

# WASHINGTON INVASIVE SPECIES COUNCIL

2010

Report to the Legislature on the Future of the Council



## **MEMBERS**

Chris Christopher, Chair  
Washington Department of Transportation

Kevin Anderson  
Puget Sound Partnership

Barbara Chambers  
U.S. Department of Agriculture

Doug Daoust  
U.S. Forest Service

Robert Fimbel  
Washington State Parks and Recreation  
Commission

Alison Halpern  
Washington State Noxious Weed Control  
Board

Kathy Hamel  
Washington Department of Ecology

Bob Koch  
Franklin County

Lisa Macchio  
U.S. Environmental Protection Agency

Tom McDowell  
U.S. Fish and Wildlife Service

Pene Speaks  
Washington Department of Natural Resources

Susan Spinella  
U.S. Customs and Border Control

Pat Stevenson  
Stillaguamish Tribe

Brett Thompson  
U.S. Coast Guard

Mary Toohy  
Washington Department of Agriculture

William Tweit  
Washington Department of Fish and Wildlife

Dick Wallace  
Northwest Power and Conservation Council

Lisa Younger  
The Nature Conservancy

## **STAFF**

Wendy Brown  
Executive Coordinator

Administrative services are provided by the  
Recreation and Conservation Office.

## **CONTACT US**

P.O. Box 40917  
Olympia, WA 98504-0917  
360-902-3000  
TDD 360-902-1996  
Web site [www.InvasiveSpecies.wa.gov](http://www.InvasiveSpecies.wa.gov)  
E-mail: [InvasiveSpecies@rco.wa.gov](mailto:InvasiveSpecies@rco.wa.gov)

If you need this information in an alternative  
format, please call 360-902-3000 or  
TDD 360-902-1996.

### What's at Risk?

Washington boasts a diverse array of landscapes – from mountains, to forests, to deserts, to ocean, and a wide variety of plants and animals that call them home. Some of this wildlife exists nowhere else on earth. The state's natural bounty also supports Washington's economy, recreation opportunities, and its families. The state's attract invading plants and animals that have no natural predators or diseases to keep them in check. In a short time, they can replace Washington's native plants and animals and alter the natural areas that make Washington so unique. The desire to protect Washington's land, waterways, and wildlife along with the significant costs associated with battling invasive species once they become established led to the creation of the Washington Invasive Species Council.

### Why the Invasive Species Council?

The Washington State Legislature decided four years ago that the way the state was handling invading plant and animal species was not adequate to protect Washington's natural resources and the businesses and families that rely on them. Because of the way state government is structured, state agencies focused on controlling individual species within their individual mission and mostly disconnected from their federal and local counterparts. To overcome the disjointed approach to invasive species management, the Legislature created the Washington Invasive Species Council, with members from state, federal, local, tribal, and non-government organizations, to act more strategically. Specifically, the Legislature charged the council with bringing agencies together to better protect Washington from the harmful effects of invasive species.

The Washington Invasive Species Council plays a unique role in managing invasive species. It provides an effective forum for coordination on invasive species among different levels of government and those outside of state government, including tribes, businesses, federal agencies, and non-government organizations. It also is the only organization that deals with all invasive species across the entire state. In addition to its coordination role, the council has proven itself as a catalyst for agency action on invasive species.

### What are the Economic Costs?

Invasive species exact an enormous price in Washington, which the council believes can be reduced through the coordinated and strategic forum it offers. Between 1996 and 2009, state and federal agencies spent nearly \$30 million to eradicate spartina in Willapa Bay. The Washington Department of Agriculture and state Salmon Recovery Funding Board have spent about \$6 million since 2004 to control invasive knotweed infestations. Public utility districts are similarly at risk from aquatic invasive species. The Seattle Public Utility District spent close to \$500,000 and three years to eradicate Eurasian watermilfoil in Lake Youngs.

A new report from the Northwest Power and Conservation Board estimates the cost of dealing with an invasion of zebra and quagga mussels in the Columbia basin to be in the hundreds of millions of dollars. All it would take is a few mussels, most likely arriving on a boat coming from other mussel-infested waters, to start this highly destructive ball rolling. While the impact of these non-native mussels on the native biota and food web would be profound, the costs of cleaning and replacing clogged water-delivery pipes (for irrigation and drinking water) and screens, intake pipes, and fish ladders at hydropower facilities would be many of millions of dollars as concluded by the board and witnessed from the Great Lakes states.

## What Has the Council Accomplished?

With the agencies responsible for the on-the-ground work, the council has been tackling the invasive species threat on several other fronts, including:

- Determining the breadth and depth of the invasive species threat to identify if agencies are doing enough and the right things to minimize impacts.
- Establishing statewide priorities for action.
- Improving the capability to prevent new infestations, and acting quickly and decisively when new threats are discovered.
- Strengthening control efforts for existing infestations.
- Communicating the gravity of invasive species and, in doing so, changing opinions and behaviors.

A [FEW](#) highlights of past accomplishments include:

- Completed a widely praised strategic plan that prioritized five, short-term and many more long-term recommendations. This is the first statewide strategic plan on invasive species in Washington, and the only one that addresses all taxonomic groups.
- Since 2009, leveraged its \$200,000 biennial budget to bring in more than \$380,000 (and counting) in federal funding for strategic plan implementation.
- Developed an assessment tool to objectively set invasive species priorities for Washington and to guide council action. This tool is now being used by many other organizations for guiding their work.
- Coordinated the response to a new infestation of New Zealand mud snail in Capitol Lake. Within five days of learning about the infestation and confirming its identity, the council initiated a multi-agency, rapid response by bringing together the Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Washington Department of Ecology, and Washington Department of General Administration. This response is ongoing, with the council continuing to work with partners to develop options for control or eradication.

- Developed a much-used Web site ([WWW.INVASIVESPECIES.WA.GOV](http://WWW.INVASIVESPECIES.WA.GOV)) that reaches out to the public and created a reporting hotline, **1-877-9-INFEST**, and online reporting form to get the public involved and enable the state to rapidly respond to new infestations. Use of the web site has increased nearly 10 fold since its creation (Figure 3, page 20).
- Evaluated gaps in funding, authorities, emergency response capabilities, and outreach efforts for the first 15 priority species and developed recommendations to fill those gaps (Appendix A). Several of those recommendations are included in 2011 agency-request legislative proposals.
- Worked with federal, tribal, and state agencies to identify the River basin interagency invasive species response – which is to integrate Washington response among the various state agencies and Office including providing interagency and regional communications, facilitating emergency permits, clarifying policy positions, and indentifying funding sources.

## What is the Council’s Future?

In its first few years, the council created a coalition of interest groups, mapped out a strategic plan, and began taking action. The way forward is clear but it cannot be accomplished, the council believes, without someone continuing to take the leadership reins and providing strategic guidance for the council member agencies.

The Legislature asked for recommendations on whether or not to extend the council after 2011. The council considered multiple options and presents a detailed look at three options in this report.

1. Invasive Species Council continues through June 2017 and its \$200,000 budget is maintained.
2. Invasive Species Council continues through June 2017 with no budget (i.e., no staff support).
3. Invasive Species Council is dissolved.

The council strongly recommends the Legislature continue the council through June 2017 and maintain its current budget for the following reasons:

- The council brings together local, tribal, state, federal, private, and other organizations, along with their stakeholders, in structured, effective partnership with the council. Without the council, federal partners have indicated they would reduce their level of involvement with state agencies and other partners.
- The structured collaboration and accountability provided by the council ensures that agencies take appropriate steps to respond to new invasions. In emergencies, the structure and staffing already exist so agencies would be ready for immediate and collaborative action.
- The Puget Sound Partnership has made preventing invasive species and quickly responding to new infestations a priority for protecting Puget Sound. In its Action Agenda, the partnership

has tied actions directly to council priorities and implementation efforts and has called for the implementation of key recommendations in the C O U N C I L strategic plan, including developing an early detection and rapid response system to address invasive species risks. As the partnership council is successful in Puget Sound, we are successful in Puget Sound. "

- Regional partnerships with Oregon, Idaho, and California invasive species councils to leverage federal funding would be diminished greatly.
- The need for a mechanism for cooperation, communication, and collaboration as envisioned by the Legislature in 2006, and for addressing the long-term goals established in the council's authorizing legislation still exists. With increasing travel and trade and accelerated climate change, this need will only grow over time.
- Staff to the council is the glue that holds the agencies together on this issue and ensures that the council moves forward. Staff contributes strategic thinking, work on council projects, and brings in additional resources, including federal grants and staff and resources from other agencies and non-governmental organizations. The council has leveraged its one part-time employee to bring in hundreds of staff hours from other organizations for strategic plan development and implementation.
- The public information provided by the Web site, reporting hotline, baseline assessment, and other efforts would become outdated and obsolete.

