



Invasive Species Strategic Plan

DECEMBER 2014



IMISWG

Inter-Ministry Invasive Species Working Group



Invasive species are non-native plants and animals whose introduction into British Columbia cause, or are likely to cause, economic, social or environmental damage. Free from their natural enemies and other constraints that keep them in check in their native ranges, invasive species can spread rapidly, outcompeting and predateding on native species, dominating natural and managed areas, and altering biological communities.

Definition of an invasive species:

Species that are not native to the province, or are outside of their natural distribution, and can negatively impact British Columbia's environment, people and/or economy.

Invasive species are the second biggest threat to species and ecosystems at risk in British Columbia. Invasive species also threaten British Columbia's diverse economy and society. Impacts include loss of productivity in agriculture, aquaculture and forest industries, damage to infrastructure, hazards to human health and safety, degradation or loss of recreational areas and activities. Natural resources with cultural and spiritual significance to First Nations are also negatively affected. Concerns are growing that global warming is increasing the rate of spread and expanding the

ecological limits of invasive species. Due to the high socio-economic and environmental impacts of invasive species to the province, our approach to managing them requires a complex, multi-jurisdictional effort involving numerous legislated and non-legislated stakeholders from all sectors of society.

Two strategic documents provide the framework for a province-wide approach to managing these invaders. The *Invasive Species Strategy for British Columbia*, completed in 2012, is a comprehensive framework for effective and coordinated management of invasive species, created with input from a wide variety of stakeholder groups from across the province. The second strategy is this document, *The BC Government Invasive Species Strategic Plan* (hereafter referred to as the Strategic Plan), prepared by a cross-agency provincial government

committee formed in 2005 called the Inter-Ministry Invasive Species Working Group (IMISWG).

Purpose

The purpose of this Strategic Plan is to guide the coordination, integration and delivery of the provincial government invasive species program.

Scope

The scope of the IMISWG, and this Strategic Plan, is focused on, but not limited to:

- Terrestrial and aquatic invasive alien species such as plants, animals (including fish, mollusks, crustaceans and other invertebrates), fungi, and microbes that are not native to the province, or are outside of their natural distribution, and threaten to degrade the environment or negatively impact British Columbia's people or economy.
- Legislation and regulations across government related to invasive species management.
- Key stakeholders that may be impacted by, or may directly impact invasive species prevention and management.
- The goals and objectives contained in this and other strategy documents developed by the IMISWG.

The scope does not include:

- Diseases and pathogens that affect native fauna and flora, humans, and livestock. These health dimensions are addressed under existing native fauna and flora, human, and livestock health programs.
- Provincial agriculture and forest pests managed under the leadership of the British Columbia Plant Protection Advisory Council (BCPPAC).



European fire ant – *Myrmica rubra*. First confirmed in BC in 2010, these ants aggressively swarm and sting when disturbed.

Goals

Three strategic goals have been identified by the provincial government:

Goal 1: To prevent the establishment of new invasive species in British Columbia.

Goal 2: To reduce the socio-economic and environmental impacts of existing invasive species in British Columbia.

Goal 3: To provide the framework and capacity for ongoing management of invasive species.

Objectives under each goal address priority programs and activities to achieve each of the goals. Implementation of this Strategic Plan is underway, signaling the provincial government's commitment to collaborative and effective invasive species management throughout British Columbia.

Guided by this document and enabled by the operational mandates of member agencies, the IMISWG has streamlined cross-agency operations, minimized the conflict arising from differing mandates, and strengthened practices that deal effectively with governance, funding, early detection and rapid response, inventory and treatment. The IMISWG works cooperatively with, and provides consistently strong leadership and commitment to local governments, regional invasive species committees, the Invasive Species Council of British Columbia, and our federal partners.



Feral pig – *Sus scrofa*.
Occasionally escape from farms in BC.



Yellow iris – *Iris pseudacorus*. Readily invades wetlands, displacing native vegetation and wildlife.

With the two complementary provincial strategies in place, British Columbians are experiencing and can expect efficiencies in program delivery, awareness in all sectors of society, and broad-based community action. Together, British Columbia is progressing toward realizing our vision for “Healthy natural ecosystems and working landscapes, with minimal adverse effects from terrestrial and aquatic invasive species.”

