

# WASHINGTON INVASIVE SPECIES COUNCIL

2009

Annual Report



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## Washington Invasive Species Council Annual Report - 2009

### Message from the Chair:

In 2008, the council developed a groundbreaking, 20-year strategic plan and ranked five recommendations as the highest priorities for immediate action. I am pleased to share with you in this report the results of our first year of implementation, in which the Washington State Invasive Species Council has taken solid steps in implementing all five strategic plan recommendations.

Three of our most exciting achievements are receiving a federal grant to assess invasive species information and programs in Washington, developing a tool to describe the actions needed to manage and prevent the most critical invading species, and beginning our public education program.

Early on, the council recognized a need to objectively set priorities for which of the more than 700 invasive species in and around Washington should be addressed first. We developed an assessment tool that allowed us to look at the species posing the highest threat and our ability to control them, and select the top 50 species for addressing in the near term. This tool will help us focus on the most critical species. Additionally, the council is working on gaining an understanding of the “big picture” of invasive species in Washington – where all invasive species are located, how quickly they are spreading, how they are moving around, and what programs are in place to address them or, more importantly, where they are not yet in place. The federal grant the council received will allow us to pull together this existing, but disconnected, information to identify gaps in knowledge and management efforts and then take action to close those gaps.

Both of these tools will help the council identify and develop action strategies for combating the species that are the biggest threat to Washington. Combine those with our third achievement, a new outreach campaign aimed at educating the public about the harm invading species can inflict in Washington, and you have a program taking its first steps down a path that will strengthen Washington’s ability to respond to current and future threats, and toward a more coordinated and strategic approach in the future.

The council recognizes the state’s current fiscal crisis and continuing economic uncertainty. It also recognizes the need for modest investments that can have big payoffs in the long run. Improved coordination, prevention, emergency response, and public education will enable the state to more efficiently combat invading species before they wreak economic and environmental damage. Washington can either pay now or pay later. The council is working hard to ensure that the investments it makes today will prevent Washington from paying a steep price in the future.

Sincerely,



Chris Christopher, Chair, Invasive Species

# ANNUAL REPORT 2009

## Council Vision

The council envisions our state sustaining human, plant, and animal communities and our economy by preventing the introduction and spread of harmful invasive species.

## Council Mission

The council's mission is to empower those engaged in the prevention, detection, and eradication of invasive species; to design a strategic plan built upon local, state, and regional efforts; and to serve as a forum for invasive species education and communication.

## Why We Care About Invasive Species

Washington ranks among the top 15 states for diversity of native plants, animals, and birds. But our native species – and the beneficial species in our farms and orchards – are in danger from invasive species across the globe. Invasive species can be garden plants gone wild, aquatic plants and animals that hitchhike on ships and boats, insects that arrive on imported fruit and nursery plants, or offspring of pets that escape or are released by their owners. Invading species of all kinds expand their presence into Washington every day. While many introduced species never become a problem, others are able to out-compete and overwhelm local species, disrupting entire ecosystems.

The economic consequences of invasive species can be devastating. They reduce the productivity of our farms, orchards, fisheries, and oyster-growing industries; degrade water quality in lakes; and further imperil threatened and endangered species such as salmon. It's estimated that the invasion of the zebra or quagga mussel into Washington waters would cost the hydropower industry alone more than \$128 million dollars to combat them. Add impacts to salmon in the Columbia River as well as impacts to irrigation infrastructure and municipal drinking water facilities, and the cost would increase drastically more.

As international travel and trade accelerate, and changes in ocean currents and other impacts of global climate change create more favorable conditions for invasive species to thrive – the threat to our ecosystems and livelihoods increase. To address this threat, a change in approach to invasive species management is called for - one that is preventive or pre-emptive, rather than reactive. Stopping the flow of invasive species into our precious state or responding immediately when a new population is discovered, rather than scrambling to contain a rapidly-spreading infestation, is the only way that we will succeed.

### Early Detection and Rapid Response: New Zealand Mud Snail in Capital Lake



Outreach efforts of the council and member agencies paid off in November. A citizen reported New Zealand mud snails in Capital Lake in November 2009. Within five days of learning about the infestation and confirming its identity, the council initiated a multi-agency rapid response by bringing together Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Washington Department of Ecology, and Washington Department of General Administration. Coordination among the agencies has been excellent. General Administration immediately closed the lake to contain the infestation, Department of Fish and Wildlife surveyed the lake, Department of Ecology developed a decontamination protocol, and the council coordinated meetings and provided outreach to stakeholders and the Governor's Office. The council will continue to work with the partners to develop options for eradication.

## The Council

The Washington Invasive Species Council was formed to provide policy direction, planning, and coordination for combating harmful invasive species throughout the state and preventing the introduction of others that may be harmful. It is a partnership among governments, tribes, citizens, and conservation and business interests, whose mission is to empower those engaged in the prevention, detection, and eradication of invasive species. The council's approach to protecting Washington from invasive species impacts includes strategic planning designed to build upon existing local, state, and regional efforts, and serving as a forum for invasive species education and communication.

Upon its establishment in late 2006, the council moved quickly to create the organizational infrastructure necessary for this work, and to craft a groundbreaking, statewide strategic plan, *Invaders at the Gate*, that represents the best thinking of a wide range of experts and stakeholders. During the planning process, it became apparent that several key elements necessary for a statewide strategic response were not in place. None of the agencies or organizations involved in this work had a firm grasp of the state of invasive species in Washington – what species were located here, how they were moving around, and what programs were in place to address them. Also lacking was easy access to information, general awareness of the invasive species issue, coordination among agencies and organizations doing invasive species work, and the funding and authorities needed to respond immediately to all new invasive species infestations.