## Moving Forward

The council has just begun implementing its strategic plan. If the council is reauthorized until 2017, it envisions the work for the coming years as follows:

- Developing a rapid response plan so the state may better handle emergencies. (Estimated completion date is June 2013.)
- Securing resources to enable state and local agencies and tribes to conduct emergency response. (Estimated completion date is June 2013-2015.)
- Ensuring quick and appropriate state response to new invasions. (Ongoing.)
- Refining agency performance measures on invasive species and tracking change in status and trends over time. (Estimated completion date is June 2012 with ongoing tracking.)
- Identifying and closing additional pathways responsible for the introduction and spread of invasive species. (Ongoing.)
- Determining the location and quantity of invasive species in Washington so the state can more strategically target its resources. (Phase 1 complete in December 2010. Phase 2 completion of additional 35 priority species is dependent on receiving grants.)

- Bringing federal funding for Washington program to allow more work to be done. (Ongoing.)
- Expanding outreach and education to enlist the public as partners in the battle against invasive species. (Ongoing.)

Modest investments made now in maintaining the structured coordination and leadership on invasive species, as provided by the council, will enable the state to more efficiently combat invading species before they inflict more economic and environmental damage. It ensures the council will be ready when new infestations arrive, limiting the investments Washington will need to pay in the future.

## A LETTER FROM THE SHELLFISH INDUSTRY

### Washington State Shellfish Industry

The shellfish industry in Washington State continues to grow and is current leading producer of Manila clams, geoduck, and farmed oysters. Technological advances in hatchery production of seed over the past three decades have positioned Washington to be a leader in the product of world class seafood. However the future of the industry is threatened by a number of environmental challenges including the potential introduction of invasive pests and diseases. Our response to this threat has been to fully participate in invasive species policy development, support governmental programs and research in invasive species management, and engage with other industries that depend on a healthy environment to succeed.

Having spent six years on the National Invasive Species Advisory Committee, I have a clear understanding of our national policies relative to invasive species. The Executive Order, signed by Bill Clinton in 1999, directs federal agencies to address the threat of invasive species through a number of management principles, one of which is to better coordinate efforts at federal, regional and state levels. Part of the implementation of that guiding principle is to help States better coordinate, not only with each other, but within their own jurisdictions. The Washington State Invasive Species Council has been successful, in our opinion, in implementing our national policy on invasive species by coordinating State agency efforts on invasive species prevention, control and management.

We depend on our State to help us succeed by protecting the environment in which we work. We depend on our State to coordinate its efforts and be efficient. The Washington Invasive Species Council is the body to help the State do this work successfully. We, in the shellfish industry, support the Council.

Diane Cooper,  
Director of Regulatory Affairs  
Taylor Shellfish Farms



## The Danger of Invasive Species

The Invasive Species Council is due to sunset December 31, 2011. The law<sup>1</sup> requires the council to prepare a report to the Legislature before the start of the 2011 legislative session with recommendations as to the extension or modification of the council. This report fulfills that requirement and additionally provides information on the council's accomplishments to date and its future.

### IN HARM'S WAY: WASHINGTON'S ENVIRONMENT AND ECONOMY

Washington is one of the most biologically diverse states in the nation. A wide array of plants and animals make their homes in its natural areas, in its estuaries and dry plains, sand dunes and forests, deep ocean waters, and mountain tops. Washington boasts more than 4,250 different species of birds, mammals, plants, and fish, and of those, 53 are found nowhere else on earth.

The beautiful and fertile land and water also attract invading species. In the blink of an eye, or more slowly through the years, they can replace



LEFT UNMANAGED INVASIVE KUDZU TAKES OVER, AS SEEN IN THIS GEORGIA FARM FIELD.

Washington's native plants and animals and alter – forever – the natural areas that make Washington so unique. They contribute to the demise of plants and animals, sometimes speeding up their entry on endangered species lists. They can devastate the industries and the families' livelihoods. They can smother waterways, preventing people from enjoying the great outdoors, and they can clog pipes that produce inexpensive electrical energy or irrigate farmland.

Invasive species don't have native out-competed plants and animals for food. They can reduce the resiliency of natural areas and change the local habitat. For example, the highly flammable and invasive cheat grass matures in late spring and summer, resulting in earlier and more frequent fires that destroy native plants and animals and endanger people's and their homes. They also can undo the millions of dollars invested in restoring critical salmon habitat, such as seen by knotweeds invading and spreading so rampantly along rivers.

<sup>1</sup> Revised Code of Washington 79A.25.350

Invasive species threaten Washington's economy industries as well as public utilities. For example:

- Washington is a top seafood supplier, producing about 12 million pounds of fresh finfish and 8 million pounds of oysters, and an estimated \$77 million in sales of farmed bivalve shellfish each year. Invasive spartina threatened those industries because it turned thousands of acres of shoreline from productive mudflat into spartina meadows.
- Washington's timber industry also is vulnerable. Introduced in Washington around 1910, killed most of the state's western white pine trees. Today, commercial timber the western white pine, in spite of its excellent qualities. The Douglas fir beetle is another very damaging pest in Washington. In 2009, aerial surveys measured the Douglas fir beetle had killed trees on 80,000 acres.
- Recreational boating, fishing, and seaplane opportunities are cut off as invasive species, such as the New Zealand mud snail and viral hemorrhagic septicemia (a fish disease), become established in lakes and streams. To halt the spread of these species, the infested water bodies often are closed to the public.
- Invasive plants and animals obstruct pipes, screens, and other structural components of water systems. The Seattle Public Utilities District spent nearly \$500,000 and three years to eradicate Eurasian watermilfoil in Lake Youngs and has sought assistance from the Washington Invasive Species Council to increase awareness of the invasive species issue among utility staff and the public.
- The Northwest Power and Conservation Council has calculated that a zebra or quagga mussel invasion in the Snake or Columbia River would cost upwards of \$300 million in annual maintenance and lost opportunities to the hydropower industry, hatcheries, public utility districts, and farmers.

It takes years of diligent efforts to eliminate harmful, aggressive, non-native species. Additionally, invasive species management on private and public lands, which includes detection, control, eradication, monitoring, and rehabilitation strategies, is expensive. For example:

- Between 1996 and 2009, state and federal agencies provided nearly \$30 million in funding for invasive cordgrass (spartina) eradication in Washington.
- The State of Florida spends \$56 million a year to manage its hydrilla infestations.
- The Washington Department of Agriculture and state Salmon Recovery Funding Board have contributed about \$6 million since 2004 to control invasive knotweed infestations.
- Great Lakes utilities spend between \$200 million and \$500 million a year on zebra mussel control, retrofitting, and cleaning of intake pipes and other equipment.

- Private and government sources in Washington have spent at least \$25 million to date and continue to spend money to control Eurasian watermilfoil with no real end in sight.

As international travel and trade accelerate and climate change creates more favorable conditions for invasive species to thrive, examples of these environmental and economic impacts only will increase.



**ZEBRA MUSSELS ATTACHED TO A SHOPPING CART AFTER SEVERAL MONTHS IN MUSSEL-INFESTED WATERS (WISCONSIN).**

### THE SOLUTION

The Washington State Legislature decided four years ago that the way the state was handling invading plant and animal species was not adequate to protect Washington's natural resources, the industries and families that rely on them. Because of the piecemeal structure of state government, agencies focused on controlling individual species or groups of species with few connections among efforts. For example, the Noxious Weed Control Board works with counties to control noxious weeds, but the Department of Agriculture (with the Departments of Natural Resources and Fish and Wildlife) leads the spartina control efforts. The Department of Ecology provides grants to counties and others for freshwater weed and algae control, but no agency has responsibility for marine algae. The Washington State Parks and Recreation Commission addresses invasive plants only in state parks; the Department of Natural Resources is responsible for controlling noxious weeds but not invasive animals or insects on their lands; and the Department of Fish and Wildlife has authority for all invasive animals but has programs in place to address just a few.

Before the council, there was no systematic effort to determine what all the individual efforts added up to for the state as a whole, and if agencies were effectively addressing the problem. To remedy the disjointed approach to invasive species management and bring multiple levels of government to the table, the Legislature created the Washington Invasive Species Council. The council is a structured and highly effective group of state, federal, local, tribal, and non-government organizations that acts strategically and collaboratively to better protect Washington from the harmful effects of invasive species.