1 GOAL

Prevent the establishment of new invasive species in British Columbia.

1.1 OBJECTIVE

Prevent the introduction of new species that have the potential to be invasive and of concern.

ACTIONS

- 1.1.1** Encourage the strengthening of federal import regulations and assessments for the invasive potential of all proposed new imports e.g. agriculture, horticulture, fish and game stocking, pet and live food trades.
- 1.1.2** Develop and apply objective and scientifically based invasive species risk assessments and ranking processes applicable to British Columbia.
- 1.1.3** Identify plant and animal species that have the potential to be invasive in British Columbia. Regulate these species through provincial legislation and recommend them to federal regulatory agencies for federal listing.
- 1.1.4** Identify key pathways and vectors of introduction and spread of invasive species. Develop strategies and partnerships for effective monitoring of key pathways and vectors.
- 1.1.5** Initiate and partner in provincial and community education programs to increase awareness of the threat of invasive species and promote sound alternatives to the use of invasive species in all sectors.



Yellow starthistle - *Centaurea solstitialis*. Not yet known in BC.

1.2 OBJECTIVE

Apply an early detection and rapid response approach to address new invasive species.

ACTIONS

- 1.2.1** Develop and implement a coordinated province-wide invasive species early detection and rapid response plan.
- 1.2.2** Initiate and coordinate formal and informal monitoring activities across the province to survey for new invasive species.



Quagga mussels – *Dreissena rostriformis*. Not yet known in BC.

- 1.2.3 Initiate and partner in community education programs to increase awareness and facilitate early detection of new invasive species occurrences in British Columbia.
- 1.2.4 Coordinate invasive species identification and reporting mechanisms involving provincial scientists and other expert taxonomists.

1.3 OBJECTIVE

Reduce invasive species spread to new areas within British Columbia.

ACTIONS

- 1.3.1 Support the development of provincial and regional priorities for management of invasive species.
- 1.3.2 Provide and facilitate adoption of guidelines for municipalities and regional districts to ensure consistent application of invasive species legislation.
- 1.3.3 Establish best practices for preventing the spread of invasive species within British Columbia, such as vehicle and equipment cleaning, checking seed mixtures for contaminants, and promoting the use of non-invasive species in restoration projects, and in the horticulture, pet and live food trades.
- 1.3.4 Educate landowners, land users, industry and the general public in procedures to restrict the spread of invasive species.
- 1.3.5 Identify areas with a high risk for invasive species spread, such as land damaged by mountain pine beetle or wild fires, and prioritize the timely restoration of these susceptible sites.
- 1.3.6 Manage and contain priority invasive species infestations on Crown land to limit spread.
- 1.3.7 Enforce provincial invasive species legislation as required.



Smallmouth bass – *Micropterus dolomieu*.
Bass are efficient predators and pose a significant threat to BC's salmon populations in the Fraser Basin.



Marsh plume thistle – *Cirsium palustre*. Currently contained to an area in the Robson Valley, and treated everywhere else in BC.

2 GOAL

Reduce the socio-economic and environmental impacts of existing invasive species in British Columbia.

2.1 OBJECTIVE

Facilitate the identification and analysis of invasive species impacts.

ACTIONS

- 2.1.1** Develop procedures to determine when invasive species occurrences are of provincial significance, and their priority for management.
- 2.1.2** Strengthen existing invasive species specialist networks to ensure that information to assess invasive species occurrences is readily accessible and available to our partners.
- 2.1.3** Operate and maintain the Invasive Alien Plant Program application for use by all invasive species management groups and land management agencies.
- 2.1.4** Maintain an inventory of invasive plants on Crown land, and provide this information to all stakeholders through the Invasive Alien Plant Program application.
- 2.1.5** Update and expand the Invasive Alien Plant Program application to include all invasive species that are within the scope of this plan.
- 2.1.6** Explore linkages between climate change and invasive species.
- 2.1.7** Use trend analyses to report impacts of invasive species populations.



