



# Indigenous Community Toolkit for Managing Invasive Species



Himalayan blackberry removal, Matcon Civil  
First Nation Youth Experience Program

HEALTHY LANDSCAPES AND  
COMMUNITIES FREE OF INVASIVE SPECIES

## ACKNOWLEDGEMENTS

The Aboriginal Community Toolkit for Invasive Plant Management was originally developed in 2011.

This document, the Indigenous Community Toolkit for Managing Invasive Species, is an update and expansion of that resource. With the support of the **Invasive Species Council of BC (ISCBC)**, in partnership with the **Indigenous Invasive Species Network and Indigenous Services Canada**, the toolkit was updated to offer current and relevant support to Indigenous communities across BC, as they work to reduce the impact of invasive species in their territories.

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Indigenous Services  
Canada

Services aux  
Autochtones Canada

## Section 1: Indigenous Values & Invasive Species

Indigenous communities recognize that delicate ecosystems and wildlife are integral components that sustain this planet and the human race.

The importance of healthy watersheds, organisms and ecosystems is crucial to the Indigenous way of life, and invasive species are threatening the health of the natural environment and all living things within it. Indigenous communities have always valued stewardship of the land as a way of life, and the goal of this toolkit is to support Indigenous communities in their stewardship and ensure that invasive species do not threaten the future of the ecosystems, wildlife and people in the area now known as British Columbia.

### Impacts to the Land

Invasive species have the ability to out-compete BC's native species for essential resources, including food, water and habitat. Invasive species usually have no natural predators, giving them a great competitive advantage against native species.

Due to their impacts and rapid spread, invasive species are globally recognized as the second greatest threat to biodiversity, second only to habitat loss. International, federal, and provincial regulations have been developed to address this problem, along with many bylaws from local and Indigenous governments.

Invasive species are threatening wildlife that Indigenous communities harvest, such as deer, moose and caribou. The habitats of these animals are being directly impacted by invasive species in many ways. Invasive plants can quickly create monocultures, reducing the habitat available for these animals, and some invasive plants can be toxic, reducing available forage and impacting animal health. The impacts of invasive species are not restricted to the land – aquatic invasive fish such as bass and perch outcompete salmon for food, and also eat salmonid fry, reducing the number of salmon available for harvest, and impacting the sustainability of the population. Salmon streams are also impacted by invasive aquatic plants that reduce important habitat and impact stream ecosystem health. Invasive diseases and fungi can also impact wildlife, such as the White-nose syndrome that sickens and kills bats. This fungus has impacted bat populations in BC significantly, resulting



### JAPANESE KNOTWEED

Knotweeds are one of the worst invasive plants in BC, as they can spread incredibly fast, grow rhizomes up to 20 m long, and regrow from as little as 0.7 grams of stem or root tissue. There are four varieties of knotweeds in BC, and they out-compete native species and threaten biodiversity and ecosystem functions. Knotweed roots lack root hairs that bind to the soil, resulting in erosion along banks of creeks and rivers where it has become established. Knotweeds can also grow through concrete and asphalt, damaging infrastructure. This results in significant control, management and repair costs.

SPECIES SPOTLIGHT

## WHAT ARE INVASIVE SPECIES?

*Invasive species are plants, animals or other organisms not native to BC whose introduction and spread harms the province's native species and negatively impacts the economy. With few limits on their populations, they can easily take over sensitive ecosystems — permanently upsetting the balance of plant, insect, bird and animal life.*

in an increase in insect populations that could potentially get much worse if the invasive fungus is not managed effectively. Insects impact humans and animals by spreading disease, and making it difficult to work, play, or harvest in the outdoors.

## Uses of Invasive Species

Some invasive species have been introduced as a source of food or for medicinal or ornamental purposes. Many of these species are well established and even celebrated. For example, Himalayan blackberries are a delicious invasive plant that is harvested by thousands of people across the area now known as BC. For an invasive plant such as Himalayan blackberries that are used as a food source and do not pose significant health risks to humans or wildlife, it is possible to maintain a controlled area designated for harvest. With culturally significant species such as blackberries, burdock, and others, a compromise can be reached through an invasive species Management Plan that enables a community to maintain an area that is managed and controlled to ensure it does not spread beyond the identified space.