The 20-year strategic plan, published in June 2008, contains a list of 22 recommendations and associated actions necessary to put those, and other, key elements in place. From this list, the council ranked five recommendations as its highest priorities for immediate action:

1. Compile existing information and conduct a baseline assessment of invasive species information and programs in Washington.
2. Develop a Web-based clearinghouse as the interchange for all existing invasive species information statewide.
3. Support targeted outreach campaigns to raise awareness of the potential damage caused by invasive species.
4. Facilitate and improve communication, accessibility of tools, and coordinated approaches across agencies and organizations.

### Success Story: Gypsy Moth



The gypsy moth, a highly destructive forest pest and one of the council's top priority species, continues to show up in Washington. This summer, the Washington Department of Agriculture caught 18 gypsy moths at seven sites in western Washington. These sites are being inspected for additional evidence of gypsy moth presence such as egg masses, pupal cases, and cast skins before determining the need for an eradication effort. Thanks to the department's ongoing surveillance work, no permanent populations of gypsy moth have been found in Washington.

5. Improve agencies' access to emergency funding and develop an early detection and rapid response network.

Beyond these early actions, the council's strategic plan lays out a 20-year agenda for work on the remaining recommendations. This work will lead to continuous improvement in the coordination, effectiveness, and evaluation of invasive species prevention, eradication, and education. The council's strategic plan is online at [www.invasivespecies.wa.gov/documents/InvasiveSpeciesStrategicPlan.pdf](http://www.invasivespecies.wa.gov/documents/InvasiveSpeciesStrategicPlan.pdf).

## Implementation Efforts

**Setting Priorities.** During the past year, the council has made significant progress towards implementing several of its recommendations. Funding from the Environmental Protection Agency's Puget Sound Watershed Grant Program has allowed the council to begin implementing three of the top five recommendations in the Puget Sound basin. As additional funds are secured, implementation will expand statewide.

Early on, the council recognized a need to objectively set priorities for which of the more than 700 invasive species in and around Washington should be addressed first. A council work group began in early 2009 to take on this difficult task.

The Priority Species Work Group developed the Invasive Species Impact and Prevention Assessment Tool as the method for setting clear and objective priorities for action (see [www.invasivespecies.wa.gov/priorities.shtml](http://www.invasivespecies.wa.gov/priorities.shtml)). The tool allows comparison among species on a variety of criteria to allow prioritization of the most harmful species. It also provides an easy-to-understand, quantitative summary of how invasive a species is, what its impacts are, and how it is distributed in and around Washington. The council's assessment tool is unique in two ways: (1) it encompasses all types of species, not just plants for example, and (2) it incorporates policy and management elements in addition to biological ones. The tool already is

being used by the Washington State Noxious Weed Control Board, Puget Sound Partnership, the Aquatic Nuisance Species Committee, and the Invasive Species Council of California.

Once the tool was developed, a group of experts came together to narrow the list of 700 species to a more manageable list of 50. These 50 species included those from six categories – aquatic plants, terrestrial plants, aquatic animals, terrestrial animals, insects, and diseases of plants and wildlife (see Figure 1). The experts then used the tool to score the species and plotted the scores on a graph (provided in Appendix A).

Species on the graph (Figure 2) are divided into four categories:

- Species that have a high impact and are easier for state agencies to prevent.
- Species that have a high impact and are more difficult for state agencies to prevent.
- Species that have a lower impact and are easier to prevent.
- Species that have a lower impact and are more difficult to prevent.