American bullfrog – *Lithobates catesbeianus*. Voracious invasive species, found in ponds and lakes across Vancouver Island and the Lower Mainland. Recently detected in the Okanagan, where an eradication program is underway.

2.2 OBJECTIVE

Address established invasive species infestations through integrated and cost effective invasive species management.

ACTIONS

- 2.2.1** Establish procedures for developing cost efficient and effective invasive species management plans, including containment guidelines.
- 2.2.2** Develop innovative practices and tools for invasive species management.



Spotted knapweed – *Centaurea biebersteinii*. Present throughout BC. Managed through the use of a variety of biological control agents in the majority of the densely infested areas of the province.

- 2.2.3 Manage priority invasive species infestations on Crown land using integrated pest management principles and cost-effective tools, including biological control.
- 2.2.4 Establish procedures for implementing, monitoring and evaluating activities specified in invasive species management plans.
- 2.2.5 Support regional/local invasive species committees to enhance coordination and effectiveness of management activities across jurisdictions.

3 GOAL

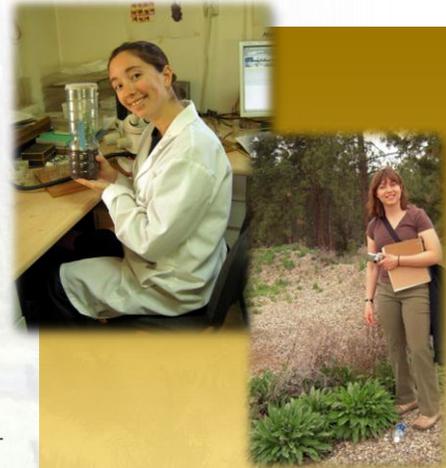
Provide the framework and capacity for ongoing management of invasive species.

3.1 OBJECTIVE

Strengthen research, education, training, and legislative capacity to ensure ongoing cost effective, efficient and sustainable invasive species management.

ACTIONS

- 3.1.1 Review, harmonize, and develop new provincial invasive species legislation, policy and standards as needed to address existing gaps, conflicts and overlaps.
- 3.1.2 Develop or update regulations that categorize invasive species based on their current and potential distribution and local impacts.
- 3.1.3 Support, facilitate, and collaborate in invasive species management research in BC, with partners such as post-secondary institutions and federal government agencies.
- 3.1.4 Integrate and coordinate invasive species research, education and training programs throughout British Columbia and encourage increased capacity within Canada.
- 3.1.5 Facilitate and coordinate the delivery of training and awareness programs in integrated invasive species management for land owners/managers and other on ground resource users.



Graduate student research on biological agents' effects on invasive species. Funded in part by BC government.

3.2 OBJECTIVE

Encourage the development of strategic and working level plans for invasive species management between agencies and stakeholders at all levels.

ACTIONS

- 3.2.1** Work co-operatively with the Invasive Species Council of BC, regional invasive species organizations, local governments, First Nations, and other stakeholders.
- 3.2.2** Promote the benefits of developing complementary plans for invasive species management at the regional, sub-regional, or local area level.



Coastal weed tour of various species of the knotweed family.

3.3 OBJECTIVE

Establish inter-ministry working relationships to ensure ongoing management of invasive species.

ACTIONS

- 3.3.1** Establish support and recognition among all agencies for the Inter-Ministry Invasive Species Working Group.
- 3.3.2** Establish a governance model that identifies accountability for invasive species management among ministries.



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Invasive species images on the front cover

Top Row – l. to r:

- European fire ant – *Myrmica rubra* (photo: Gary Alpert)
- Teasel – *Dipsacus fullonum* (photo: Val Miller)
- Eastern grey squirrel – *Sciurus carolinensis* (photo: Dominique Sigg)

Middle Row – l. to r:

- Orange hawkweed – *Hieracium aurantiacum* (photo: Val Miller)
- Smallmouth bass – *Micropterus dolomieu* (photo: Matthias Herborg)
- Yellow starthistle – *Centaurea solstitialis* (photo: Bill Bumgarner)

Bottom Row – l. to r:

- American bullfrog – *Lithobates catesbeianus* (photo: William Leonard)
- Flowering rush – *Butomus umbellatus* (photo: Wikimedia commons)



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