In the council's first year (House Bill 5385), the Legislature set out nine goals. Five of these goals have been completed. They include:

- Develop and implement (ongoing) a statewide invasive species strategic plan.
- Review the current funding mechanisms and levels for state agencies to manage noxious weeds on lands under their authority.
- Make recommendations for legislation (Appendix A).
- Establish criteria for the prioritization of invasive species response actions and projects.
- Select at least one project per year from the strategic plan for coordinated action.

The remaining four are long-term goals, and implementation is ongoing. They are:

- Minimize the effects of harmful invasive species and ensure the economic and environmental well-being of the state.
- Serve as a forum for identifying and understanding invasive species issues from all perspectives.
- Serve as a forum to facilitate the communication, cooperation, and coordination of local, tribal, state, federal, private, and nongovernmental entities for the prevention, control, and management of nonnative invasive species.
- Serve as an avenue for public outreach and for raising public awareness of invasive species issues.

Invading species do not respect borders and will continue to arrive in Washington. A strong program to combat invasive species will protect not only businesses that depend on the state's natural bounty. An effective invasive species program with a component of rapid response will save the state millions of dollars in costs to eradicate a species once it is established.

The Washington Invasive Species Council was created with a call to action – to better protect Washington from the devastating impacts of invasive species and to do so among multiple levels of government. The council is a joint effort among local, tribal, state, and federal governments, as well as the private sector and nongovernmental interests, to provide policy-level direction, planning, and coordination on invasive species. During the past three years, the council has done exactly that. It established a strategic and unified approach to stopping invaders at the gate and began providing the leadership and coordination on invasive species that the agencies do not have the resources to do. The council also tracks the progress made in implementing the strategic plan, as well as whether or not those efforts are reducing the presence and harm caused by invasive species.

This report identifies:

- The council's accomplishments.
- Options for continuing the council.
- A recommended approach going forward.
- A vision for the future.

## COUNCIL ACCOMPLISHMENTS

Collaborating with the agencies responsible for the on-the-ground work, the council has taken steps to identify opportunities for more strategic and cost-effective action that reaches across the state and across all types of species. To protect Washington's natural resources and invasive species, the Washington Invasive Species Council determined that five critical elements need to be accomplished:

- Determine the breadth and depth of the invasive species threat and use that information to **strategically target resources** where they are most needed and effective.
- Establish clear, statewide **priorities** for action.
- Improve the capability to **prevent** new infestations and **act quickly and decisively** upon discovering new threats.
- Strengthen **control** efforts for established infestations.
- **Communicate** the gravity of invasive species and, in doing so, change opinions and behaviors.

The council, "Invaders at the Gate," represents the best thinking of a wide range of experts and describes actions needed to fulfill the five critical elements above. The actions include immediate and long-term initiatives and are a direct response to existing technical, funding, education, and regulatory obstacles that prevent government agencies from effectively battling the numerous invaders in and near Washington. While much more remains to be done, here are the actions the council has taken to address the critical elements.

### Strategically Targeting Resources

#### Baseline Assessment Project

When the council was formed and began its strategic planning, many big picture questions were asked, such as, "What invasive species are they having? How are they moving around? Who is managing them and how effective is that management?" Unfortunately, at that time, we do not know.

To answer those questions, the council sought federal funding to create an understanding of what invasive species baseline conditions exist. Funding for this project comes from the Environmental Protection Agency and is targeted specifically for the Puget Sound basin. This project, known as the baseline assessment, brings together for the first time existing invasive species data and information to present a broad picture of the problem in the Puget Sound area and the degree to which the state's current programs are managing the problem. When finished, the project will identify gaps in detection efforts, on-the-ground management, location data, and education efforts, and this information will be used to strategically target resources to best fill those gaps. The first phase of this project addresses 15 of the council's 10 priorities in December 2010.

Once additional project funding is secured, a second phase will add the remaining 35 species. Outcomes will include:

- Centralizing data and information on invasive species locations (Figure 1) and management activities on the priority species and making that information available to all.
- Identifying where management actions are not being taken on an invasive species and working with council member agencies and partners to fill those gaps.
- Improving government's ability to collaborate
- Informing agencies of locations not surveyed for invasive species so that early detection efforts and the ability to rapidly respond to new infestations are greatly enhanced.
- Creating a baseline to track future conditions of invasive species in the Puget Sound area and, eventually, throughout Washington.

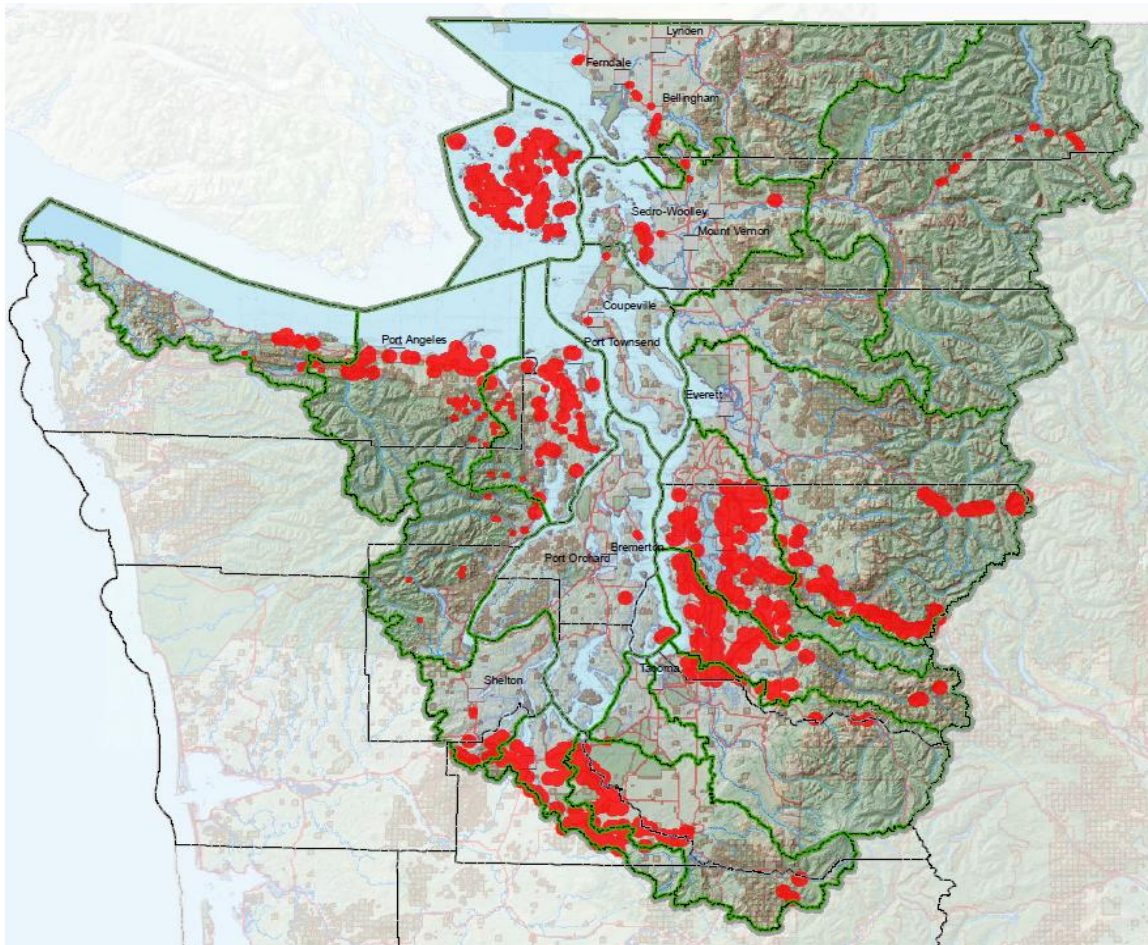


FIGURE 1: SAMPLE MAP FROM THE BASELINE ASSESSMENT OF INVASIVE KNAPWEED LOCATIONS IN THE PUGET SOUND AREA.

## Setting Priorities

The council evaluated more than 700 invasive species in and near Washington to determine which posed the greatest threat to the state's environment, economy, and human health. To do this, the council developed an assessment tool, or scorecard, that allows it to compare species impacts and ability to be prevented, and then to select the most harmful species. The council selected **50 priority species** (Appendix B) for action in the short term. This is a dynamic list that will be revisited biennially.

The scorecard also identifies management actions for the council to take based on a species score on the assessment. It provides an easy-to-understand, quantitative summary of how invasive a species is, what its impacts are, and its location in and near Washington.

The council did this in two ways: (1) its assessment encompasses all types of species, not just plants for example, and (2) it incorporates policy and management elements in addition to biological factors. The tool already is providing consistency within Washington and the Pacific Northwest as other organizations adopt it.