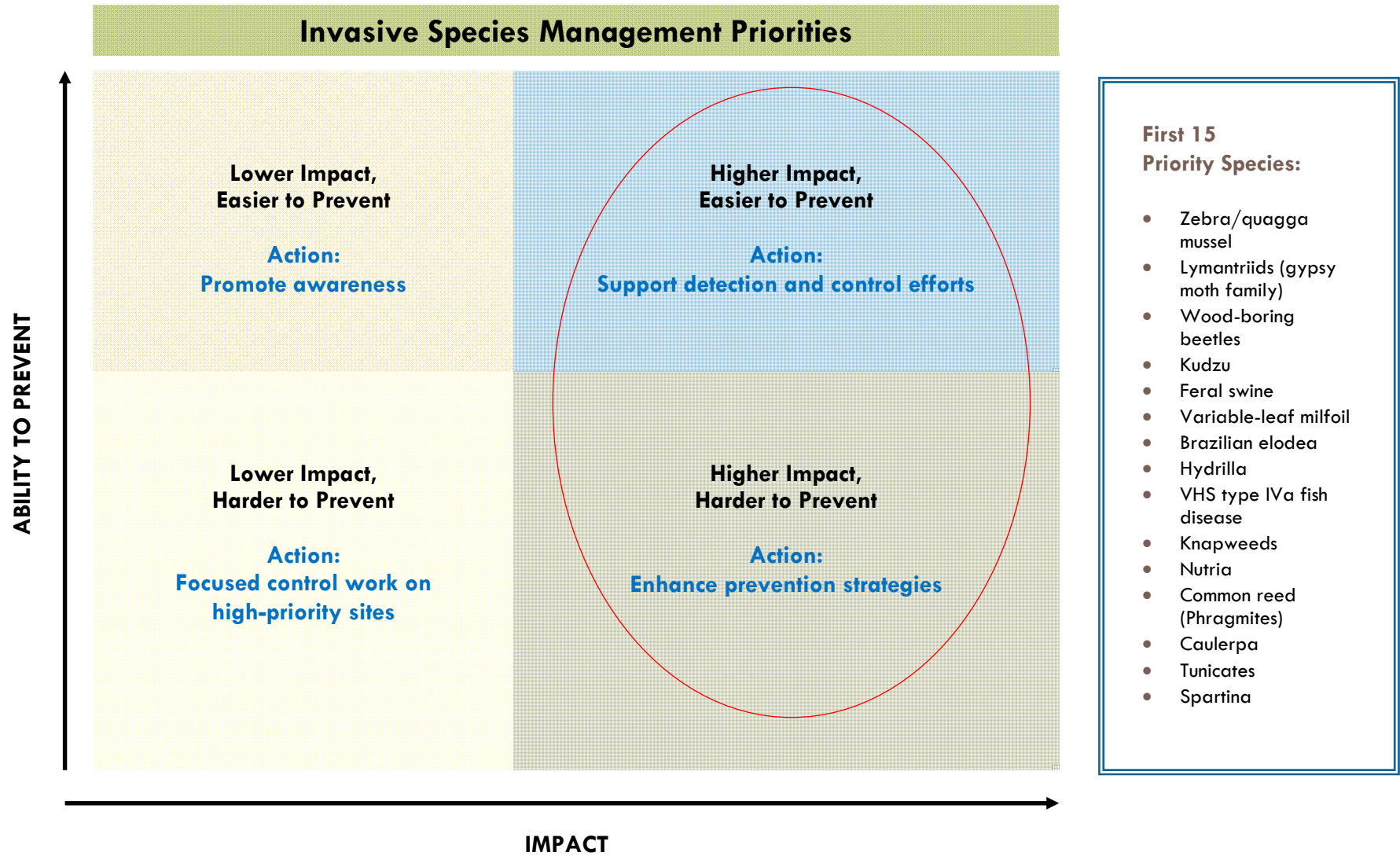
Each quadrant is assigned a different set of management actions that will guide the council in addressing the particular species that are located there. To focus the council’s limited resources, the council will target its near-term efforts on 15 species falling in the two higher impact quadrants, circled in red below.

**Figure 1: Council’s 50 Priority Species**

<b>Terrestrial Plants</b>	<b>Aquatic Plants</b>	<b>Terrestrial Animals</b>	<b>Aquatic Animals</b>	<b>Insects/Diseases</b>
Butterfly bush	Caulerpa seaweed	Feral swine	Asian carp	Bark-boring moths
Common crupina	Eurasian watermilfoil	Mediterranean snail	Atlantic salmon	Exotic apple fruit pests
Dalmation toadflax	Hydrilla		Bullfrog	Exotic leafrollers
Garlic mustard	Parrotfeather		Green crab	Lymantriids
Giant hogweed	Common reed		Marine clam	Wood-boring beetles
Hawkweeds	Purple loosestrife		Mitten crab	VHS type IVa
Himalayan blackberry	Spartina		New Zealand mud snail	VHS type IVb
Knapweeds	Variable-leaf milfoil		Northern snakehead	SVCV
Knotweeds	Water chestnut		Nutria	
Kochia	Brazilian elodea		Red swamp/rusty crayfish	
Kudzu			Tunicates	
Leafy spurge			Zebra/quagga mussel	
Rush skeletonweed				
Scotch broom				
Scotch thistle				
Tamarix				
Tansy ragwort				
Yellow starthistle				



Figure 2: Invasive Species Management Priorities Grid





## Priority Recommendation 1: Baseline Assessment

The state currently lacks an understanding of the status and trends of invasive species in Washington. To be strategic and use limited resources wisely, the council needed to first understand the big picture of invasive species. The goal of this project is to compile and evaluate existing data and knowledge, most of which is disconnected and not centrally located, to complete a baseline assessment of priority invasive species in the Puget Sound basin. The baseline will provide information on the following:

- Where species are located.
- How quickly they are spreading.
- How they arrived.
- What resources they are most impacting.
- What programs are in place to address them.

The assessment will be used to identify gaps in data and programs and ultimately guide policy recommendations to improve prevention, early detection, and rapid response strategies and actions.

Because project funding is tied to Puget Sound, the baseline project will focus on 15 species that represent a wide range of taxonomic groups, had the higher impact scores as measured by the assessment tool, and are in the Puget Sound basin. The list contains aquatic, terrestrial, plant, animal, and insect species, as well as one fish disease. While this is a great start, the council's goal is to collect and analyze baseline information on all of the 50 priority species.

Progress to date includes hiring a contractor, finalizing the work plan, and surveying more than 150 entities involved with the 15 species to determine what invasive species information exists for the Puget Sound basin. Survey responses were followed up with telephone calls to get additional details about the data, as well as permission for the council's use. In 2010 and into early 2011, the data will be analyzed, mapped, and summarized, and a project report created. Gaps in knowledge and programs will be identified and policy recommendations for filling those gaps will be presented to the legislature in the 2011 session. The project will be complete in May 2011.

Long-term project outcomes are expected to include:

- Informing future policies and best practices to prevent and control invasive species.
- Improving collaborative, multi-jurisdictional approaches to address invasive species in the Puget Sound basin.
- Keeping targeted invasive species out of the Puget Sound basin.

- Developing and implementing effective rapid response strategies to address invasions before permanent establishment occurs.
- Continuing activities to contain, control, and eradicate targeted populations of undesirable invasive species.

