.
- 6 The legislature enacted legislation authorizing a California Invasive Species Council, but that council was not created due to disapproval by the Governor. Similarly, the Governor did not sign a proposed executive order to create an invasive species council. However, he did not bar the multi-agency effort to create the current, informal collaborative council.
- 7 In some cases, a council may be directly charged with taking substantive action to coordinate interagency prevention, control, or management efforts.
- 8 See EPA, EFFECTS OF CLIMATE CHANGE ON AQUATIC SPECIES AND IMPLICATIONS FOR MANAGEMENT AND RESEARCH (2008) (reviewing state plans)
- 9 See GAO, INVASIVE SPECIES: STATE AND OTHER NONFEDERAL PERSPECTIVES ON CHALLENGES TO MANAGING THE PROBLEM 16-17, GAO-03-1089R (2003).
- 10 U.S. Congress, Office of Technology Assessment, HARMFUL NON-INDIGENOUS SPECIES IN THE UNITED STATES, OTA-F-565 (Washington, DC: U.S. Government Printing Office, September 1993) (emphasis in original) [hereinafter OTA Report].
- 11 See ELI, NEW TOOLS FOR RESPONSIBLE SHIPPING IN THE GREAT LAKES: USING FINANCIAL RESPONSIBILITY POLICIES TO PREVENT BALLAST-BORNE BIOLOGICAL POLLUTION (2009) (reviewing developments in state ballast water management).
- 12 For complete description of these changes, please refer to the appendix to this report.
- 13 This list is not exhaustive, and additional restrictions may be used in other states or for other taxa.
- 14 Defenders of Wildlife, BROKEN SCREENS: THE REGULATION OF LIVE ANIMAL IMPORTS IN THE UNITED STATES (2007); USDA, *Foundation Document Demonstrating the Risk Basis for Establishing the Regulatory Category "Not Authorized Pending Pest Risk Analysis" (NAPPRA) Associated with the Importation of Plants for Planting Rev. 1* (2007).
- 15 Some commentators have characterized the new plant petition process as disappointing. For example, although a petition was filed in 2005 to list *Arundo donax* (giant reed) as a noxious weed, but the committee has yet to meet to review the petition and make a decision. Personal communication.
- 16 For a description of pathway analysis for one state, see UNION OF CONCERNED SCIENTISTS, INVASIVE SPECIES IN OHIO: PATHWAYS, POLICIES, AND COSTS 16 *et seq.* (2008).
- 17 OTA Report, *supra* note 10.
- 18 For example, the U.S. Department of Agriculture was created in 1862 for the general purpose of promoting agriculture, and in subsequent years it reasonably focused its invasive species efforts on agricultural pests – such as rangeland weeds, insect crop pests, and plant diseases. 7 U.S.C. § 2201 (“There shall be at the seat of government a Department of Agriculture, the general design and duties of which shall be to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture, rural development, aquaculture, and human nutrition, in the most general and comprehensive sense of those terms, and to procure, propagate, and distribute among the people new and valuable seeds and plants.”). Although the role and responsibilities of the department have greatly expanded, invasive aquatic and forest plants and plant pests continue to attract limited attention and funding in comparison to agriculture pests.
- 19 See EPA, *supra* note 8; Pyke et al., *Current Practices and Future Opportunities for Policy on Climate Change and Invasive Species*, 22 Con. Bio. 585 (2008).
- 20 In some cases, it should be noted that federal laws preempt more stringent state regulations. For example, where the Secretary of Agriculture has issued an order to prevent the dissemination of a plant pest, noxious weed, or biological



control organism, the Plant Protection Act prohibits states from regulating interstate commerce in such species except as consistent with the federal regulations. 7 U.S.C. § 7756.

- 21 Defenders of Wildlife, *supra* note 14.
- 22 ELI, *supra* note 11; United States Coast Guard, *Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters*, 74 Fed. Reg. 48,190 (Sept. 22, 2009).
- 23 See generally ELI, *supra* note 11.
- 24 United States Dep't Ag., *Addressing the Risks Associated with the Importation of Plants for Planting* (2005), available at http://www.aphis.usda.gov/import_export/plants/plant_imports/downloads/q37_whitepaper.pdf ("The United States Department of Agriculture (USDA) regulation on the importation of plants for planting and propagation (nursery stock) is outdated and does not provide U.S. agriculture and the environment with adequate protection against the introduction of noxious weeds and plant pests including arthropods, plant pathogens, etc. The USDA proposes a comprehensive review and modernization of this regulation.").
- 25 USDA-APHIS, *Nursery Stock Regulations*, 69 Fed. Reg. 71,736 (Dec. 10, 2004). The agency has issued several relevant regulations since 2004, but has not finalized its general rule regarding importation of nursery stock for planting.
- 26 See NISC, *Welcome to InvasiveSpecies.gov*, at <http://www.invasivespecies.gov/>; ANSTF, *ANS Task Force*, at <http://www.anstaskforce.gov/default.php>; FICMNEW, *Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW)*, at <http://www.fs.fed.us/ficmnew/>.
- 27 OTA Report, *supra* note 10, at 170.
- 28 GAO, *supra* note 9.
- 29 See Don C. Schmitz & Daniel Simberloff, *Needed: A National Center for Biological Invasions*, *ISSUES IN SCI. & TECH.*, Summer 2001, at 57.
- 30 EPA, *supra* note 8.
- 31 16 U.S.C. § 4724(b).