All land managers, from industry groups, private landowners, and Indigenous communities, should be conscious of their potential to spread invasive species beyond their boundaries, and impact others around them. This is why it is critical for all land users to recognize their responsibility to the land, the wildlife, and the people who rely on it for survival. Indigenous communities have worked diligently to partner with neighbouring groups and work together to reduce the introduction and spread of invasive species in BC.



## CASE STUDY

### Building Capacity for Independent Management of Invasives in the Xaxli'p Community

The Lillooet Regional Invasive Species Society (LRISS) has been working with the Xaxli'p Community for 3 years to train their Community Forest Crews to independently manage invasives in their Survival Territory.

The Xaxli'p Community Forest is dedicated to sustainable land use and decided that invasive species must be incorporated into their Land Use Plan. Xaxli'p's Land Use Plan is an ecosystem-based plan that

focuses on restoration and protection of traditional land use. Invasive species pose a threat to many landscape values including medicinal plants. In order to implement their plan, they collaborated with LRISS to learn how to identify invasive species, collect field data and treat (by mechanical means only).

As a result of several joint projects, Xaxli'p built capacity in their community that resulted in direct

employment opportunities. The training supplied by LRISS lead the Community Forest Crews to secure contracts to treat invasive plants in their own territory and in other areas within the LRISS region. Xaxli'p, with the support from LRISS, developed an invasive plant strategy and policy, which was incorporated into their Land Use Plan. The LRISS Board of Directors continues to support strong partnerships with the St'at'imc Nation like the one with Xaxli'p.

## Section 2: Call to Action

Indigenous communities are calling for invasive species management because BC's ecosystems, and the wildlife and people who rely on them, are threatened. The health of the environment, or the land, is critical to the Indigenous way of life, and invasive species are a significant threat. Indigenous communities are fighting back for many reasons, including:

### STEWARDS OF THE LAND

Animal and plant populations have been historically maintained by Indigenous communities and the health of ecosystems is actively supported and celebrated. Indigenous people are inherently stewards of the land and continue to be leaders in their commitment to and respect of the land. Many Indigenous communities closely manage the fish, wildlife and plants within their territories. These values have been practiced for centuries and are ingrained in the way of life of Indigenous people. In Indigenous communities, interest in the land is not confined to the boundaries of the reserve or the parcels of negotiated treaty land, covers the entire traditional territory. Many Indigenous communities have shared traditional territory that overlaps with one or more neighbours; these are usually prime harvesting sites or spiritual places. This is one reason why strong collaboration between all user groups is necessary.

### DEEPLY COMMITTED TO COMMUNITY

Indigenous people have always been committed to each other and to the land that sustains them. Not all Indigenous communities function with the same governing structure, and it would be impossible to generalize the way in which their boundaries are organized. However, invasive species do not recognize boundaries, so collaborative efforts between neighbouring communities are critical to preventing the spread. It is this commitment to community and the recognition that actions in one community impact other communities (and the environment) that are central to the Indigenous way of life.



**Never release your plants and animals into the wild or dump aquariums or water garden debris into rivers, streams, lakes or storm sewers!**

*Some exotic pets are able to thrive and reproduce in their new environment. Once established, they can take over their new habitat, reducing native populations and changing the structure of the ecosystem. Even if your aquatic pet is known to be native to the local environment, it should still never be released, as it may introduce diseases or invasive parasites into the local ecosystem.*



#### HIMALAYAN BALSAM

Himalayan balsam is very invasive and spreads quickly along watercourses. They out-compete late flowering native species in BC's riparian zones, and so decrease the diversity of plants in these areas and can damage ecosystems. Himalayan balsam has extremely sweet nectar, which may attract pollinators away from native plants.