## Priority Recommendation 2: Information Clearinghouse

Current invasive species information is scattered among a multitude of federal, state, and local governments, universities, and nonprofit organizations. The information clearinghouse will provide both the public and invasive species professionals a place to find all of this information in an easy-to-understand format.

The online clearinghouse will become a central hub of information including occurrences of known species, potential funding sources, invasive species Web sites, risk assessments, reports, emerging control technologies, and best practices, among others. The council expects the clearinghouse to improve statewide communication and capacity to identify, report, and respond to both newly discovered and existing infestations.

To date, the Request for Proposals process has been initiated and a consultant will be hired in February 2010. The project will focus on the 15 Puget Sound priority species and be available for use by December 2010.

## Priority Recommendation 3: Outreach and Education

Education and outreach to the public continues to be one of the most important, and potentially cost-effective, ways to protect Washington from invasive species. A recent news story about a live frog being found in a bag of pre-packaged lettuce ended with “[t]he family says Kroger representatives asked them to mail back the package with the frog inside, but considering a trip through the mail could kill it, the Grimes’ decided to take the creature’s picture and set him free.” The release or ‘freeing’ of aquarium plants, pets, and critters used in the classroom can lead to devastating impacts to Washington’s native species and ecosystems. It is the council’s job to have people understand the impacts of such actions and, more importantly, stop the behaviors that result in the spread of invasive species.

**Targeted Outreach Campaign.** To ensure that there is understanding of the true dangers that invasive species pose, the council’s 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’s education plan focuses on enlisting the public to be the eyes and ears of the council, detecting new infestations and reporting them.

**Reporting Hotline and Web Site.** A reporting hotline, [1-877-9-INFEST](tel:1-877-9-INFEST), and online reporting form were created to provide a place for people to report when they see something resembling an invasive species. This is the first statewide reporting hotline and online site for all types of invasive species. These direct links between the public and the council serve multiple purposes. First, they provide opportunity for one-on-one

education about invasive species. Second, they increase detection efforts and allow for more rapid response. Third, they empower people to get involved and take positive action.

To date, the council has had numerous reports of plant, animal, and insect sightings. Each report is passed along to a state agency expert, who then contacts the person reporting. In one instance of a nutria report along a major road, the Washington Departments of Transportation and Fish and Wildlife worked together to contact and meet with the citizen reporting, identify the species, and evaluate any roadway damage.

The council's Web site ([www.InvasiveSpecies.wa.gov](http://www.InvasiveSpecies.wa.gov)) also 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 general public. Some of this information includes current news and events about invasive species, how to identify the council's priority species, how to prevent moving invasive 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)). An example fact sheet is provided in Appendix B.

**Educational Materials.** The council received funding from one of its member agencies, the U.S. Fish and Wildlife Service, to produce education and outreach materials featuring the reporting hotline number and Web site address. With this money, the council produced an eye-catching poster that has been distributed across the state at rest areas, Washington State University Extension Offices, Washington Department of Fish and Wildlife access and wildlife areas, state parks, Washington Department of Natural Resources natural area preserves and conservation areas, and national wildlife refuges. To reach a larger audience and address the issue of



### Zebra-Quagga Mussels Move Westward



The quagga mussel, one of the council's highest priority species, made a giant leap westward in January 2007 when it was discovered at Lake Mead, the largest reservoir in the United States. In the two years since its discovery, the invasive mussel has spread throughout the lower Columbia River into major water distribution systems. The mussels now are found in eight western states, but fortunately not yet in Washington, Oregon, or Idaho. That is thanks in part to the regional coordination of efforts among the three states, as well as the Washington Department of Fish and Wildlife's invasive mussel prevention program. In May 2009, Washington Department of Fish and Wildlife officials received a report from Idaho, by way of Utah, that an infested boat was on its way into Washington. The boat, named "Hello," was detained, inspected, and decontaminated after it was found to indeed contain live quagga mussels. Three other boats were found to contain zebra mussels; each of these was decontaminated by the department's enforcement officers.

invasive species pathways – the ways in which invasive species move around – the council also produced usable materials for hikers, boaters, hunters, scuba divers, and other users of Washington's great outdoors.

### Priority Recommendation 4: Improved Communication and Coordinated Approaches

The council held four meetings in 2009 and continues to be a forum for identifying and understanding invasive species issues from all perspectives. 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 reporting via the council's new hotline.

Specific examples include:

- The Washington Department of Fish and Wildlife's Aquatic Nuisance Species Program is aligning the Washington aquatic nuisance species watch list with the council's priority species list and adopting the methodology used by the council to evaluate and establish priority species.
- The U.S. Fish and Wildlife Service regularly brings 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 Washington State Parks and Recreation Commission has posted Stop the Invasion posters in all state parks.
- The Washington State Noxious Weed Control Board has changed its process for evaluating noxious weed impacts to align with the council's impact assessment tool.
- The Washington Department of Fish and Wildlife's and the Washington Department of Transportation joined forces to respond to a nutria sighting (reported via the council hotline) along Highway 302.

## Priority Recommendation 5: Emergency Response

The work of the Emergency Response Work Group was started and then stalled in 2009. The work group has come back together and, in 2010, will include clearly defining existing authorities for emergency response and identifying gaps in authority, investigating options for emergency response funding, and addressing other roadblocks to an agency's ability to take emergency response actions, in its work for the year. The work group also will work on establishing a rapid response funding mechanism.