NUTRIA (*MYOCASTOR COYPUS*) WERE BROUGHT TO THE U.S. FOR USE IN FUR FARMING. THEY NOW CONTRIBUTE TO LOSSES OF COASTAL WETLANDS IN LOUISIANA AND ELSEWHERE, REDUCING PROTECTION AGAINST SEA LEVEL RISE, FLOODING, AND STORM DAMAGE.

Summary of State Invasive Species Laws and Regulations

In this study, ELI revisited invasive species laws and regulations in 11 states to determine what changes have occurred in the past decade. This section summarizes the legal developments in each study state between 2002 and 2009 and indicates the present status of each state's laws and regulations in key areas. By necessity, these summaries are focused on provisions of particular importance and therefore are not intended to be comprehensive. For a thorough description of the legal authorities and amendments in each state, please refer to the appendix to this report, available at the ELI website.

We recognize that there are legitimate policy reasons to implement different policy tools and to establish differential listing regimes from state to state. It is important to note that this section is intended to be descriptive in nature; the scope of this report precludes comparative analysis of particular state regulatory systems. That is, we summarize each state's regulatory programs not to compare or criticize, but rather to illustrate the wide variety of ways in which states currently address their myriad invasive species problems. This report does draw normative conclusions about the structure of state and federal invasive species policy, but these conclusions are based on generalized views of existing and potential policy responses rather than on models that exist in specific states.

Each state summary consists of three parts:

- An overview of key amendments to state laws and regulations between 2002 and 2009.
- A chart depicting how the state currently regulates certain areas of concern for each invasive species category (see page 11 for explanatory note).

- A description of how the state currently applies each of the six categories of policy tools identified in Halting the Invasion.

Each element of the summaries is drawn from the statutory and regulatory analysis performed as the basis for this study. The first element identifies the key regulatory and statutory initiatives in the state, each of which is described fully in the appendix section for that state. The regulatory chart is designed to indicate at a glance the state's regulations as they apply to several questions of current policy concern. Finally, the policy tool chart is intended to provide an overview of how states are applying different types of policy tools – that is, it does not reflect the substantive stringency or substance of the legal authorities listed, but rather indicates how each state has used the diverse array of policy tools available to prevent, control, or manage different types of invasive species. Like the overview, the latter two charts do not and cannot comprehensively list all of each state's provisions; instead, these charts focus on programs and standards of particular interest.

In Halting the Invasion, the Environmental Law Institute comprehensively evaluated state laws and regulations to identify the policy tools that states use to address invasive species. This analysis identified 19 policy tools in six categories. These categories include: 1) definitions; 2) coordination; 3) prevention; 4) regulation; 5) control and management; and 6) enforcement and implementation (Table 4).



Table 4. Explanation of policy tools

	Policy Tools
Definition	To effectively manage invasive species states must define which non-native species will be considered invasive for the purposes of regulation. States use two tools to address this issue: • Comprehensive definition • Listing of harmful and non-harmful species
Coordination	States are better equipped to implement and enforce existing authorities and tools aimed at the prevention, control, and management of invasive species if they coordinate their use through two fundamental tools: • Invasive Species Council • Invasive Species Management Plan
Prevention	Over the long term, preventing the introduction and establishment of invasive species is the most effective and cost-efficient strategy. To help prevent the entry and spread of unwanted invasive species, states may develop the following prevention tools: • Identification and mitigation of future threats (including research, data collection, and pathway identification). • Detection (including inspection, survey, and mapping programs). • Import/Introduction/Release requirements (including scientifically based standards for introductions and permit requirements). • Quarantine authority (including authority for quarantines of facilities, incoming shipments, and means of conveyance). • Education (including programs for the benefit of landowners, businesses and other stakeholders, and the public at large).
Regulation	Some states may establish authorities to control the deliberate possession, movement, and release of certain invasive species. These authorities include: • Permits and licenses (including permits for importation, release, and even possession of invasive species). • Transportation and shipping requirements (including notice requirements and best practices). • Monitoring (including post-release monitoring and reporting). • Bonds and insurance (to ensure recovery of costs and damages resulting from permitted or accidental releases).
Control & Management	As a second line of defense, some states may authorize emergency control measures for rapid response to an early detection of an infestation of invasive species. Some states may also authorize programs to control, manage, and mitigate widespread infestations. State control and management strategies include the following: • General control and management authority (including notice requirements and authority to enter private lands for control actions). • Emergency power (to rapidly respond to newly identified or severe infestations). • Biological controls (including standards and procedures governing the release of bio-control species). • Restoration (to help restore areas where invasives have been controlled and to prevent other infestations).
Enforcement & Implementation	Adequate enforcement authority and resources are essential to effective implementation of invasive species programs. States may utilize the following tools: Enforcement authorities (including administrative and criminal penalties). • Funding (including dedicated funding sources).

I.

California



Summary of State Invasive Species Laws and Regulations

A. Developments since 2002

California has a complex invasive species regulatory system that it has altered substantially since 2002. Notably, the state created a comprehensive invasive species council in 2009, and it also has completed an aquatic invasive species management plan and weed plan. The new focus on interagency coordination is tied to California's developing focus on the use of pathway-management for invasive species prevention, control, and management.