### OTHER ORGANIZATIONS USING THE COUNCIL'S ASSESSMENT TOOL

- Invasive Species Council of California
- Alaska Sea Life Center Invasive Species Program
- Washington State Noxious Weed Control Board
- Puget Sound Partnership
- Aquatic Nuisance Species Committee

## Better Prevention and Quick Action

### Prevention

#### Reporting Hotline and Online Reporting Form

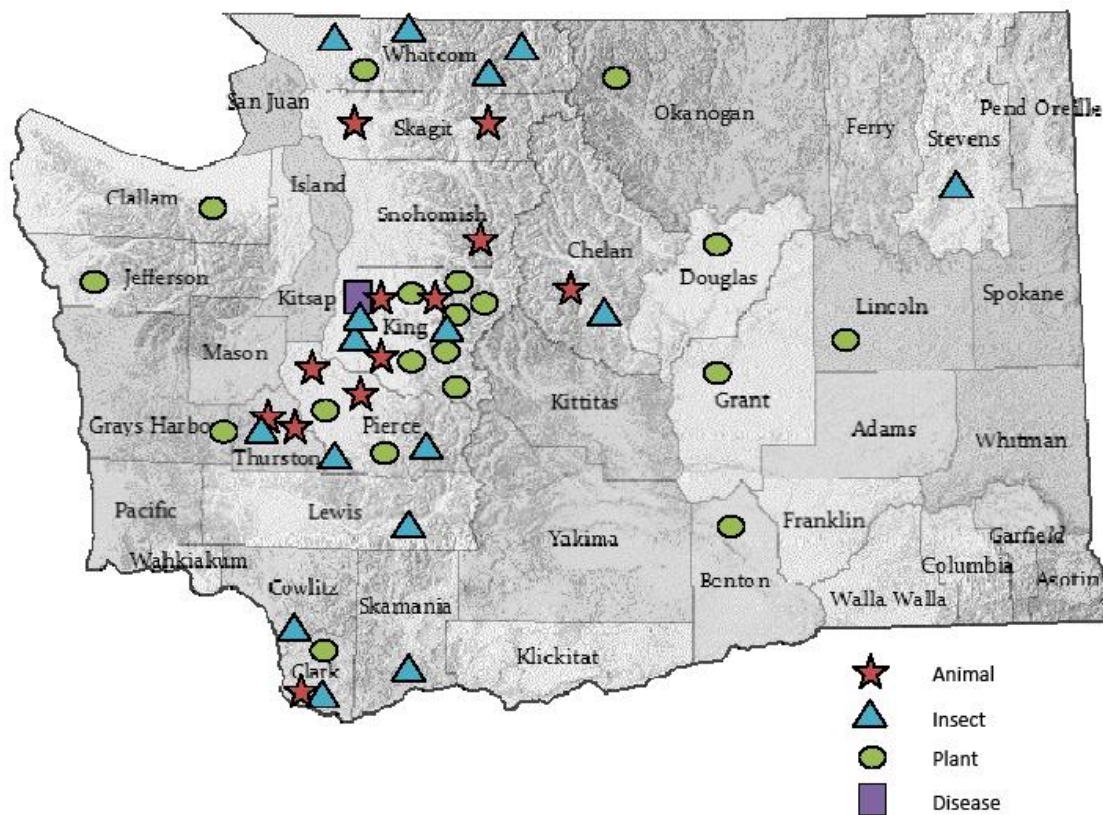
The council created a reporting hotline, [1-877-9-INFEST](tel:1-877-9-INFEST), and online reporting form to enlist the public in taking action. This is the first statewide reporting hotline and online Web site for all types of invasive species, and there have been 51 reports to date from across the state (Figure 2). These direct links between the public and the council increase detection efforts, improve response time, and provide opportunities for one-on-one education about invasive species. With council staff or agency experts personally responding to each report within two weeks, public response has been extremely positive with numerous expressions of appreciation. This is an example of good government.

#### Invasive Species Information Clearinghouse

The council has begun creating an online clearinghouse project that will become a central hub of information for those who report and include occurrences of known invasive species Web sites, risk assessments, information on decontamination and prevention, reports, emerging technologies for controlling invasive species, and best practices, among others. The council expects the clearinghouse to improve statewide capacity to identify, prevent, report, and respond to both newly discovered and existing infestations.



### Washington Invasive Species Council Reporting Map



Updated 9-9-2010

FIGURE 2: LOCATIONS AND TYPES OF REPORTS TO THE INVASIVE SPECIES REPORTING HOTLINE.

### Stopping the Spread – Addressing Pathways

The first-line of defense and, over time, the most cost-effective strategy against invasive species is preventing them from becoming established. Targeting the pathways, or the ways in which species move around, as a means of prevention is a major focus of the council. Here are some of the prevention through pathway projects that the council has accomplished:

- **Don't Move Firewood Outreach Campaign.** The council received \$130,000 in federal funding to create and implement an outreach campaign with the invasive species councils of Oregon and Idaho (each of which received their own federal grants). Firewood has been shown to be a major pathway of invasive insects and plants, as people cut wood in an infested county or state and bring it to a new site. The outreach campaign is intended to raise the public's awareness about firewood as a means of invasive species introduction and spread.

- Cedar River Education Center. The Seattle Public Utilities District asked the County Education Work Group to serve as advisors in creating an invasive species exhibit at the Cedar River Education Center. The exhibit will teach visitors about invasive species and their impacts on the environment and the utility district's operations.
- In the classroom. The council is working directly with the Washington State Office of the Superintendent of Public Instruction and Education Science District 113 in Olympia to remove invasive species from school science kits and train science teachers and principals on proper disposal of live specimens.
- State natural resources agencies. The council has helped Washington State agencies change the way they do business. The council has asked all state natural resource cabinet agencies to adopt and implement a protocol for field staff to inspect and clean their gear to prevent the spread of invasive species. Agency directors agreed, and the council will present a protocol for their adoption by December 2010.



DON'T MOVE FIREWOOD OUTREACH CAMPAIGN POSTER

## Taking Quick Action

The goal of the council is to prevent, and failing that, rapidly respond to and eradicate new invasions before they become established and cause environmental and economic damage. There generally is a lag between the introduction of an organism and its unfettered spread. A rapid response plan capitalizes on this often short window of opportunity with invasive species. It is much more economical and effective to invest in a quick response than to initiate control actions once an unwanted species has become established.

### New Zealand Mud Snail Response in Capitol Lake

The council took a leadership role in responding to the New Zealand mud snail infestation in Capitol Lake in Olympia. Within five days of learning about the infestation and confirming its identity, the council initiated a multi-agency, rapid response by bringing together the Washington Department of Fish and



NEW ZEALAND MUD SNAILS IN CAPITOL LAKE.

Wildlife, U.S. Fish and Wildlife Service, Washington Department of Ecology, and Washington Department of General Administration. In addition to coordinating the response, the council used federal funds to survey water bodies surrounding Capitol Lake to identify how widespread is the infestation. This information is critical to the Department of General Administration as it determines how exactly to proceed in Capitol Lake – focusing on containment and control or working towards complete eradication. The response is ongoing, with the council continuing to work with partners to develop options for control or eradication.

### Emergency Response Readiness

The council's Work Group is identifying response readiness to respond to each of the first 15 priority species (later to be expanded to all 50 priority species) and developing response plans for the priority species. The work group has completed the first of those two tasks and identified the readiness gaps (Appendix C). Next, the council will develop response plans that identify who is in charge, what organizations should respond immediately, how to prevent further spread, and what control measures could be used. These plans will respond immediately to infestations by priority species.

### Emergency Response Fund

The council anticipates submitting proposed legislation to create the Invasive Species Emergency Response Fund. The funding would be available to both state and local government agencies and tribes to enable quick responses to high-threat invasive species. Money into the Invasive Species Emergency Response Fund would be sustainable, tied to particular pathways of spread, and dedicated for this purpose.

## Stronger Control Efforts

For the past year, the council has taken a close look at existing state policy and programs on the first 15 priority invasive species. For each of those species, the following questions were asked and answered:

- What agency has responsibility for that priority species?
- Are there active surveillance and management programs in place?
- Are prevention measures taken to stop the species from being introduced?
- Is there funding to support these measures?
- What are the policies in place to address that priority species and are those policies implemented and enforced?

In answering the questions, gaps were identified and recommendations to the Legislature were prepared to fill those gaps. To strengthen control efforts for invasive animals and marine macro-algae species, where there seems to be the greatest need, the council is working with member agencies to submit coordinated legislation.