## Other Council Work

**Regional Collaboration.** The council has been involved in close regional collaboration with the invasive species councils of Oregon, Idaho, and California. The councils are sharing educational messaging and graphic design elements, 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. If the public, legislators, local officials, and others hear about invasive species from different sources, but the message is common, they are more likely to remember it. An example of common messaging is design work contracted for by the Oregon Invasive Species Council and shared with the Washington Invasive Species Council as shown in Figure 3.

Other regional collaboration involves the 100th Meridian Initiative, which is a cooperative effort between state, provincial, and federal agencies and other partners to prevent the spread of zebra mussels and other aquatic invasive species into the western United States. Last year, the Initiative's Columbia Basin Team brought a bold new plan to the council for its consideration, and with the council's support, Governor Chris Gregoire recognized the need for this milestone and signed the Columbia River Basin Interagency Invasive Species Response Plan. This year, the Premier of British Columbia became the final signatory of the plan, and the council contributed information and talking points to the Governor's Office for the signing event.

Figure 3: Sharing Educational Messaging Regionally





**Looking for Gaps.** The council's Policy Work Group began compiling Washington's invasive species statutes and policies to identify gaps in mandates for prevention, detection, rapid response, and control of the council's priority species. The work group's next step will be to prepare and implement ideas for closing those gaps. Initial findings include:

- There is no state policy to address invasive marine algae (e.g., *Caluerna taxifolia*) leaving our marine areas vulnerable. This species, and others that threaten the West Coast, can blanket the sea floor, impacting fisheries. In California, two small infestations of *Caulerpa* cost \$7 million to eradicate. In the Mediterranean Sea, *Caluerna taxifolia* was released in 1984 and now covers 30,000 acres.
- Under Washington Department of Fish and Wildlife rules, there is a statute for the control of invasive, terrestrial mammals such as nutria and feral swine (Revised Code of Washington 77.12.020 and Washington Administrative Code 232-12-017), but there is no funding to survey or undertake control measures. Nutria, which is found in several wetlands in Washington, is a voracious feeder of wetland plants. In Louisiana, more than 80,000 acres of wetlands were damaged by nutria before an intensive control effort was undertaken.
- There is uncertainty over how feral swine are regulated (relevant agencies already are working on how to clarify this). Feral swine are widespread in parts of the United States and costs to restore ecosystems and agricultural losses have been estimated at more than \$800 million annually. The 2006 *E. coli* outbreak from spinach grown on a California farm was traced to feral swine droppings deposited in spinach fields.

The work group will continue its analysis into 2010 and will propose policy changes to bolster the state's capacity to prevent, rapidly respond to, and control all types of invasive species.

## Council Goals for 2010

1. Continue work on the baseline assessment project, phase 1, and seek additional funding for phases 2 and 3. Project tasks to be completed in 2010 include:
  - Creating a framework to house digital and spatial data collected from survey respondents.
  - Determining the quality and gaps in information and data.
  - Compiling data to conduct quantitative analysis of first 15 priority species (e.g., species locations, economic impacts of species in the Puget Sound basin, species and locations treated, areas susceptible to future infestations).
  - Reviewing and analyzing the effectiveness of existing programs.

The council also will continue to seek funding for phases 2 and 3 of the baseline assessment project. Each phase will use the same methodology developed for phase 1 to incorporate the remaining priority species. Phase 2 of the project is planned to be completed in 2011; phase 3 will be completed in 2012.

Phase 2 species and groups of species will include those of higher impact as defined by the council's priority grid, as well as several others with newly-discovered populations – yellow starthistle, leafy spurge, Eurasian watermilfoil, parrotfeather, tamarix, purple loosestrife, Dalmation toadflax, VHS type IVb (fish virus), mitten crab, water chestnut, New Zealand mud snail, knotweeds, green crab, red swamp/rusty crayfish, and garlic mustard.

Phase 3 will bring in the remaining 20 species and groups of species, which lie on the lower impact side of the priority grid. These species include: Himalayan blackberry, rush skeletonweed, scotch thistle, bullfrog, kochia, exotic apple fruit pests, Mediterranean snail, common crupina, hawkweeds, butterfly bush, Scotch broom, tansy ragwort, exotic leafrollers, giant hogweed, Atlantic salmon, marine clams, SVCV/IHNV (fish viruses), bark-boring moths, Asian carp, and northern snakehead fish.

2. Complete development of the information clearinghouse (i.e., Web portal) project, phase 1. Seek additional funding for phases 2 and 3. Project tasks to be completed in 2010 include:

- Compiling a list of Web-based resources on the first 15 priority species (e.g., existing Web sites and databases, public-domain spatial data).
- Gaining permission to access Web-based resources.
- Evaluating, installing, and configuring necessary software.
- Designing multiple portal icon options.
- Integrating the Web portal with existing Invasive Species Council Web pages and baseline assessment information and reports.
- Developing the Web portal and customized search engines and results pages.
- Testing and launching the portal.

Phases 2 and 3 of the information clearinghouse project will follow the outline proposed above for the baseline assessment project, whereby the methodology will be the same and the remaining priority species will be added in years 2011 and 2012.

3. Increase awareness and use of the council's reporting hotline and online reporting form, add information to the council's Web site, and continue regional collaboration on education and outreach. Several components of the council's education work plan to be implemented in 2010 include:

- Creating additional outreach materials to promote awareness about the reporting hotline and online reporting form.
- Increasing awareness and use of council's Web site.
- Tracking education materials requested and distributed, ensuring distribution around the state.