California has also enacted numerous legal and regulatory reforms. Notably, the state enacted a comprehensive definition of "invasive pests" as part of a new law directing the prospective creation of management plans for use when priority pests are detected. The state also revised its unique law governing ballast discharge and hull fouling, including adoption of enhanced vessel inspection authorities and funding mechanisms. In addition, the state revised its wildlife laws, repealed an aquatic invasive species law, created new authorities to address Dreissenid mussels in recreational vessels, clarified the relationship between noxious weeds and pest plants, and altered many other provisions applicable to specific species and pathways.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	CA
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	✓
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	✓
2. Require recreational watercraft to be cleaned prior to transport?		✓
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		✓
2. Establish early detection requirements, including monitoring requirements?		✓
3. Require prospective research & planning to predict invasions?		✓



C. Laws and regulations, by policy tool category

	California...
Definition	- recently adopted two separate comprehensive definitions of invasive species, but they only apply to a prospective planning program based exclusively on federal funding and ballast water treatment, respectively. - has not established a white list for wildlife and has a limited wildlife black list.
Coordination	- recently created an invasive species council, but the council lacks legal authority and independent funding. - has coordination efforts for aquatic species, plant pests, weeds, and forest pests. - has not yet developed a comprehensive invasive species management plan. - created management plans for aquatic species and for noxious and invasive weeds.
Prevention	- authorizes studies to identify future threats, but only with federal funding. - authorizes inspections and surveys to enable early detection for non-native species. - generally restricts the importation and possession of listed harmful species, including non-native wild animal species and noxious weeds and aquatic species. - requires permission to release any fish, aquatic animal, or aquatic plant in state waters. - requires the use of scientific standards to determine importation or possession requirements for wildlife, but not for other taxa. - authorizes broad quarantine authority for specific species, facilities, and regions - authorizes education programs for a variety of species.
Regulation	- requires a permit to possess non-native wildlife, aquatic species, and plant pests, or to operate a facility containing wildlife or aquatic species, including aquaculture. - regulates the transportation of all species within the state. - has strong ballast water treatment requirements. - has not authorized a post-release monitoring program to monitor introduced species. - authorizes financial responsibility bonds for possession of wildlife but has not required other bonds or insurance to undertake risky activity.
Control & Management	- authorizes control and management on public and private lands for all taxa. - has a program for control and management of invasive species across taxa, but requires the program to be funded by the federal government. - requires reporting only for the escape of wildlife and the presence of mussels. - has authorized the use of emergency powers for rapid response programs for aquatics, plants, and plant pests and diseases, but not for wildlife.
Enforcement & Implementation	- has established both civil and criminal penalties for all taxa. - makes possessors of invasive species liable for environmental damages caused by only wildlife and aquatic species. - uses a positive incentives program for experimental ballast water treatment systems. - has authorized several funding mechanisms for specific invasive species activities.

II.

Colorado

Summary of State Invasive Species Laws and Regulations

A. Developments since 2002



THE NOXIOUS WEED CHEATGRASS (*BROMUS TECTORUM*)
INCREASES WILDFIRE FREQUENCY AND SEVERITY.

Colorado has made several substantial amendments to its invasive species programs since 2002. First, it has created new inter-agency bodies to coordinate the state response for weeds and aquatic species. The most important legal amendment was the enactment of a new aquatic nuisance species law responding to the “devastating economic, environmental and social impacts of aquatic nuisance species on the aquatic resources and water infrastructure of the state.” The law responded to detection of Dreissenid mussels in the region. It defines aquatic nuisance species and is intended to detect, prevent, contain, control, monitor, and eradicate these species in Colorado waters by authorizing enhanced regulation of recreational vessels. Colorado also strengthened the Colorado Noxious Weed Act by creating

a three-tiered listing system that must be updated every three years. The state also implemented additional reforms for aquatic species, plants, and plant pests and diseases.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	CO
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	✓
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		✓
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		✓
2. Establish early detection requirements, including monitoring requirements?		
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	Colorado...
Definition	• does not have a comprehensive definition of invasive species, but recently enacted a definition of “aquatic nuisance species.” “Insect pests,” “pests,” “plant diseases,” and “weeds” are also defined. • has no state white list framework, except in relation to wildlife.
Coordination	• has not established a state invasive species council, but a statutory State Noxious Weed Advisory Committee was established in 2003. • has no state comprehensive management plan, but has a statewide strategic plan to address the spread of noxious weeds and a new statutory requirement to develop an aquatic nuisance species plan.
Prevention	• does not authorize routine inspection of private land, or surveys, for early detection of invasive wildlife. • generally prohibits/requires a permit for import, introduction, or release of wildlife, listed aquatic nuisance species, non-native fish, listed noxious weeds, and pests. • has authorized education programs in respect of aquatics and noxious weeds.
Regulation	• generally requires permits in order to possess non-native species or to operate facilities where they are located. • has established strong regulations relating to transportation and shipping of non-native species, including inspection of vehicles, shipping permits, and labeling of shipments. • does not provide for post-release monitoring of introduced species.
Control & Management	• has authorized control and management plans for aquatic nuisance species and noxious weeds. • does not have a general requirement for persons to notify the authorities of the presence of invasive species on their land, although a new provision requires the reporting of aquatic nuisance species. • does not regulate the use of biological control agents.
Enforcement & Implementation	• provides criminal and civil sanctions for all taxa. • can hold the possessors of wildlife, fish, and noxious weeds liable for environmental damage caused by an illegal release/escape/introduction. • has authorized specific funding mechanisms to control noxious weeds, aquatic nuisance species, and certain pests.

III.