SPECIES SPOTLIGHT

## PROTECTING FOOD SOURCES AND MEDICINAL PLANTS

Indigenous foods are being affected by the loss of biodiversity resulting from the spread of invasive species. In BC, many endangered and threatened species, including species at risk and species of special concern, are impacted by invasive species. Indigenous people (and all British Columbians) rely on healthy ecosystems for harvesting food and medicine plants, and hunting animals such as caribou and deer.

## SUPPORTING HEALTHY PEOPLE AND HEALTHY ECOSYSTEMS

Invasive species can directly affect human health and safety in many ways. Giant hogweed (*Heracleum mantegazzianum*) produces skin burns that can cause blisters and long-term scarring. The large, sharp spines of gorse (*Ulex europaeus*) are unsafe to humans and the berries of bittersweet nightshade (*Solanum dulcamara*) and spurge laurel (*Daphne laureola*) are poisonous. Some allergies, including hay fever, are caused by invasive species like spotted knapweed (*Centaurea biebersteinii*) and Scotch broom (*Cytisus scoparius*). Invasive plants affect right-of-ways and transportation corridors when their rapid establishment and growth (up to 30cm per day for some species) limits access to equipment and structures, reduces sightlines for drivers and animals, and increases the risk of accidents and collisions. Some invasive species are also extremely flammable and can disrupt natural fire cycles, causing an increase in fuel bed load and frequency of fires.

## NEGATIVE ECONOMIC IMPACTS DUE TO INVASIVE SPECIES SPREAD

Invasive species have a wide range of detrimental impacts on industries such as agriculture, ranching, gravel pits, and forestry. They can harbour insects and crop diseases and in many cases, act as alternative hosts. From gravel pits to golf courses, invasive species are expensive to control and manage once an infestation has occurred. Tourism has also been impacted by invasive species infestations, for example Chafer beetles spreading quickly through golf courses, and reduced habitat leading to challenges viewing wildlife. The control of invasive species increases operating costs and legal liabilities for all sectors. However, economic drivers are not the primary reason that Indigenous communities are calling for invasive species control and management. The environmental impacts of invasive species on ecosystems and native wildlife are a main priority. These impacts can be severe, so constant and collaborative communication between Indigenous communities and those industries working in their territories is crucial. Indigenous communities have the power to request that Best Practices designed to prevent the spread of invasive species are incorporated into work plans and used across all territories in the area now known as British Columbia.



### WHAT IS A NOXIOUS WEED?

“Noxious weed” is a legislative term to describe invasive plants that have been listed by the BC government. The BC Weed Control Act imposes a duty on all land occupiers to control designated noxious plants. [www.for.gov.bc.ca/hra/plants/publications/Proposed\\_Prohibited\\_Noxious\\_Weeds\\_Feb2015.pdf](http://www.for.gov.bc.ca/hra/plants/publications/Proposed_Prohibited_Noxious_Weeds_Feb2015.pdf)



## Section 3: Toolkit Overview, Scope & Purpose

The purpose of this toolkit is to provide a resource for Indigenous communities and staff in British Columbia who would like to be involved in invasive species management.

This toolkit is intended to be useful for Indigenous communities who do not yet have an invasive species program, as well as those who would like to expand or change their current program and respond to Pest Management Plans on their territories.

This toolkit provides information, guidance, and resources, and supports linkages that create awareness and support across key agencies. It is also meant to enhance invasive species management capabilities amongst government agencies, industry, Indigenous, and non-native communities to increase and build upon existing expertise and support.

### This toolkit includes information on:

Tools and resources to help manage and control invasive species

Developing or updating invasive species management frameworks and policy options for use by Indigenous communities, and for invasive species management activities on Indigenous land

Responding to and managing pest management plans received as a referral from Provincial and Federal government agencies, industry and non-Indigenous communities; and

Identifying who has the authority in developing strategic partnership agreements between regional invasive species committees, government, industry, Indigenous organizations, and communities.