- Completing factsheets for remaining 35 priority species (factsheets for first 15 are completed and posted on the council's Web site) and post on Web site.
  - Continuing regional collaboration with invasive species councils of Oregon, Idaho, and California on 'Don't Move Firewood' education campaign.
4. Identify the lead and supporting agencies, permits needed, and funding mechanisms for emergency response for each of the first 15 priority species. Further, a memorandum of understanding among the responsible agencies will be created for each species that explicitly outlines agency roles, reimbursement procedures, and other relevant details.
  5. Identify state invasive species policies and programs that are lacking or require revision. Recommendations to close policy gaps will be made by the council in 2010. Additionally, as agency invasive species policy changes are proposed, the council will continue to bring agency and stakeholder groups together to discuss implications and provide formal comments.
  6. Provide key policy recommendations to the Governor and Legislature on protecting Washington from impacts of the first 15 priority species. The recommendations will be informed by ongoing policy analysis, results of the baseline assessment, work of the emergency response and education work groups, and individual input from council members and stakeholders.

## Conclusion: Pay Now or Pay Later

Washington leaders are at critical juncture. They can either pay now or pay later. Modest investments today to improve coordination, prevention, emergency response, and public education will enable the state to more efficiently combat invading species before they wreak economic and environmental damage.

The people of Washington care about their natural environment, support local farmers, and want a healthy place to live. Invasive species threaten all of these. A new invasive species arriving in ballast water, for example, could undermine the state's efforts to recover Puget Sound. A new pest such as the Mediterranean snail, recently found at the Port of Tacoma, could devastate wheat farms. In a warming world, with increased travel and trade, it is just a matter of time before new invasive species arrive on Washington's shores. The state must improve its efforts to anticipate, combat, and manage invasive species lest they overwhelm Washington's ability to protect itself and the world that sustains us.

Many organizations are doing exciting work in combating invasive species, but the "big picture" of invasive species in Washington that tells us where the species are and how quickly they are spreading is difficult to see because of disconnected programs and solutions. The council's goal is to pull together this existing, but disconnected, information to identify gaps in knowledge and management efforts and then take action to close those gaps.

Education and outreach continues to be one of the most important ways to protect Washington from invading species. The council has launched several new products to help in this area, including a new Web site, a communications plan with education messages and clearly identified target audiences and deliverables, a

new reporting hotline for the public to alert authorities on sightings, and education products, such as posters and pens to help spread the word about the harm invading species can inflict in Washington.

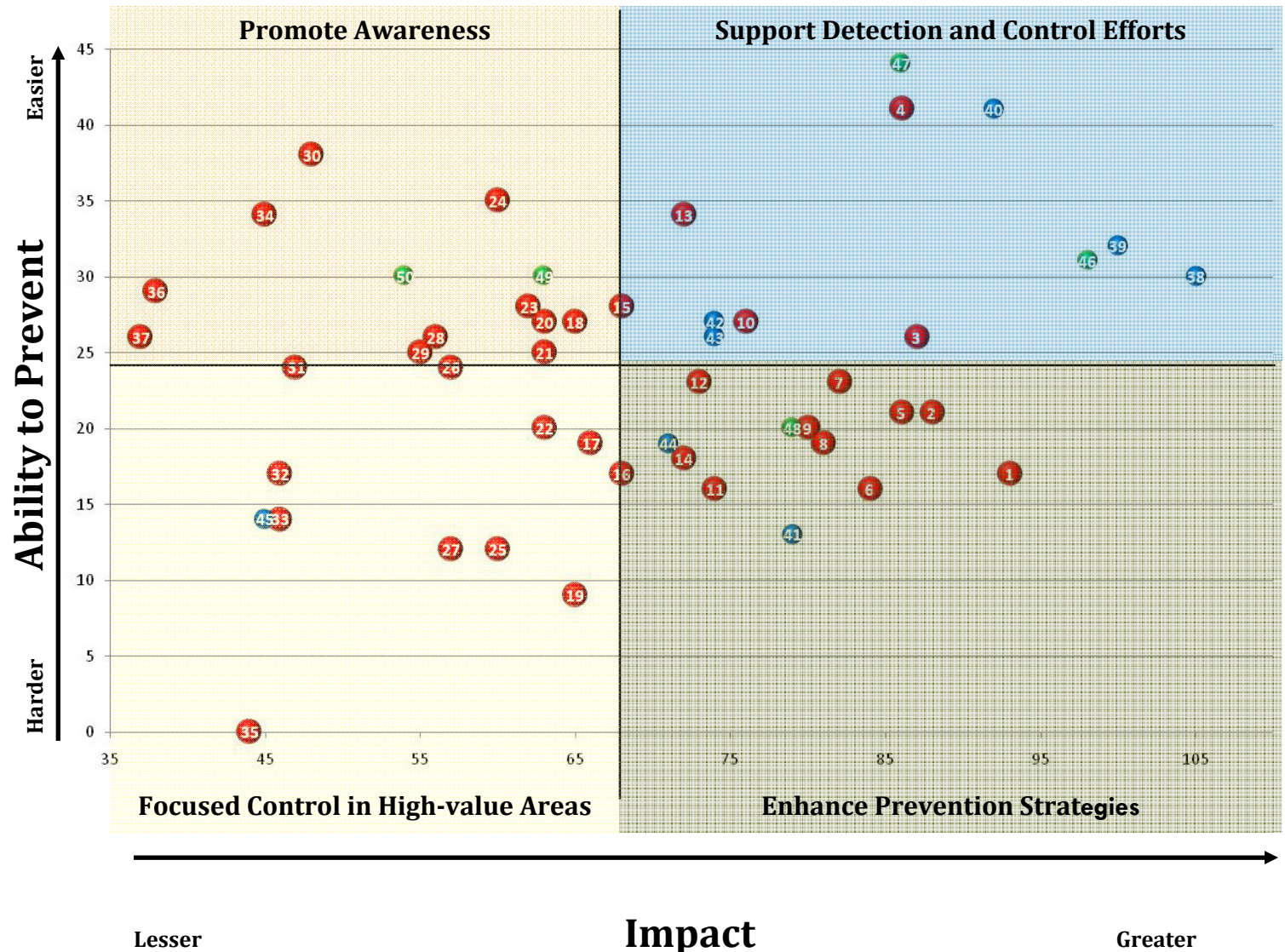
The importance of preventing and combating invasive species may not be widely recognized by the public today, but that does not diminish government's responsibility to protect the natural resources and the economy. Rising to this challenge now is the right thing to do. The public has a right to expect that government will act with foresight, careful coordination, and strategic investment to protect the state's natural resources, economy, and health of its citizens and wildlife. The council now is putting its plan into action so that Washington may live up to the public's expectation and not put off to tomorrow the investments and work it needs to make today.