Florida



Summary of State Invasive Species Laws and Regulations

A. Developments since 2002

Florida has extensively overhauled its invasive species programs since 2002. It has published a state-wide invasive species management plan, but its invasive species council was inactive until recently. However, it has been replaced in some respects by other new interagency coordination bodies. With respect to legal developments, the state updated its rules specifically relating to invasive wildlife and aquatic animals, including its tiered listing system. In addition, the state created specific requirements for possession and sale of six species of “reptiles of concern.” Florida has also extensively amended its laws and regulations governing invasive plants. Authority over aquatic plants has been shifted to different agencies and enhanced in some areas. Florida also created new authority specific to the planting of non-native crops for fuel production and now requires a permit and a financial bond for this activity. The state noxious weed law listing process was updated to allow petitions and to proactively use information from scientific experts to determine whether a plant will negatively impact native communities. Specific amendments have also been made with respect to nursery stock, noxious weeds, and specific plant pests and diseases.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	FL
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	✓
2. Develop specific policies to govern non-native biofuel crop production?		✓
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		✓
2. Establish early detection requirements, including monitoring requirements?		✓
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	Florida...
Definition	• does not have a comprehensive definition of invasive species, but defines “conditional,” “prohibited,” and “captive” wildlife, which apply to terrestrial, freshwater, and marine species, and additional definitions for “invasive plant,” “noxious weed,” and “noxious weed seed.” • repealed “nonindigenous aquatic plant” definition but extended statute to all aquatic plants. • established tiered lists for wildlife and aquatic plants and black lists for noxious weeds and weed seeds.
Coordination	• invasive species council has been inactive due to completion of the council’s mandate; Everglades restoration includes an “invasive animal task team”. • created a new state wildlife commission section to coordinate exotic species issues. • has comprehensive state invasive species management plan, but plan needs update.
Prevention	• changed its noxious weed listing program to proactively use scientific experts to determine whether a plant will negatively impact native communities. • authorizes surveys for early detection of plant pests but not for other types of invasive species. • prohibits or requires a permit for import, introduction, and release of terrestrial and aquatic wildlife, aquatic plants, biofuel crops, and noxious weeds. • authorizes surrender of unpermitted non-native wildlife at FWC events. • has specifically authorized a public education program for aquatic plants.
Regulation	• created the first permitting and financial bonding requirements for biofuel crops. • required bonds and unique identification to possess certain reptile species. • regulates transportation and shipping of non-native species through inspection of conveyances, shipping permits, and labeling of shipments for all taxa. • has established a pilot program for planting windbreaks with non-native Australian pine that includes post-release monitoring.
Control & Management	• has no general requirement for persons to notify the authorities of the presence of non-native species on their land, but escapes of captive wildlife must be reported. • law includes emergency powers for plant and plant pest control and includes an Agricultural Emergency Eradication Trust Fund. • permits research on biological control agents for plant control only if the agent is unlikely to become a pest in Florida. • seeks to restore land and water areas by reducing non-native species pursuant to the the Florida Forever Act.
Enforcement & Implementation	• provides for criminal and civil sanctions for all taxa and has recently enhanced penalties for a number of species categories. • authorizes specific funding mechanisms to fund local control of mosquitoes and aquatic weeds. • is a member of the Interstate Pest Control Compact.

IV.

Louisiana



Summary of State Invasive Species Laws and Regulations

A. Developments since 2002

Louisiana has made substantial changes to its invasive species laws and regulations since 2002. It has created an aquatic invasive species management plan and, by legislation, subsequently created an aquatic invasive species task force and council with an ongoing mandate to implement the plan. Legal and regulatory amendments include alteration of the details of several laws and regulations governing certain classes of wildlife, including creation of a new list of nuisance wildlife. The legislature and agencies also have amended provisions applicable to specific wildlife species and animal diseases. Louisiana also substantially amended the laws governing aquatic animals, including by amending the state list of exotic fish, creating a new list of domestic aquatic organisms for use in aquaculture, and creating new authorities, including a fund, for control of invasive, noxious aquatic plants. The state made more limited amendments have been made to the state’s plant and plant pest provisions.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	LA
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		✓
2. Establish early detection requirements, including monitoring requirements?		
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	Louisiana...
Definition	• does not have a comprehensive definition of invasive species. • has black lists of wild quadrupeds, nuisance quadrupends, exotic fish, domesticated aquatic organisms, game fish, invasive, noxious aquatic plants, noxious plants, noxious weed seeds, and plant pests, diseases, and hosts.
Coordination	• does not have a comprehensive invasive species council or management plan, but does have an approved aquatic invasive species management plan. • created an aquatic invasive species council and task force by legislation and charged it with implementing the state plan and reporting on its progress. • has an interagency aquaculture council to develop the industry.
Prevention	• laws do not explicitly authorize identification and mitigation of future threats through research programs, data collection, or pathway identification. • does not require agencies to implement mapping or survey programs. • prohibits importation, introduction, and release of species including wild quadrupeds and invasive, noxious aquatic plants but has not implemented scientific standards to guide the listing process. • authorizes nursery and aquaculture facility inspection. It authorizes quarantines and inspection of private property for plant pests. • prohibits or requires a permit for import, introduction, and release of terrestrial and aquatic wildlife, aquatic plants, biofuel crops, and noxious weeds. • has not explicitly authorized public education programs.
Regulation	• requires permits for several taxa, including exotic fish, aquaculture, and some wildlife. • does not impose financial bonding requirements for non-native species. • regulates transportation and shipping of non-native species through inspection of conveyances, shipping permits, and labeling of shipments for plant pests, fish, wildlife, and plants. • does not mandate post-release monitoring of non-native species.
Control & Management	• requires veterinarians to report the detection of certain animal diseases, but no general requirement to notify authorities when invasive species present on private land. State agencies authorized to enter land to control plant/fruit pests. • law includes emergency powers for wildlife control but not for other taxa. • does not have legal authority on the use of biological control agents. • requires surface mines to establish vegetative cover that does not include noxious species. The state has no general restoration authority.
Enforcement & Implementation	• provides criminal and civil sanctions for all taxa and recently enhanced fines for a number of species categories. • provides specific funding for nutria control and authorizes unlimited take of nuisance species. • has established an aquatic plant control fund. • is a member of the Interstate Pest Control Compact.

v.