### TANSY RAGWORT

Tansy ragwort is found on disturbed sites and bare ground in grazed pastures, roadsides, vacant non-crop lands, and on forest clear-cuts. The plant contains alkaloids that are toxic to deer, cattle, pigs, horses, and goats. In susceptible animals, liver damage resulting from tansy ragwort ingestion is cumulative.

SPECIES SPOTLIGHT



**PlayCleanGo is designed to foster actions that interrupt recreational pathways of spread for invasive species.**

*PlayCleanGo promotes awareness, understanding, and cooperation by providing a clear call to action to be informed, attentive and accountable for stopping the spread of terrestrial invasive species.*



Smallmouth bass, Wikimedia

## SPECIES SPOTLIGHT

### SMALLMOUTH BASS

Smallmouth bass have been found in the Beaver Valley Chain, and are a voracious predatory fish that will eat almost anything. They have a competitive advantage over native fish species, because they become piscivorous (fish-eaters) 2-3 years earlier than most native species. They also feed on insects and invertebrates that are food for many native species, causing negative effects for the entire food chain.

## INDIGENOUS APPROACHES TO PLANNING AND DECISION MAKING

The majority of Indigenous communities rely on provisions of the Indian Act to enable their legal jurisdiction for the management of invasive species. Funding is allocated to communities through their Indigenous Services Canada (ISC) and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Operating and Maintenance Budgets. These funds are usually allocated to operate and repair community buildings and maintain roads. The simplest method to get authorization for invasive species management is from the Chief and Council through a Band Council Resolution (BCR). BCRs are usually intended to give authorization for a particular matter, not to prescribe a permanent rule. An example BCR is attached as [Appendix 1](#). Indigenous governments can also develop bylaws consistent with the Indian Act or with any regulations made by a Federal Ministry regarding the destruction and control of noxious weeds. Once a bylaw has been developed, it becomes a permanent rule that cannot be easily changed. An example bylaw and a sample template are attached as [Appendix 2](#).

Many Indigenous communities are removing themselves from the Indian Act through Land Claims, Agreements, or the development of land codes under the **First Nations Lands Management Act** (see Section Seven on Legislation for more information). In these agreements, Indigenous communities may delegate authority, other than law-making authority, to any Indigenous Government, regional or national body established by Indigenous communities or to any other legal entity in Canada. A delegation is not valid except by written agreement with the delegate. Jurisdiction is granted under public works, community infrastructure and local services for the collection, removal and disposal of waste and noxious, offensive or unwholesome substances. Indigenous law prevails over federal law, as long as the health and safety standards and technical codes are at least equivalent to federal standards and technical codes.

Indigenous communities often enter into agreements with the federal, provincial or municipal governments concerning land, water and natural resources that are on or adjacent to Indigenous land, or where Indigenous rights may be adversely affected. Since the landmark Calder case in 1973, there have been a number of court rulings that recognize Indigenous title in Canadian law. Indigenous people have always held that title and rights were never ceded, released or surrendered to the Crown when British Columbia joined confederation, and the courts have agreed. The notion that “we are all here to stay” has compelled Indigenous Nations to work with the Crown and industry to create a stable, functioning environment to conduct business and manage resources.



## Section 4: Overview of Agencies Involved in Invasive Species Management in BC

There are a number of agencies and jurisdictions that are adjacent to Indigenous land that are involved in invasive species management in BC.

Coordinated regional programs that promote invasive species management across jurisdictions are recommended so that Indigenous governments are not working in isolation. The following table is an overview of Indigenous, federal, provincial, and local government involvement and jurisdiction:

### FEDERAL AGENCIES

AGENCY/ ORGANIZATION	JURISDICTION/ROLE	CONTACT INFORMATION
<b>National Indigenous Forestry Association Branch Office</b>	To promote and support increased Indigenous involvement in forest management and related commercial opportunities, while staying committed to holistic or multiple-use forestry.	613-233-5563 <a href="http://nafaforestry.org">nafaforestry.org</a>
<b>Indigenous Services Canada (ISC)</b>	Indigenous Services Canada (ISC) works collaboratively with partners to improve access to high quality services for First Nations, Inuit and Métis.	1-800-567-9604 <a href="http://canada.ca/en/indigenous-services-canada">canada.ca/en/indigenous-services-canada</a>
<b>Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)</b>	CIRNAC continues to renew the nation-to-nation, Inuit-Crown, government-to-government relationship between Canada and First Nations, Inuit and Métis; modernize Government of Canada structures to enable Indigenous peoples to build capacity and support their vision of self-determination; and lead the Government of Canada's work in the North.	1-800-567-9604 <a href="http://canada.ca/en/indigenous-northern-affairs">canada.ca/en/indigenous-northern-affairs</a>
<b>Parks Canada Indigenous Affairs Branch</b>	The broad objective of the Indigenous Affairs Branch is to facilitate the participation of Indigenous people in Canada's natural and cultural heritage places. Through engagement, consultation, and negotiations.	<a href="mailto:aboriginal.autochtones@pc.gc.ca">aboriginal.autochtones@pc.gc.ca</a> <a href="http://pc.gc.ca/en/agence-agency/aa-ia">pc.gc.ca/en/agence-agency/aa-ia</a>

<b>Department of Fisheries and Oceans (DFO)</b>	DFO's mission is to ensure Canada's aquatic ecosystems and fisheries are sustainable and economically successful, and to keep Canadian waters safe and secure.	1-888-356-7525 <a href="http://dfo-mpo.gc.ca/science/environmental-environnement/ais-eae/index-eng">dfo-mpo.gc.ca/science/environmental-environnement/ais-eae/index-eng</a>
<b>Canada Border Services Agency (CBSA)</b>	The CBSA plays an active and important role in helping to keep harmful foreign species of animals, plants and microorganisms from entering Canadian ecosystems. The deliberate or accidental introductions of these species can be devastating to the Canadian economy and environment.	<a href="http://www.cbsa-asfc.gc.ca/fpa-apa/species-especes-eng">www.cbsa-asfc.gc.ca/fpa-apa/species-especes-eng</a>
<b>Transport Canada</b>	Transport Canada provides a range of programs and services in the Pacific Region through its offices in Vancouver and through its network of Transport Canada Centres throughout the region.	1-866-995-9737 <a href="http://www.tc.gc.ca/eng/policy/acs-consultations.htm">www.tc.gc.ca/eng/policy/acs-consultations.htm</a>
<b>National Assembly of First Nations</b>	The Assembly of First Nations (AFN) is a national advocacy organization representing First Nation citizens in Canada, which includes more than 900,000 people living in 634 First Nation communities and in cities and towns across the country.	613-241-6789 <a href="http://afn.ca/home">afn.ca/home</a>



**CASE STUDY**

**Sustainable Economic Opportunities in Invasive Species Management**

Matcon Civil Constructors Inc. is a locally-owned full service heavy civil construction and environmental contracting firm operating within Coast Salish Territory. Inherent in the civil aspects of all development projects is the possible requirement of invasive species management. Matcon Civil specifically builds in contracting, training and employment opportunities for our First Nation partners. Recognizing the long-term importance of appropriate management of invasive species, the company began expanding its service

package in 2012 to include invasive species management. This enabled us to provide new opportunities to Members of our partner First Nations who desired to work with us, were either not interested in civil construction, or whose family and community responsibilities made the rigid structure of traditional civil construction teams untenable for them. We are happy to share that since 2012 Matcon Civil has created more than 120 training and employment

opportunities for Indigenous youth and adults by securing training funds from Federal assets, winning competitive bid contracts, and negotiating direct award project work both on and off reserve and treaty lands. We also developed an employment and training program specifically for Indigenous youth that revolves around delivering invasive species management services to the communities our kids are from.