Outside of state government, the council was asked by the Pacific Northwest Invasive Plant Council and University of Washington to co-host a meeting of Seattle-based, non-governmental organizations (e.g., Washington Trails Association, Washington Native Plant Society, Cascade Land Conservancy, Mountains to Sound Greenway Trust) to move them towards a more collaborative working relationship and strengthen local invasive species control efforts.

## Communication and Outreach

### Connecting to Partner Agencies and Stakeholders

The main role of the council is to foster cooperation, communication, and coordinated approaches for the prevention and control of invasive species. Not only does the council serve a leadership role, but it also provides a forum for coordination among different levels of government. There is no other venue that brings these entities together to think and act strategically on invasive species. Emerging issues are communicated and joint solutions to these issues are identified. Member agencies now are using common messages when talking about invasive species, using the same education materials, prioritizing species the same way, and collaborating in response to citizen report new hotline.

Specific examples include:

- The Washington State Noxious Weed Control Board has changed its process for evaluating noxious weed impacts to align with the council

- The U.S. Fish and Wildlife Service regularly presents Invasive Species Council updates and information to Puget Sound Federal Caucus meetings. The agency also sends council outreach materials to all national wildlife refuge managers, fish hatchery managers, and its own regional offices for posting.
- The council is participating in the state Puget Sound Caucus and has offered baseline assessment data to create an invasive species indicator of Puget Sound health.
- The Washington State Parks and Recreation Commission has posted "Stop the Invasion" posters in all state parks.

Council staff also is reaching out to stakeholders and providing information on various invasive species-related topics. For example, county weed coordinators asked the council to provide materials on invasive animal species for which they should be looking, the Washington Fly Fishing Academy requested the council give a presentation on prevention practices, the Seattle Public Utilities District asked the council to advise on an education and outreach project at the Cedar River Education Center, and the Washington Sea Plane Pilots Association requested information on water bodies infested with invasive species.

### General Education Efforts

In general, the public has a clear grasp of what the threats are from other natural disasters such as fires and floods. While the threats from and response to invasive species can be quite similar, most people have only a vague understanding of what invasive species are and how they impact their lives. One of the missions of the council is to begin increasing awareness of the issue and bring about simple

### A LETTER FROM LOCAL GOVERNMENT

The City of Bellingham appreciates the efforts of the Washington Invasive Species Council and believes that the council is an effective model for facilitating coordination and collaboration between agencies working to prevent and manage invasive species in Washington.

As we work to protect Lake Whatcom, the City's drinking water reservoir, from invasive species infestations, the council has been a valuable resource for the City of Bellingham as we attempt to design and implement invasive species prevention, monitoring, control, and outreach strategies that are consistent with strategies being implemented throughout the state. Specifically, the City of Bellingham has enhanced by the council's meetings for its PUD collaboration on invasive species issues, as well as through the sharing of materials, resources, and contact information.

The City of Bellingham will continue to support the efforts of the Washington Invasive Species Council and its partners as they work to achieve more effective interagency communication, planning, and coordination of invasive species efforts throughout the state.

Sincerely,

Ted A. Carlson, Director  
Bellingham Public Works Department

changes in behaviors that will have a profound effect on reducing the spread and early detection of invasive species. The council has taken a number of actions to accomplish that.

### Web Site

The council ([WWW.INVASIVESPECIES.WA.GOV](http://WWW.INVASIVESPECIES.WA.GOV)) was completely redesigned in 2009. The new design and information provided on the site allow for easier access to invasive species information that is important to the public. Some of this information includes current news and events about invasive species, how to identify the council's priority species around, who to contact when a species is found, how to request free education materials, and how to report a species sighting. Downloadable fact sheets for the first 15 priority species have been created and posted on the site ([WWW.INVASIVESPECIES.WA.GOV/PRIORITIES.SHTML](http://WWW.INVASIVESPECIES.WA.GOV/PRIORITIES.SHTML)).

The number of visitors to the Web site has been tracked since September 2009 and shows a marked increase in use during the past year (Figure 3).

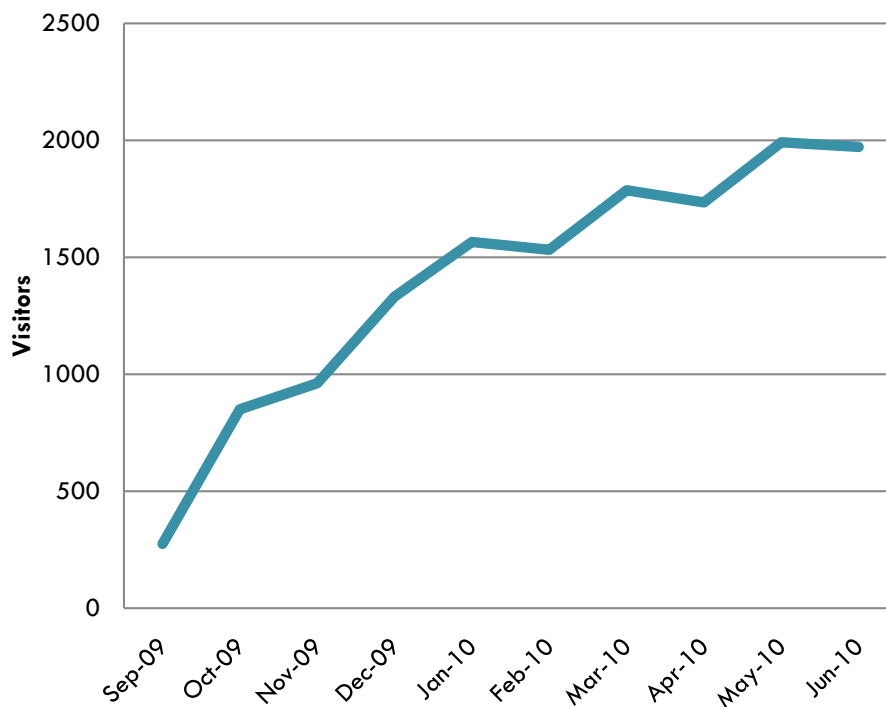


FIGURE 3: COUNCIL WEB SITE VISITORS FROM SEPTEMBER 2009 TO JUNE 2010.

### Targeted Outreach Campaigns

To ensure that there is understanding of the true Education Work Group developed a plan that prioritizes increased awareness of the potential damage caused by invasive species. Working with members from other state and federal agencies, counties, university extensions, and Washington Sea Grant, the work group developed a concise and powerful education message with clearly identified target audiences and deliverables. Additionally, the council focuses on enlisting the public to be the eyes and ears of the council,

detecting new infestations and reporting them. As a result of targeted effort for reporting hotline, many more reports are being made this year, as compared to the past year.

The council has been involved in close regional collaboration with the invasive species councils of Oregon, Idaho, and California. For example, the council received \$130,000 in federal funding for a joint public education campaign with the invasive species councils of Oregon and Idaho (each of which received their own federal grants) The councils are Don sharing educational messaging and artwork, applying together for regional outreach and emergency response grants, sharing data on invasive species sightings and monitoring efforts, and planning a regional meeting of invasive species councils. Sharing common messages helps ensure that information about invasive species is presented consistently, amplifying the impact of each single message.

### OPTIONS FOR CONTINUING THE COUNCIL

The council considered three options for our future:

1. Invasive Species Council continues until June 2017 and its budget is maintained.
2. Invasive Species Council continues until June 2017 with no budget (i.e., no staff support).
3. Invasive Species Council is dissolved.

The pros and cons of the three options are discussed below.

#### Option 1: Council and its Budget Continue

This option allows the council to keep its momentum and continue to make progress implementing the statewide strategy, facilitating response actions on invasive species, bringing partners into the conversation, stopping invasive species from spreading, providing resources and information to managers and the public, and raising general awareness on invasive species.

One of the most significant values of Option 1 is that the council brings together both government and non-governmental organizations, along with their stakeholders and resources, in a partnership that wouldn't exist without a structured council. If the council becomes an ad hoc partnership among state agencies, then those outside state government, such as tribes, non-profits, the federal government, and businesses, won't have a place at the table. This also would be true if the council is dissolved and its work is managed by another state entity. Federal government partners have indicated they will not spend resources or time to participate without a structured council. The Washington Invasive Species Council provides a forum for discussion and the leadership necessary for a comprehensive and strategic approach to invasive species. **There is no other venue that brings the multiple levels of government, private sector, tribes, and business community together to act strategically on invasive species.**

Under this option, council and staff continue to implement the strategic plan, and continue to work with the invasive species councils of California, Oregon, and Idaho to bring additional resources and common messages to the region. In 2009-2010, the council brought in more money than was appropriated from the state general fund.

The council and its staff will continue efforts to educate the public. Staff will maintain the Web site, information clearinghouse, and hotline, and would do public speaking and other outreach events.