Maine



Summary of State Invasive Species Laws and Regulations

A. Developments since 2002

Since 2002, Maine has primarily amended and developed its programs related to aquatic invasive species. The state completed an aquatic invasive species management plan and the state aquatic invasive species task force is currently revising that plan. In addition, Maine repealed and replaced its laws and the Department of Inland Fisheries and Wildlife regulations governing wildlife and aquatic species. New laws were created in 2001 to prevent the spread of aquatic plants and fish through recreational vessel inspection and inspection authority, public education, and a new funding mechanism. The state has made a limited number of specific amendments to its legal authorities governing plants, plant pests and diseases, and insects.



MAINE REQUIRES WATERCRAFT AND SEAPLANES TO HELP FUND AQUATIC INVASIVE SPECIES PREVENTION EFFORTS.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	ME
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	P
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		✓
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		✓
2. Establish early detection requirements, including monitoring requirements?		✓
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	Maine...
Definition	• does not have a comprehensive definition of invasive species. • has specialized definitions for invasive aquatic plants, noxious weed seeds, and plant pests, and uses blanket provisions to restrict all wildlife and aquatic species.
Coordination	• has a legislatively-authorized aquatic species task force and an approved aquatic invasive species management plan.
Prevention	• authorizes research, data collection, and surveys of insects and diseases in forests, but it has no other authorization to identify or mitigate future threats. • carries out an ongoing inventory of state natural areas via Maine Natural Areas Program. The state also requires documentation of invasive aquatic plants. • has implemented scientific standards to guide permitting decisions for import, introduction, or release of wildlife and fish and authorizes inspection of nurseries, private forests, and wildlife facilities for the purpose of detecting pests. • has quarantine authorities for waterbodies, and requirements for shipments of animals and plants to detect diseases and pests. • has explicitly authorized public education programs for aquatic species and has a volunteer Courtesy Boat Inspection program to educate recreational vessel owners on invasive aquatic plant issues.
Regulation	• requires permits for wildlife, fish, aquaculture leases, seed dealers, & other purposes. • regulates transportation and shipping of non-native species through voluntary boat inspection, shipping certification for animals and plants, and labeling. • does not mandate post-release monitoring of non-native species. • does not impose financial bonding requirements for non-native species.
Control & Management	• requires reporting of certain animal diseases but does not require notification of the authorities when invasive taxa are detected on private land. State agencies have the authority to enter land for control of plant pests • authorizes the use of emergency powers for wildlife control and for waterbodies where invasive species are detected. • biological control agents for animals and insects may be used if approved by the Department of Inland Fisheries and Wildlife. • has no general restoration authority but authorizes discharge of aquatic pesticides by state agencies with a valid permit to restore biological communities in some waters.
Enforcement & Implementation	• provides a variety of criminal and civil sanctions that apply to all taxa. • has established funding for enforcement of aquatic plant laws, inspections, control and management, and education. There is also a cost share program for vessel inspection and control of invasive aquatic plants. • is a member of the Interstate Pest Control Compact.

VI.

Maryland



Summary of State Invasive Species Laws and Regulations

A. Developments since 2002

Maryland has made limited changes to its invasive species programs since 2002. It has not amended its coordination programs or developed management plans for any taxa. Most of the state laws and regulations relating to invasive species also have remained static in recent years. However, Maryland has strengthened its legislative tools for the control of aquatic invasive species. In particular, the state introduced new provisions for control of “nonnative aquatic organisms.” As a result, the Department of Natural Resources now has a tiered listing system for non-native species and has new inspection authorities to prevent adverse impacts on state waters. Other changes include repeal of the Ballast Water Management provisions in 2005 and specific regulations for non-native aquatic species. The state has not significantly amended its laws or regulations for plants or plant pests and diseases.



MARYLAND HAS ESTABLISHED NEW LAWS
GOVERNING THE POSSESSION AND TRADE OF MUTE
SWANS (CYGNUS OLOR)

