

Prevent and Respond to the Introduction of Marine Invasive Species

(Draft, October 12, 2011)

The Challenge

History shows that it is significantly less expensive and more effective to prevent or rapidly respond to introductions of invasive species than it is to control and eradicate them once they have become established. To do so, however, requires some understanding of presence, extent, and pathways of spread of the species themselves. In the Puget Sound marine and nearshore ecosystems, there is an almost complete lack of data on what invasive species are already present in our waters, how extensive those invasions are, and what are the risks of future invasions. The goal of this strategy is to 1) gain an understanding of invasive species presence and extent in Puget Sound marine and nearshore ecosystems, 2) prevent the introduction of new high-priority, high-risk invasive species to marine waters; 3) rapidly respond when new priority invasive species are detected; 4) stop invasive species already here from spreading to other locations; and 5) completely eliminate them as soon as possible, wherever possible.

Accomplishing these goals requires the following elements:

- A forum to provide policy-level planning and direction for regional invasive species efforts and coordination, collaboration, and information sharing among federal, state, tribal, local, and private partners
- Education and outreach that increases awareness of the invasive species problem and offers solutions
- A Puget Sound invasive species monitoring program
- A Puget Sound early detection and rapid response system
- Prevention efforts that target the highest risk pathways, such as hull fouling and ballast water.
- Maintained or enhanced programs to control, contain, or eradicate existing infestations
- Asking and answering research questions that fill critical information gaps

Relationship to Recovery Targets

Control of invasive species in the marine environment is primarily related to achievement of biological recovery targets for shellfish beds, eel grass acres, resident killer whales, and wild Chinook abundance.

B7. Prevent and respond to the introduction of marine invasive species.

B7.1 Prevent and rapidly respond to the introduction and spread of marine invasive species.

Elements of this strategy include:

- *Maintain capacity to support the Washington Invasive Species Council*
A key element of this strategy is maintaining capacity to support the Washington Invasive Species Council's role to provide outreach and policy-level planning, direction, coordination, and information sharing among member agencies and stakeholders. This provides structure and infrastructure for coordinated efforts to prevent and manage invasive species. The Washington Invasive Species Council serves as the forum for providing coordinated policy-level planning and direction on invasive species. Major funding sources include the Vessel Response Account and contributions from member agencies.
- *Sound-wide detection and rapid response efforts*
A second element is to start to enhance basin-wide detection and rapid response efforts to address invasive species risks. This enables early detection of and rapid response to invasive species in the Puget Sound Basin before they become established and widespread. Related ongoing programs include Spartina surveys and some tunicate surveys with citizen scientists. One existing funding source is the Aquatic Lands Enhancement Account (ALEA).
- *Reduce potential risks from hull fouling and ballast water discharges*
A third element is minimizing the risks associated with hull fouling and ballast water discharges, two significant pathways for the introduction and spread of marine invasive species. A related ongoing program is the State ballast water inspection and compliance program. The state general fund is the primary resource contributor.
- *On-going efforts to contain, control, and eradicate existing infestations of invasive species*
The effectiveness of the state's ability to prevent and respond to invasive species lies in ongoing programs operated by agencies. It is essential to maintain and, in some cases, enhance these base programs. Reducing their capacity will open the gate to further invasions and associated effects on the region's economy and ecosystem. Ongoing programs include Spartina eradication and tunicate management (not funded after FY2010-2011). Funding is derived primarily from ALEA.

Performance Objectives for Ongoing Programs

1. Washington State Invasive Species Council provides outreach and policy-level planning, direction, coordination, and information sharing among member agencies and stakeholders to prevent and manage aquatic and terrestrial invasive species in the state and to collaborate regionally to align management programs.

Performance metric:

- Four Council meetings each year.
 - Change in the presence or absence of invasive species based on an annual survey of member agencies and stakeholders conducted in the fall of each year.
2. Washington Department of Agriculture leads the Puget Sound effort, and works with the Department of Fish and Wildlife, to monitor for and eradicate *Spartina* infestations. The agency also prevents the introduction of invasive aquatic plants through its quarantine and inspection program, and controls other invasive aquatic plants.

Performance metric:

- Acres of *Spartina* remaining in Puget Sound.
3. Washington Department of Fish and Wildlife regulates pathways and practices that introduce non-native animals, classifies non-native animals and responds to newly found animal invaders.

Performance metric:

- Percent of vessels in compliance with state ballast water regulations

Near-Term Actions

The following near-term actions will advance the ability of the state partnership to improve management programs through better science, and to prevent and rapidly respond to invasive species threats. All actions depend on availability of funding.

B7.1 NTA 1: The Invasive Species Council will expand its baseline assessment to include an additional 15 of the Council's priority invasive species. The assessment provides locations of species; details about management programs, and identifies gaps that exist.

Performance metric: Assessment completed by June 30, 2015.

B7.1 NTA 2: The Invasive Species Council, in collaboration with PSP, will begin developing an early detection and monitoring program plan for priority invasive species in Puget Sound. The Council and PSP will coordinate the plan and implementation efforts with the Puget Sound Coordinated Ecosystem Monitoring and Assessment Program.

Performance metric: Develop work plan and cost estimates by June 30, 2015.

B7.1 NTA 3: Washington Department of Fish and Wildlife will evaluate options for managing invasive species transported on and in the hulls of commercial ships.

Performance metric: Complete literature survey and draft recommendations by June 30, 2015.

B7.1 NTA 4: Washington Department of Fish and Wildlife will complete an assessment of the effectiveness of open sea exchange and treatment in meeting state ballast water standards.

Performance metric: Complete report and make available to resource managers and the public by June 30, 2015.

B7.2 Answer key invasive species research questions and fill information gaps.

Key Questions: How invaded are the Puget Sound marine and nearshore ecosystems? What is the full extent of the problem and level of risk? Use this information as a means to develop future, more targeted, strategies.

This strategy provides a strong scientific basis for managing a serious threat to the Puget Sound and its ecological health, understanding the effects of climate change on the spread and distribution of invasive species in marine and nearshore ecosystems, and targeting specific pathways and species for management. Organizations that will play a role in answering these questions include the Puget Sound Science Panel and Puget Sound Institute.

Performance Objectives for Ongoing Programs

None

Near-Term Actions

B7.2 NTA 1: The Washington Invasive Species Council and Puget Sound Partnership will initiate a risk assessment to evaluate the environmental and economic impacts of invasive species in the Puget Sound marine and nearshore ecosystems and incorporate short-term climate change considerations.

Performance metric: Complete risk assessment by June 2015.