Option 1 provides continuity and allows building on accomplishments. The forum for cooperation and communication remains institutionalized and meetings occur with regularity. **Invasive species threats**



**are addressed strategically. Protections for Washington continue to grow. Costs to the state are minimized.**

## **Option 2: Council Continues, Budget is Eliminated**

Under Option 2, the council continues as is, with no staff, and is either tasked to an agency or is an informal collaboration among several agencies. In this scenario, the agencies would continue to meet regularly and pick up some of the current work of the council such as implementing the strategic plan, responding to hotline reports, and seeking federal funding for projects, assuming the agencies are willing to take on these additional tasks without additional resources. Many of the public education components, such as updating the Web site and information clearinghouse may continue if there is a willing agency to take these on, but the messaging between states and perhaps between agencies most likely would not be consistent. More money likely would be spent statewide because of duplication of efforts.

While all of this work may in fact happen without council staff, the more likely scenario is that it will either be much less effective or not happen at all.

Staffing of the council is a key component of its success, and is the glue that keeps the council functioning and productive. Staff not only provide scheduling and administrative functions, but take on a greater role of providing strategic thinking, research, and analysis. Staff creates the first draft of most of the council key documents, including its strategic plan; coordinates responses to newly found invasive species such as when New Zealand mud snails were discovered in Capitol Lake or if zebra mussels are found in Washington; applies for federal funding; regularly coordinates with the other regional invasive species councils; and produces many of the council's public council's operations. The council is relied upon by many of the partner agencies, assisting the agencies on invasive species in different ways (e.g., supporting the Departments of Fish and Wildlife and General Administration on the New Zealand mud snail response, facilitating joint legislation between the Departments of Ecology and Fish and Wildlife, and creating outreach materials for county noxious weed coordinators). If the budget, and with it council staff, is eliminated, the effectiveness of the council will decrease dramatically.

Having individual agencies themselves coordinate the council may seem like a good choice. However, the reality is that the tasks of the council, which include coordinating policy proposals among agencies, representing the varied interests and agendas of the member agencies, and working on statewide issues and all species, are beyond the scope of any one state agency. Some agencies were coordinating before the council, but only on individual projects. The council, with its staff, has moved the state and federal coordination to the next level and has served as a catalyst for action. In addition, council members felt that housing and staffing the council at the Recreation and Conservation Office provided an independent policy perspective.

Having staff be independent of member agencies provides some checks and balances. As agencies face increasing budget cuts, resources for new tasks will be difficult if not impossible to find. There is concern as well that the agencies would lose momentum over time, which the state can ill afford when a quick response to a new invasion is warranted. Without staff to keep the work moving, it will be

logical for agency members to respond more slowly as they face pressing tasks and deadlines from their own agencies.

Staff keeps the council effective, productive, and moving forward. If agency directors drop out from the council, it is likely that they would diminish the effectiveness of the council. The \$200,000 annual cost for staff (.9 FTE) and miscellaneous council expenditures can easily be dwarfed by the cost to control even one invasive species that becomes established in Washington because agencies were slow or not adequately prepared to respond to an emergency outbreak.

As the Natural Resources Cabinet looked for cost savings and ways to rethink delivery of government services, the Invasive Species Council was held up as an example of collaboration happening without the more extensive costs of merging agencies.

Finally, there is a cost-benefit ratio. Council staff has been able to not only leverage the small council budget to bring in additional federal funds (more money than was appropriated from the state general fund), but also has been able to leverage its part-time employee to bring in hundreds of staff hours from federal, state, local, tribal, and non-governmental agencies for strategic plan development and implementation.

Under Option 2, the forum for cooperation and communication exists but is less active. Work of the council is up to the good will of agencies. Close connection to federal agencies and tribes may be lost. Web site, reporting hotline, clearinghouse, baseline assessment, and other resources currently available to the public likely will not be well maintained and updated. Protections for Washington grow slowly and the state becomes more vulnerable to major invasions that damage agriculture, aquaculture, and hydroelectric industries, irrigation, utility districts, and recreation, and that cost millions of dollars a year to contain.

### Option 3: Council and its Budget are Eliminated

In this option, the council's sunset date is not extended, and the council is dissolved December 31, 2011. It is likely that agencies would revert to focusing on individual species (not necessarily those identified by the council as a priority) and responding to the needs dictated by their agency's own mission and stakeholders. It is also unlikely that anyone would manage and update the council's projects, such as its Web site and baseline assessment, and no one would track whether the individual efforts of each agency added up to a cost-effective program for the state as a whole.

State investments made to date would be lost. Washington also would lose the ability to get ahead of invasive species and would remain in the more expensive, response-only mode, potentially spending millions of dollars a year to prevent and contain damages. The forum for cooperation and communication is lost as is the connection to federal agencies and tribes. Protections for Washington stop or grow slowly. The state would essentially take a step back to four years ago. If a significant invasive species is discovered, Washington will have lost the infrastructure to quickly handle the invasion and will be faced with starting all over.

the same problems concerning invasive species that caused the Legislature to take action to form the council in the first place, and wish it had been different.

### RECOMMENDATION AND VISION FOR THE FUTURE

The council has voiced its strong support for Option 1 to continue the council beyond December 2011 and maintain its current budget. This option is the only one that provides continuity and allows Washington to build upon all of the accomplishments listed above. It also maintains the structured and supported forum for cooperation and communication among local, tribal, state, federal, private, and other organizations that is so critical to making real progress towards invasive species protections.

The council's leadership ensures readiness and accountability in responding to new invasions. In a true emergency, such as zebra mussels being found in the Columbia River, the structure already would exist so that agencies would be ready for immediate and collaborative action.

One of the most significant values of Option 1 is that the council brings together both government and non-governmental organizations, along with their stakeholders and resources, in an effective and action-oriented partnership that structured council. If the council becomes without a ad hoc partnership among state agencies, then those outside state government, such as tribes, non-profits, the federal government, and businesses relationships. This also would be true if the council is dissolved and its work is managed by another state entity. Without a structured council, federal government partners have said they will not participate. The Washington Invasive Species Council provides a forum for discussion and the leadership necessary for a comprehensive and strategic approach to invasive species. It also is a catalyst for action, driving implementation of the statewide strategic plan and its statewide solutions.

The council spent its first two years on strategic planning and establishing priorities for action. The council now is poised to move the state forward on prevention – closing the gate on pathways – and readiness for emergency response. Specifically, in the next six years the council would:

#### Develop Rapid Response Plan

- Develop an agreement among state and federal agencies and tribes that defines roles and incident command procedures for emergency responses.
- Award grants to agencies to tackle new invasions. The grants would come from a new invasive species emergency fund, if approved.
- Continue to facilitate rapid and emergency response actions.

#### Assess Invasive Species in Washington

- Seek funding to expand the baseline assessment to the entire state.

- Add new information to the baseline assessment to begin tracking trends so resources may be targeted to hot spots. The assessment is a report currently being done for the Puget Sound basin that will outline the extent of invasive species infestations and be used to establish more protective public policies on invasive species and more targeted control and eradication efforts.
- Develop a mechanism for classifying marine algae based on potential risks to the environment and economy.
- Continue to bring invasive species into the development of Washington's climate response strategy.

### Bring Federal Funding for Washington Program

- Continue to leverage its state budget and close ties to the invasive species councils of Idaho, Oregon, and California to obtain federal funds. Also, seek a second year of funding from U.S. Department of Agriculture for the "Don't Move It" program in Oregon.
- Work with federal member agencies to support and push federal invasive species legislation forward (e.g., S 3063 - loan program to western states; S 1519 and HR 3850 – nutria control and eradication) that would benefit and bring resources to Washington.
- Work with Washington's Congressional delegation to support the Quagga/Zebra Mussel Act and the Pacific Northwest Interagency Invasive Species Response Plan.

### Expand Outreach and Education

- Work with businesses to implement practices that prevent the spread of invasive species.
- Expand current work to eliminate the use of invasive species live specimens in the classroom and incorporate invasive species curricula into more schools.
- Maintain the invasive species Web site, information clearinghouse, and hotline for reporting sightings of invasive species.
- Create educational materials on identifying and reporting invasive marine macro-algae (seaweeds) such as caulerpa, sargassum, and undaria to recreation groups, such as scuba divers, canoe and kayak clubs, beach walkers, and the pet and aquarium users and industry.

Invasive species are a classic case of pay now or pay later. Modest investments in maintaining the structured coordination and leadership on invasive species, as provided by the council, will enable the state to more efficiently combat invading species before they wreak economic and environmental damage. The council is working hard to ensure that the investments it makes today will prevent Washington from paying a steep price in the future.