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	MD
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		✓
2. Establish early detection requirements, including monitoring requirements?		✓
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	Maryland...
Definition	• has no comprehensive definition of invasive species. However, it recently enacted definitions of aquatic “nonnative” and “nuisance” organisms and also defines “noxious weed” and “plant pest”. • uses a white list framework only in relation to some aquatic invasive species.
Coordination	• established the Maryland Invasive Species Council as an ad hoc body in April 2000, but it is not authorized by statute and does not include permanent staff or funding. • has created neither a comprehensive invasive species management plan nor an aquatic invasive species management plan but has established a multiagency Emergency Response Plan for Invasive Forest Pests.
Prevention	• has generally strong importation, possession, and release requirements: It has established general permit requirements/prohibitions to import, possess or introduce listed wildlife, non-native aquatic species, listed noxious weeds and plant pests. • recently repealed its ballast water management provisions. • authorizes transportation quarantines across all taxa. • authorizes surveys for weeds and some aquatic species but does not specifically authorize study of future threats or mapping of invasive species locations. • does not authorize education programs by statute.
Regulation	• requires permits in order to possess/operate facilities containing non-native species, except for non-native plants. • recently introduced restrictions on the possession, sale, and transportation of aquatic invasive species. • does not require financial responsibility bonds or insurance to possess risky species.
Control & Management	• provided for control and management plans in relation to specific species (e.g. nutria, mute swans, and phragmites). • authorizes the use of emergency powers for invasive species rapid response. • does not generally require persons to notify authorities of invasive species on their land. • has no provision for the restoration of native species. • does not regulate the use of biological control agents.
Enforcement & Implementation	• provides for criminal and/or civil penalties. • has no general requirement requiring possessors of invasive species to be held liable for environmental damage caused through an illegal release/escape. • authorizes no positive incentive programs. • has specifically designated funding only in relation to plant pests and noxious weeds.

VII.

New Jersey



Summary of State Invasive Species Laws and Regulations

A. Developments since 2002

New Jersey has made no significant changes to its laws and regulations related to invasive species in recent years. However, it has issued some guidance and other policies relating to plants and plant pests and diseases. More importantly, New Jersey established a comprehensive invasive species council by executive order in 2004. The council completed a comprehensive invasive species management plan for the state in 2009. In the next few years, this plan may yield legal and regulatory developments.



NEW JERSEY MONITORS AREAS NEAR ITS PORTS FOR PESTS SUCH AS THE ASIAN LONGHORNED BEETLE (*ANOPLOPHORA GLABRIPENNIS*).

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	NJ
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		
2. Establish early detection requirements, including monitoring requirements?		✓
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	New Jersey...
Definition	• has not established a comprehensive definition of invasive species. • defines or has a list of exotic and nongame species, potentially dangerous species, game animals and birds, noxious weeds (none currently listed), noxious weed seeds, dangerous plant diseases and dangerously injurious insects.
Coordination	• has established a state invasive species council and completed a comprehensive state management plan. The council is authorized by executive order. • is likely to recommend many improvements to state laws and regulations in the upcoming management plan, such as defining invasive species. However, the result of these recommendations will require regulatory action.
Prevention	• has not authorized research, data collection, or pathway identification to identify or mitigate future threats. • authorizes inspection of nurseries and private land to inspect for weed seeds and authorizes quarantine both for plant pests and animal diseases. • authorizes surveys near ports of entry to detect the introduction of foreign and domestic pests. • prohibits or requires permits to import and release wildlife, noxious weed seeds, and pest-infested plant material, but no general restrictions apply to aquatic species. • does not require a scientific determination for listing or permitting decisions. • does not provide funding for education programs.
Regulation	• requires permits for possession of exotic and dangerous wildlife, aquaculture facilities, and nurseries and other horticultural businesses. • requires notice and authorizes inspections of shipments of plant material but does not authorize inspection or notice of other shipments. • does not require post-release monitoring of non-native species or financial responsibility bonds or insurance.
Control & Management	• authorizes general control and management on both private and public lands for most taxa, and carries out specific programs to manage certain species. Authority to enter private land for control is not provided. • does not provide emergency powers to state agencies for invasive species control. • has extensive expertise in biological control but has no legal authorities governing the use of biological control species. • has no laws or regulations mandating restoration of native species.
Enforcement & Implementation	• has criminal and civil sanctions that apply to wildlife and plant violations. • are not authorized to hold the possessors of invasive species liable for environmental damage caused by an illegal release/escape. • authorizes no specific funding programs for detection, response, or outreach.

VIII.

New Mexico



Summary of State Invasive Species Laws and Regulations

A. Developments since 2002

New Mexico has made significant regulatory and non-regulatory changes to its invasive species programs. With respect to interagency coordination, New Mexico created an aquatic invasive species advisory council with a mandate to create a state aquatic invasive species management plan. That plan is now complete, as is the separate management plan for exotic riparian trees, completed in 2005. Legislative developments in New Mexico have been more limited but have been significant in key areas. Most notably, the legislature enacted a new law governing aquatic invasive species, prompted by discovery of Dreissenid mussels in nearby waters. The new law defines aquatic invasive species, prohibits their spread, and authorizes state agencies to regulate and inspect recreational vessels and to monitor for the presence of these species. Other legal and regulatory amendments in New Mexico include an update to the noxious weed law (including a new watch list) and minor changes relating to game animals, bait dealers, and certain species of wildlife and plant pests.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	NM
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		✓
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		✓
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		
2. Establish early detection requirements, including monitoring requirements?		
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	New Mexico...
Definition	• has no comprehensive definition of invasive species. • recently enacted a new definition of “aquatic invasive species” and uses lists or general prohibitions to regulate wildlife, fish, noxious weeds, harmful plants, noxious weed seeds, and pests.
Coordination	• has not created a comprehensive invasive species council or management plan. • has an aquatic invasive species advisory council and aquatic invasive species management plan. The council currently is not authorized by legal authority. • has two interagency weed action groups and management plans for exotic riparian trees and for noxious weeds.
Prevention	• created a new noxious weed watch list for weeds that may enter the state in the future; the state has specifically authorized no other research, data collection, or pathway identification programs. • detects invasive species via recreational vessel check stations and monitoring, nursery inspections, sampling and inspection of seeds for sowing, and inspection of private land in control zones for noxious weeds, seeds, & harmful plants. • has imposed importation, introduction, and release limits across all taxa. • listing and permitting decisions are based on scientific standards for aquatic invasive species and wildlife. • has quarantine authorities that may apply to specific locations for most taxa. • does not explicitly authorize education programs except for plants.
Regulation	• requires a permit or license to operate horticultural and wildlife businesses. • authorizes inspection of conveyances and shipments, affixes warning tags to boats in infested waters, and requires prior notice of imported fish shipments. • does not mandate border inspection of shipments, but operates international border inspections for livestock. • has not authorized post-release monitoring programs for non-native species. • does not require financial responsibility bonds or insurance to possess risky species.
Control & Management	• authorizes control on both public and private land via impoundment of boats and creation of pest control districts. Agents require permission to enter private land. • does not require landowners to provide notice of invasive species on their lands, but imposes a duty on them to destroy harmful weeds before they produce buds. • has emergency control powers when landowners do not respond to pest infestation. • does not regulate biological control agents and has not authorized native species restoration programs.
Enforcement & Implementation	• has established criminal or civil sanctions for most, but not all taxa. • cannot generally hold violators liable for environmental damages their actions cause. • has not created funds to support implementation of invasive species authorities. • Is a member of the pest control compact.