# Invasive Species Management Priorities

- **Here**
  1. Feral swine
  2. Variable leaf milfoil
  3. Brazilian elodea
  4. Hydrilla
  5. Knapweeds
  6. Nutria
  7. Yellow starthistle
  8. Common reed – non native genotypes
  9. Leafy spurge
  10. Eurasian watermilfoil
  11. Tunicates
  12. Parrotfeather
  13. Spartina
  14. Tamarix
  15. Purple loosestrife
  16. Dalmation toadflax
  17. New Zealand mud snail
  18. Himalayan blackberry
  19. Knotweeds
  20. Green crab
  21. Rush skeletonweed
  22. Scotch thistle
  23. Red swamp/rusty crayfish
  24. Bullfrog
  25. Garlic mustard
  26. Kochia
  27. VHS type IVa
  28. Exotic apple fruit pests
  29. Mediterranean snail
  30. Common crupina
  31. Hawkweeds
  32. Butterfly bush
  33. Scotch broom
  34. Tansy ragwort
  35. Exotic leafrollers
  36. Giant hogweed
  37. Atlantic salmon
- **Near**
  38. Zebra/quagga mussel
  39. Lymantriids
  40. Kudzu
  41. Caulerpa
  42. SVCV/IHNV
  43. Mitten crab
  44. Marine clams
  45. Bark-boring moths
- **Far**
  46. Wood-boring beetles
  47. VHS type IVb
  48. Water chestnut
  49. Asian carp
  50. Northern snakehead fish



# Invasive Species Management Priorities

Invasive species constitute one of the gravest threats to Washington’s plants, animals, and businesses dependent on the rich biodiversity here.

Two critical parts to managing invasions are:

1. Identifying the species that threaten resources
2. Prioritizing species for management action

To better manage invasions, the Washington Invasive Species Council developed an assessment process to provide a transparent, repeatable, and credible basis for the council and partner agencies to prioritize management actions for invasive species (see assessment tool for more details).

All taxonomic groups are represented in the council’s assessment process, not just plants or marine species as seen in other assessments. **Based on best-professional judgment and science, this is a management tool to categorize invasive species of greatest threat to Washington and to guide council action.**

## The Scores

The assessment provides two scores for each species:

- An **impact score** that relates to a species’ environmental, economic, and human health threat

- A **prevention score** that relates to an agency’s ability to take preventative or early action for that species

For example, the higher the impact score, the greater the threat is to Washington’s environment, economy, human health, or a combination of them. The higher the prevention score, the greater the opportunity for an agency to prevent establishment of the species or the greater the agency’s ability to respond quickly to new infestations.

Both of these scores are plotted on a management grid to inform the council on future actions to take and to track the effectiveness of those actions. The actual scores are less important than the relative difference among species and the change in score over time.

The scores also will serve as a baseline against which to measure how effective the actions of the council and other agencies are in reducing a species’ impact and improving the ability of state agencies to prevent new species from establishing, and to conduct a rapid response. The movement of a species on the graph will be important to enable the council to be adaptive in implementing its actions.

## Creating the List

A workgroup of invasive species professionals, each with expertise in a different taxonomic group (e.g., terrestrial plants, insects,

aquatic animals), came together and identified species that pose the greatest threat to Washington’s environment, economy, and human health. While most of the species on the list already live in Washington, some are in the western United States as well as outside the western United States but in areas with similar climate conditions.

This is a dynamic list, which will be revisited and re-evaluated annually. At that time, new species posing serious risk to Washington will be added to the list and new information will be incorporated into species assessments.

## How the List will be Used

The grid will guide council action, such as looking at the current ability to prevent new infestations, making policy recommendations, and identifying where more management or education is needed.

It is intended also to:

- Provide a uniform methodology for categorizing invasive species.
- Provide a clear explanation of the process used to evaluate and categorize species.
- Provide flexibility so the criteria can be adapted to the needs of different regions or organizations.

<p><b>Lower impact Higher prevention ability</b></p> <p>Management actions: Promote awareness and encourage citizen action.</p>	<p><b>Higher impact Higher prevention ability</b></p> <p>Management actions: Support detection and control efforts and prepare response plans.</p>
<p><b>Lower impact Lower prevention ability</b></p> <p>Management action: Focus control on species in high-value sites.</p>	<p><b>Higher impact Lower prevention ability</b></p> <p>Management actions: Prepare response plans, identify regulatory gaps, and enhance prevention strategies through policy, education, and funding.</p>

- Identify where more information may be needed.
- Educate about the impacts of invasive species and the ability to prevent them.