## Appendix A: Key Recommendations on the First 15 Priority Species

### KEY RECOMMENDATIONS ON FIRST FIFTEEN PRIORITY SPECIES

The Washington Invasive Species Council evaluated existing state policy, education efforts, prevention, and emergency response capabilities related to the first 15 priority species. Significant gaps in authorities, prevention, response efforts, funding, and other areas were identified, and recommendations are made to fill those gaps.

The first fifteen priority species (Appendix B) and subset were selected to represent the broad range of taxonomic groups – plants, marine algae, animals, insects, pathogens – and to include both terrestrial and aquatic species. The smaller group of species served as a manageable size to initiate this analysis, and it is the council's work in the future to provide recommendations for all 50 priority species.

| First Fifteen Priority Species |                                 |                                 |
|--------------------------------|---------------------------------|---------------------------------|
| Kudzu                          | Common reed                     | Nutria                          |
| Variable-leaf milfoil          | Spartina species                | Feral swine                     |
| Brazilian elodea               | Caulerpa (a marine macro-algae) | Lymantriids (gypsy moth family) |
| Hydrilla                       | Zebra and quagga mussels        | Wood-boring beetles             |
| Knapweed species               | Tunicate species                | VHS fish disease                |

The following recommendations represent actions needed to fill the gaps and increase protections to the state of Washington from invasive species. The individual recommendations are bulleted and have been grouped into larger categories. The table that follows on page 34 indicates to which of the 15 species a recommendation specifically pertains.

#### Stronger Prevention

##### Because Prevention is the First and Best Defense Against Invasives

- Agencies conducting natural resource management should adopt protocols, train employees, and enforce decontamination procedures when working in areas where invasive species are present. The Washington Invasive Species Council works with agencies and oversees development of protocols by December 2010.

- An assigned agency works with the Washington Invasive Species Council to develop a mechanism for classifying marine algae based on potential economic and environmental risks.
- The Washington Fish and Wildlife Commission should designate three tunicate species, *Didemnum vexillum*, *Styela*, and *Ciona intestinalis*, as prohibited species under Revised Code of Washington 77.12.020 based on threats they pose to the environment and at the recommendation of a panel of national and international tunicate experts.
- The Washington Department of Fish and Wildlife should assess the environmental and economic risks of nutria in Washington. The department uses the risk assessment findings to clarify needs for response and potentially adjust internal policy on nutria.
- To prevent the spread of fish diseases such as viral hemorrhagic septicemia and other pathogens, the Legislature should provide authority to the Washington Department of Fish and Wildlife to prohibit the overland transportation of water contained in any compartment, equipment, or container from an infested water body, including, but not limited to, live wells, ballast tanks, and bilge areas.

## Improving Detection and Rapid Response

### Early Action is Always More Cost-effective than Delay

- The Washington Department of Fish and Wildlife should create a state action plan for responding to a zebra or quagga mussel infestation that provides supplemental information for Washington's Quagga/Zebra Mussel Action Plan for Western U.S. Waters developed by the Western Regional Panel on Aquatic Nuisance Species and adopted by the national Aquatic Nuisance Species Task Force.
- The Washington Department of Fish and Wildlife should develop and adopt protocols for tunicate early detection, control, and disposal.
- The Washington Department of Fish and Wildlife should develop and maintain a rapid response unit and develop agreements with other Columbia River Basin states to share resources when zebra or quagga mussels and priority species are detected, as determined by the department and the Washington Invasive Species Council.
- The Washington Department of Fish and Wildlife should develop and implement an emergency response protocol for feral swine.

## Clarifying Authority

### So Invaders Don't Fall Through the Cracks

- The Natural Resource Cabinet should assign authority to a state agency for invasive marine algae.



- Following the noxious weed model (Revised Code of Washington 17.10), the Legislature should provide the Washington Department of Fish and Wildlife the authority to require landowners to remove and control prohibited species and, in water bodies containing public access, to implement prevention measures.
- The Legislature should provide authority to the Washington Department of Fish and Wildlife to require the adoption of tunicate best management practices at aquatic facilities (e.g., aquaculture facilities, marinas).

## Increased or Sustained Funding

### Some Current Levels are Inadequate to Meet the Growing Challenges

- The Legislature should create a sustainable and dedicated fund to 1) enable emergency response by state and local agencies to invasions and 2) continue the structured, interagency coordination and collaboration on invasive species such as that provided by the Washington Invasive Species Council. The Washington Invasive Species Council should develop rules for emergency response fund eligibility.
- The Legislature should increase funding to the Washington State Department of Agriculture for Class A and B designate weed grants to county noxious weed control boards.
- The Washington State Noxious Weed Control Board and Washington Invasive Species Council should develop options for addressing disparities between counties in enforcement of the noxious weed laws, including consideration of instituting a county enforcement assistance program in Washington State Department of Agriculture.
- The Legislature should extend and increase by \$1, the per vessel registration fee to the Freshwater Aquatic Algae Control Account to expand the Washington Department of Ecology's freshwater algae program. The enhanced program also would provide grants to detect and respond to invasive marine algae infestations.
- The Legislature should extend and increase the fee into the Aquatic Invasive Species (AIS) Prevention and Enforcement Account beyond 2012 to continue funding the Washington Department of Fish and Wildlife and Washington State Patrol zebra and quagga mussel boat inspection and monitoring program and other priority species research and management projects as part of a broader Aquatic Invasive Species program.
- The Legislature should continue funding for Wildlife, and Natural Resources for spartina eradication to meet the objectives of Revised Code of Washington 17.26 (Control of spartina and purple loosestrife) and the West Coast Governor's Agreement (Spartina Eradication in Washington, Oregon, California).

## Raising Awareness through Education and Outreach

### To Enlist an Informed Citizenry in Keeping Invasives at Bay

- The Washington State Noxious Weed Control Board should coordinate with counties to (1) promote common messaging about prevention, (2) distribute educational materials that focus on identification and pathways of spread, (3) promote citizen reporting, and (4) provide training to county weed coordinators on detection of Washington Invasive Species Council priority species not yet established in Washington (e.g., kudzu).
- At water bodies with public access, landowners or managers should ensure signs are posted that address the cleaning of gear and equipment to prevent the spread of invasive species, and that promote citizen reporting. The Washington Departments of Fish and Wildlife and Ecology should partner with Oregon and Idaho for consistent and simplified outreach messages.
- Until an agency is assigned responsibility, the Washington Invasive Species Council should create and distribute educational materials on identifying and reporting invasive marine macro-algae such as *Caulerpa*, *Sargassum*, and *Undaria* to recreation groups, such as scuba divers, canoe and kayak clubs, beach walkers, and the pet and aquarium users and industry.
- The Washington Invasive Species Council, Washington Departments of Fish and Wildlife and Ecology, and the Puget Sound Partnership should work together to educate recreational divers, boat yard employees, harbor masters, marinas, and aquaculture industry about new listings of prohibited tunicate species.
- The Washington Department of Fish and Wildlife should add information to its Web site about nutria and feral swine, and create and distribute education materials in all regional offices. The education materials should be produced in coordination with the Oregon and Idaho Invasive Species Councils for consistent messaging and to promote reporting of nutria and feral swine populations.
- To increase regional awareness of firewood as a mechanism for the spread of invasive, wood-boring insects and plants, the Washington Invasive Species Council should seek a second year of federal funding to continue its partnership with the Invasive Species Councils of Idaho and Oregon, Washington State Department of Agriculture, Washington State Parks and Recreation Commission, Washington State University, Washington Department of Natural Resources, U.S. Department of Agriculture (Animal Plant Health Inspection Service), U.S. Forest Service, and the U.S. Customs and Border Protection.
- The Washington Department of Fish and Wildlife should educate boaters about the spread of fish diseases in the water contained in live wells of recreational boats. The department should create outreach materials and messages with input from fish health specialists at the U.S. Fish and Wildlife Service, Northwest Indian Fisheries Commission, and Columbia River Intertribal Fish Commission.

## Increased Coordination

### To improve effective response

- State and federal agencies and tribes should develop and sign an agreement and adopt training protocols to use the incident command structure in an emergency response situation, as identified in the *Rapid Response Plan for Zebra Mussels in the Columbia River Basin*. The Washington Invasive Species Council facilitates development of the agreement.
- The Washington Invasive Species Council and the Governor's Office should work with Washington's Congressional Delegation to update the *Mussel Action Plan for Western U.S. Waters* and to provide funding to update and implement the *Columbia River Basin Interagency Invasive Species Response Plan: Zebra Mussels and Other Dreissenid Species*.