IX. Oregon

Summary of State Invasive Species Laws and Regulations



A. Developments since 2002

Oregon has made a number of recent changes to its invasive species legal authorities. The state has strengthened the powers of its legislatively-authorized, comprehensive invasive species council, including a new comprehensive definition of “invasive species” and through the creation of a new Invasive Species Control Account to support council activities. Other notable legal developments include consolidation and strengthening of the state’s quarantine and pest control provisions for wildlife, insects, and plants. Legislation also was enacted to prevent the spread of aquatic invasive species. This legislation includes a new definition of aquatic invasive species, new authorities governing recreational and commercial watercraft, and new prohibitions on the spread of aquatic invasive species. In addition, the state has enacted new a ballast water law that includes prohibitions on discharge without exchange, reporting requirements, and a task force to recommend actions on the issue. With respect to plants, the state has extended to all noxious weeds the provisions that formerly only applied to the control of tansy ragwort. Plant pest has been newly defined and the state has new prohibitions on the spread of such species, as well as a new emergency response fund. Other amendments have occurred for specific species and uses for wildlife, fish, plants, and plant pests.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	OR
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	✓
2. Require recreational watercraft to be cleaned prior to transport?		✓
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		✓
2. Establish early detection requirements, including monitoring requirements?		✓
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	Oregon...
Definition	- defines “invasive species” as non-native organisms that cause economic or environmental harm and are capable of spreading to new areas of the state. They do not include humans, domestic livestock or non harmful exotic organisms. - uses a white list framework in relation to wildlife and aquatics.
Coordination	- has both a comprehensive Invasive Species Council and a State Weed Board. Both are authorized by statute. - provides for the development of a comprehensive invasive species management plan.
Prevention	- generally prohibits, or requires a permit for, the import or release of wildlife and aquatic species. - authorizes quarantines for all taxa. - does not specifically authorize the study of future threats and mapping, except in relation to noxious weeds. - authorizes education programs by statute.
Regulation	- generally requires permits in order to possess/operate facilities containing non-native species - provides for broad transportation and shipping requirements across all taxa. - does not specifically authorize post-release monitoring for non-native species. - does not require financial responsibility bonds or insurance to possess risky species.
Control & Management	- provides for a statewide control and management plan. - does not generally require owners to notify the state when invasive species are detected on their land, except for certain escaped wildlife. - authorizes the use of emergency powers for rapid response. - has a bio control program but does not regulate the use of biological control agents.
Enforcement & Implementation	- authorizes criminal and civil penalties for all taxa. - has no general requirement that possessors of invasive species may be liable for environmental damage caused through an illegal release/escape. - has a new “Invasive Species Control Account” for the funding of efforts to eradicate or control new infestations or infections of invasive species.

X.

Rhode Island



Summary of State Invasive Species Laws and Regulations

A. Developments since 2002



RHODE ISLAND CREATED AN AQUACULTURE BIOSECURITY BOARD TO PROTECT OYSTERS AND OTHER SPECIES FROM INVASIVE PATHOGENS.

Since 2002, Rhode Island has developed new and amended laws and regulations relating to several types of invasive species. With respect to interagency coordination, an ad hoc interagency working group has completed an aquatic invasive species management plan. Legal and regulatory amendments include minor amendments to wildlife possession and nuisance species regulations and substantial change to the regulations governing animal diseases, including strengthening quarantine and identification requirements. New authorities governing aquatic species include a new law specifically targeted at non-native, freshwater aquatic plants and creation of a new aquaculture biosecurity board to assist the state in preventing aquaculture disease and harm from non-indigenous species. Specific provisions have also been adopted to address particular issues applicable to wildlife, aquatic life, and plant pests and diseases. Rhode Island has not significantly altered its invasive plant provisions since 2002.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	RI
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		
2. Establish early detection requirements, including monitoring requirements?		
3. Require prospective research & planning to predict invasions?		