Meanwhile, the graph is not intended to:

- Represent a scientifically-based risk assessment (this is an assessment based on best professional judgment).
- Produce a list that itself has regulatory force, though regulatory agencies may use the information to modify existing lists.
- Provide lists for any region because the invasiveness of

species will differ from one region to another depending on geography, climate, ecosystems present, and other factors.

## How to Read the Grid

The grid is divided into four sections based on high and low impact scores and high and low prevention scores. Management actions presented in the quadrants then pertain to the group of species falling there.

More information may be found at [www.InvasiveSpecies.wa.gov](http://www.InvasiveSpecies.wa.gov).



**STOP****The Invasion**

Photo courtesy of Robyn Draheim, Portland State University

## New Zealand Mud Snail

*Potamopyrgus antipodarum*

### Report Sightings

1-888-WDFW-AIS

1-877-9-INFEST  
[invasivespecies.wa.gov](http://invasivespecies.wa.gov)



Photo courtesy of U.S. Geological Survey

#### What is it?

New Zealand mud snails are tiny (less than 6 mm) aquatic snails that are adaptable to diverse climates and environmental conditions. They are found in freshwater and brackish environments.

#### Is it here yet?

Yes. New Zealand mud snails were first discovered in the lower Columbia River in 2002 and, on November 16, 2009, in Olympia's Capitol Lake. The only other known locations are in the lower Columbia River and on the Long Beach peninsula.

#### Why should I care?

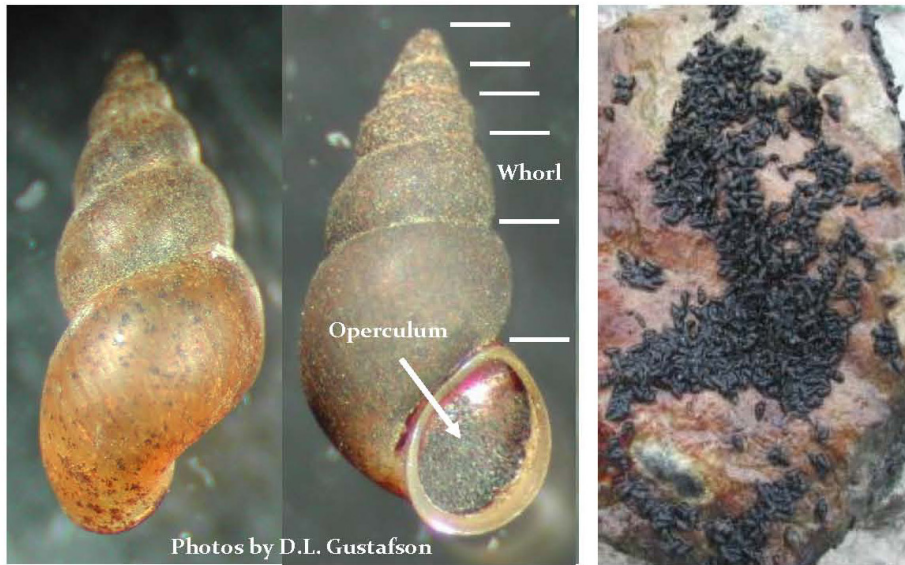
New Zealand mud snails are considered a high invasive threat to freshwater and brackish water environments. They can dominate river and lakebed habitat by achieving densities of more than 100,000 per square meter. They out-compete native aquatic snails and insects that other species depend on for food. Disruption of the food chain can lead to reduced growth rates and lower populations of fish.

#### How can we stop it?

Clean, drain, and dry any watercraft after use—this prevents hitchhiking of any aquatic invasive species, including fish and shellfish diseases. Thoroughly brush off any debris from waders, boots, and equipment that came in contact with stream or lake water, then wash the gear in hot water (140°F), or freeze the gear overnight.

#### What should I do if I find a New Zealand mud snail?

Call: 1-888-WDFW-AIS, 1-877-9-INFEST, or report online at [www.invasivespecies.wa.gov](http://www.invasivespecies.wa.gov)



### New Zealand Mudsnail Characteristics:

- New Zealand Mudsnails have five or six whorls and are generally light to dark brown, but can appear black in color, especially when wet.
- Adults are 4 to 6mm. in length.
- Generally self-reproducing by cloning and are live-bearing—a single snail can rapidly reproduce and colonize a new area.
- The opening of the shell has a movable cover called the operculum, that allows the snail to seal itself inside, which protects it from short-term exposure to chemicals. It can survive out of water for weeks in damp, cool conditions, and it can pass-through the digestive tracts of fish and birds unharmed.
- They can tolerate a wide range of habitats, including brackish water, and many different substrates such as rock, gravel, sand and mud.
- It is a nighttime grazer, feeding on plant and animal detritus, algae, sediments and diatoms.

### New Zealand Mudsnails may be Confused with:

- Several species of native freshwater and estuarine snails due to its small size. A powerful magnifying loop or microscope may be needed to positively identify them.

### For more Information visit:

<http://wdfw.wa.gov/fish/ans/index.htm>

<http://www.esg.montana.edu/aim/mollusca/nzms/>

<http://www.clr.pdx.edu/projects/ans/nzms.php>

<http://www.anstaskforce.gov/spoc/nzms.php>

[http://www.protectyourwaters.net/hitchhikers/mollusks\\_new\\_zealand\\_mudsnail.php](http://www.protectyourwaters.net/hitchhikers/mollusks_new_zealand_mudsnail.php)

<http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=1008>

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