# Key Recommendations for the First 15 Priority Species

| Brazilian Elodea | Caulerpa | Feral Swine | Hydrilla | Knapweeds | Kudzu | Lymantrids | Nutria | Phragmites | Spartina | Tunicates | Variable Leaf Milfoil | VHS Disease | Wood Boring Beetles | Zebra and Quagga Mussels |
|------------------|----------|-------------|----------|-----------|-------|------------|--------|------------|----------|-----------|-----------------------|-------------|---------------------|--------------------------|
|------------------|----------|-------------|----------|-----------|-------|------------|--------|------------|----------|-----------|-----------------------|-------------|---------------------|--------------------------|

## Authority

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Natural Resources Cabinet gives authority to a state agency for invasive marine algae.   | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Legislature gives WDFW+ authority to require landowners to control prohibited species and, in water bodies with public access, to implement prevention measures. | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Legislature gives WDFW+ authority to require adoption of tunicate best management practices at aquatic facilities.   | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

## Prevention

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Agencies adopt protocols, train employees, and enforce decontamination procedures for invasive species areas.    | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Agency works with WISC* to develop a way to classify marine algae based on risks to the environment and economy. | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Washington Fish and Wildlife Commission designates three tunicate species as prohibited species.                 | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| WDFW+ assesses the risks of nutria and clarifies needs for response.   | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Legislature gives WDFW+ authority to prohibit overland transportation of water from infested water bodies.       | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

## Detection and Rapid Response

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WDFW+ creates a zebra or quagga mussel state response plan.                                     | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| WDFW+ adopts protocols for tunicate early detection, control, and disposal.                     | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| WDFW+ creates rapid response unit and develops agreements with other states to share resources. | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| WDFW+ implements an emergency response protocol for feral swine.                                | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

## Funding

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Legislature creates dedicated fund for emergency response and continued coordination. | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Legislature increases funding for grants to county noxious weed control boards.       | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

| Key Recommendations for the First 15 Priority Species  | Brazilian Elodea | Caulerpa | Feral Swine | Hydrilla | Knapweeds | Kudzu | Lymantrids | Nutria | Phragmites | Spartina | Tunicates | Variable Leaf Milfoil | VHS Disease | Wood Boring Beetles | Zebra and Quagga Mussels |
|--|------------------|----------|-------------|----------|-----------|-------|------------|--------|------------|----------|-----------|-----------------------|-------------|---------------------|--------------------------|
| State develops options for addressing disparities in county enforcement of noxious weed laws.  | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| Legislature continues funding spartina eradication.  | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| Legislature increases the vessel registration fee to pay for marine algae program.   | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| Legislature increases fee to continue zebra and quagga mussel boat inspection and monitoring program.  | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| <b>Education and Outreach</b>  |                  |          |             |          |           |       |            |        |            |          |           |                       |             |                     |                          |
| Washington State Noxious Weed Control Board coordinates with counties to promote common messaging and citizen reporting, distribute educational materials that focus on identification and pathways of spread, and train county weed coordinators on invasive species detection. | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| Landowners and managers post signs at water bodies with public access about cleaning equipment to prevent the spread of invasive species, and promote citizen reporting.   | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| WISC* distributes educational materials on identifying and reporting invasive marine macro-algae to recreation groups, and the pet and aquarium users and industry.  | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| WISC*, WDFW+, the Department of Ecology, and the Puget Sound Partnership educate recreational divers, boat yard employees, harbor masters, marinas, and aquaculture industry on prohibited tunicate species.   | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| WDFW+ adds information to its Web site about nutria and feral swine, and distributes education materials in all regional offices.  | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| WISC* seeks a second year of f   | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| WDFW+ educates boaters about the spread of fish diseases in the live wells of recreational boats.  | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| <b>Increased Coordination</b>  |                  |          |             |          |           |       |            |        |            |          |           |                       |             |                     |                          |
| State and federal agencies and tribes adopt incident command protocols for emergency response.   | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |
| WISC* and Governor's Office work federal funding for quagga and zebra mussel plans.  | .                | .        | .           | .        | .         | .     | .          | .      | .          | .        | .         | .                     | .           | .                   | .                        |

+ Washington State Department of Fish and Wildlife, \* Washington State Invasive Species Council

## Appendix B: 50 Priority Species

### Terrestrial Plants

Butterfly bush  
Common crupina  
Dalmation toadflax  
Garlic mustard  
Giant hogweed  
Hawkweeds  
Himalayan blackberry  
Knapweeds  
Knotweeds  
Kochia  
Kudzu  
Leafy spurge  
Rush skeleton weed  
Scotch broom  
Scotch thistle  
Tamarix  
Tansy ragwort  
Yellow starthistle

### Terrestrial Animals

Feral swine  
Mediterranean snail

### Aquatic Plants

Caulerpa seaweed  
Eurasian watermilfoil  
Hydrilla  
Parrotfeather  
Common reed  
Purple loosestrife  
Spartina  
Variable leaf milfoil  
Water chestnut  
Brazilian elodea

### Aquatic Animals

Asian carp Atlantic salmon  
Bullfrog  
Green crab  
Marine clam  
Mitten crab  
New Zealand mud snail  
Northern snakehead  
Nutria  
Red swamp/rusty crayfish  
Tunicates  
Zebra/quagga mussel

### Insects/Diseases

Bark boring moths  
Exotic apple fruit pests  
Exotic leafrollers  
Lymantriids  
Wood boring beetles  
Invasive VHS type IVa  
VHS type IVb  
SVCV Species

Evaluated for impacts, prevention, early action (species of high threat in Washington)

# Caulerpa



## Are we ready to respond?

- INITIAL DETECTION**  
Do standards exist for verification and are experts known?
- THREAT-RISK EVALUATION**  
Have threats and risks to Washington been identified?
- AUTHORITY-RESOURCE INVENTORY**  
Is the responsible agency known and is funding available?
- DECISION TO ACT**  
Has agency approval and funding been provided?
- RESPONSE DEVELOPMENT**  
Are control strategies known? Is an action plan in place?
- OUTREACH TO DECISION MAKERS**  
Is the process for outreach known and ready for implementation?
- OUTREACH TO PUBLIC**  
Is the process for outreach known and ready for implementation? Are key stakeholders known?
- LEGAL AND ENVIRONMENTAL-PERMITTING PROCESS**  
Are permits in place or readily secured?

## After response actions and monitoring have occurred.

- FOLLOW-UP ACTIONS**  
Has the agency allocated funds for follow-up response actions informed by monitoring?



## ARE WE READY?

### Rapid Response Elements that are in Place for **Caulerpa**

**INITIAL DETECTION. Do standards exist for verification? Are experts known?**

Yes. Standards exist for verification and experts are known in Washington and California.

**THREAT-RISK EVALUATION. Have threats and risks to Washington been identified?**

No, a risk assessment has not been conducted for *Caulerpa* in Washington waters.

**AUTHORITY-RESOURCE INVENTORY. Is the responsible agency known and is funding available?**

No. No agency has been assigned responsibility for detecting and/or controlling infestations of invasive marine algae.

**DECISION TO ACT. Has agency approval and funding been provided?**

No, with no agency having authority for marine invasive algae, approval or funding for action have not been provided.

**RESPONSE DEVELOPMENT. Are control strategies known? Is an action plan in place?**

Yes. Control strategies are known from California. The action plan used to eradicate *Caulerpa* in California at the Agua Hedionda Lagoon by the Southern California *Caulerpa* Action Team may be used as the action plan for Washington. There also exists the *National Management Plan for the Genus Caulerpa*. While there is not yet a separate action plan prepared for Washington, the action plan used in California, as well as the national management plan, could be used in its place until one is developed specifically for Washington waters.

**OUTREACH TO DECISION MAKERS. Is the process for outreach known and ready for implementation?**

No, the process for outreach to decision makers is not known nor ready for implementation.

**OUTREACH TO PUBLIC. Is the process for outreach known and ready for implementation? Are key stakeholders known?**

No, the process for outreach to the public is not known nor ready for implementation. Key stakeholders have not yet been identified.

**LEGAL AND ENVIRONMENTAL – PERMITTING PROCESS. Are permits in place or readily secured?**

Yes, the Department of Ecology is close to finalizing the *National Pollutant Discharge Elimination System (NPDES) General Permit for management of Aquatic Invasive Species*, to enable rapid response on invasive marine algae infestations.

**ACTION.**

**MONITORING.**

**FOLLOW-UP ACTIONS. Has the agency allocated funds for follow-up response actions informed by monitoring (adaptive management element)?**

No, with no agency having authority for marine invasive algae, no funding for follow-up actions has been allocated.