C. *Laws and regulations, by policy tool category*

	Rhode Island...
Definition	• does not have a comprehensive definition of invasive species. • defines and/or uses lists for wildlife, exotic wildlife, non-native freshwater invasive aquatic plants, noxious weed seeds, and plant pests.
Coordination	• has an inactive comprehensive invasive species council but has no comprehensive management plan. • has an aquatic species task force that has created an approved aquatic invasive species management plan. • has a new biosecurity board to maintain understanding of threats from aquaculture diseases and ensure compliance by recommending inspections.
Prevention	• does not have legal authorities authorizing research, data collection, or pathway identification to identify or mitigate future threats. • authorizes inspection of nurseries, wild and exotic animal facilities, and authorizes inspection and tests on private land for noxious weed seeds. • has issued a survey of aquatic plants in the state but has no authority for systematic surveys or mapping. • has protocols to prevent release of aquaculture species but has not established scientific standards to guide its permitting decisions. • quarantine authorities include facility quarantine for plant pests; animal, plant, & nursery stock shipment quarantines, and quarantines on plant pest transportation. • has not explicitly authorized public education programs.
Regulation	• requires permits for wild and exotic animals, fish, aquaculture, and nurseries. • regulates shipments of animals for diseases, of aquaculture species, and of nursery stock. Certain wildlife species must be individually identified. • does not mandate post-release monitoring of non-native species. • may require financial bonds for aquaculture facilities.
Control & Management	• requires reporting of escaped wild animals but does not require notification of the authorities when invasive taxa are detected on private land. • authorizes state agents to enter land to control plant pests when owners fail to do so, and authorizes agents to enter and order the removal of aquaculture facilities. • authorizes declaration of plant pests as public nuisances. • does not authorize emergency powers or biological control agents. • has no general restoration authority but authorizes and funds programs to restore coastal and estuary habitat via non-native species control.
Enforcement & Implementation	• provides limited criminal sanctions that do not apply to wildlife but provides civil sanctions for all taxa. • has not established funding mechanisms specifically for invasive species, but violators must pay the control costs incurred by the state in some cases. • is a member of the Interstate Pest Control Compact.

XI.

Tennessee

Summary of State Invasive Species Laws and Regulations

A. Developments since 2002



IN 2005, TENNESSEE CREATED A TASK FORCE TO ADDRESS HEMLOCK WOOLY ADELGID (*Adelges tsugae*).

Tennessee has made targeted statutory, regulatory changes to its invasive species programs since 2002. Its interagency coordination efforts now included establishment of a new aquatic invasive species task force in 2005 to create a state aquatic invasive species management plan. That plan was completed in 2007. Legal authorities have been amended in several respects. Most notably, the state has amended its list of restricted wildlife species, including by designating as restricted all species of freshwater aquatic life unless otherwise excepted. Similarly, the definition of pest plants was expanded and the list revised. Other changes primarily have been aimed at prevention or control of harm from to specific species of wildlife, animal diseases, and plant pests and diseases.

B. Use of Policy Tools for Invasive Species Prevention

	U.S.	TN
<i>Prevent intentional introduction of potential invasive species</i>		
1. Require science-based risk screening for non-native plant species?	P	
2. Develop specific policies to govern non-native biofuel crop production?		
3. Implement mandatory, science-based pre-import risk screening for wildlife?		
<i>Minimize unintentional introduction of non-native species via known invasion pathways</i>		
1. Require ballast treatment and address biofouling in commercial shipping?	P	
2. Require recreational watercraft to be cleaned prior to transport?		
<i>Eradicate invasive species before they become established through early detection and rapid response</i>		
1. Create ongoing funds used to detect, research, and eradicate invasive species?		
2. Establish early detection requirements, including monitoring requirements?		
3. Require prospective research & planning to predict invasions?		



C. Laws and regulations, by policy tool category

	Tennessee...
Definition	• does not have a comprehensive definition of invasive species. • defines and uses lists for nongame and native wildlife, noxious weed seeds, pest plants, insect pests, and plant diseases.
Coordination	• has neither a comprehensive invasive species council nor a comprehensive invasive species management plan. • has established an aquatic invasive species task force that has created an aquatic invasive species management plan.
Prevention	• has no legal authorities authorizing research, data collection, or pathway identification to identify or mitigate future threats. • authorizes inspection of nurseries, plant dealers, landscapers, and other areas where pests may be found, as well as facilities with wildlife. • has no authorities for surveys or mapping to detect invasive species. • has prohibitions and permit requirements for all taxa, but has not established scientific standards to guide its listing or permitting decisions. • authorizes quarantine of wildlife, fish, and plant shipments, and quarantines on importation necessary to protect the agricultural, horticultural, or silvicultural interests of the state. • authorizes Division of Forestry to provide technical information on forest pests.
Regulation	• requires permits for wildlife, fish and bait dealers, fish stocking, aquaculture, and nurseries. • requires notice to the state for receipt of shipments including plant pests but not in other cases. • does not mandate post-release monitoring of non-native species. • does not require financial bonds for invasive species activities.
Control & Management	• has general authority to control and manage invasion, including in cities, and authorizes agents to enter any forest land and private land (with landowner approval or a court order) for plant pests control. • authorizes declaration of plant pests as public nuisances. • does not authorize emergency powers or biological control agents. • has no general restoration authority but has a volunteer native wildflower program and authorizes control and prohibits introduction of exotic species in natural resource areas.
Enforcement & Implementation	• provides criminal and administrative sanctions for all taxa. • has not established funding mechanisms specifically for invasive species, but funds its enforcement programs partly through permit fees. • is a member of the Interstate Pest Control Compact.

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