## PROVINCIAL AGENCIES

AGENCY/ ORGANIZATION	JURISDICTION/ROLE	CONTACT INFORMATION
<b>First Nations in BC</b>	There are 203 Indigenous communities in BC that are represented by a Chief and Council. The First Nations Technology Council has been mandated by the First Nations Summit, BC Assembly of First Nations and the Union of BC Indian Chiefs to address the technology related needs of BC's First Nations communities.	<a href="http://fnbc.info">fnbc.info</a>
<b>BC Assembly of First Nations</b>	Political Territorial Organization (PTO) that represents and communicates to 203 First Nations in BC. It is a regional arm of the National Assembly of First Nation (AFN).	250-828-9757 <a href="http://bcafn.ca">bcafn.ca</a>
<b>Union of BC Indian Chiefs</b>	Support the work of Indigenous people at the community, nation or international level, for the recognition of Indigenous rights and respect for Indigenous cultures and societies.	Vancouver: 604-684-0231 Kamloops: 250-828-9746 <a href="mailto:ubcic@ubcic.bc.ca">ubcic@ubcic.bc.ca</a> <a href="http://ubcic.bc.ca">ubcic.bc.ca</a>
<b>First Nation Summit</b>	The FNS is comprised of a majority of First Nations and Tribal Councils in BC and provides a forum for First Nations in British Columbia to address issues related to Treaty negotiations as well as other issues of common concern.	604-926-9903 <a href="http://fns.bc.ca/contact-us">fns.bc.ca/contact-us</a>
<b>BC Leadership Council</b>	The Leadership Council of BC participates in regional assemblies hosted by BCAFN, UBCIC and FNS and engages in open socio-political discussion to provide direction and mandates.	<a href="http://bcafn.ca/leadership-council/">bcafn.ca/leadership-council/</a> <a href="http://fnlc-news">fnlc-news</a> <a href="mailto:fnlc@pacegroup.com">fnlc@pacegroup.com</a>
<b>BC First Nations Forestry Council</b>	Provides support to BC First Nations with respect to forestry-related matters.	604-971-3448 <a href="http://fnforestrycouncil.ca">fnforestrycouncil.ca</a> <a href="mailto:fnforestrycouncil@gmail.com">fnforestrycouncil@gmail.com</a>
<b>First Nations Energy and Mining Council</b>	The First Nations Energy and Mining Council operates under the authority of First Nations to support and facilitate their efforts to manage and develop energy and mineral resources in ways that protect and sustain the environment forever while enhancing the social, cultural, economic and political well-being of First Nations in British Columbia.	604-924-3844 <a href="http://fnemc.ca">fnemc.ca</a>
<b>First Nations Technology Council</b>	The Technology Council continuously evaluates and adjusts to ensure all First Nations people are benefitting from the advancement of digital technologies and have the opportunity to join the growing number of First Nations people participating in BC's technology sector.	604-921-9939 <a href="http://technologycouncil.ca">technologycouncil.ca</a>
<b>First Nations Agriculture Association</b>	Assisting Indigenous communities and producers to build capacity and develop their agriculture, agri-food, or traditional agricultural based businesses.	250-314-6804
<b>Indigenous Invasive Species Network</b>	The primary goal of the Indigenous Invasive Species Network (IISN) is to provide a forum for exchanging information on available resources, identifying needs and sharing lessons learned for invasive species management, programs and projects related to Indigenous interests.	Visit <a href="http://bcinvasives.ca">bcinvasives.ca</a> for the most current information

<b>Inter-Ministry Invasive Species Working Group</b>	Since 2004, the IMISWG has provided policy direction, coordination and collaborative delivery of provincial invasive species programs for the Province of BC.	<a href="http://for.gov.bc.ca/hra/invasive-species/index">for.gov.bc.ca/hra/invasive-species/index</a>
<b>Ministry of Agriculture</b>	The Ministry of Agriculture is responsible for the production, marketing, processing and merchandising of agricultural products and food.	<a href="mailto:AGR.Minister@gov.bc.ca">AGR.Minister@gov.bc.ca</a> <a href="http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/agriculture">www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/agriculture</a>
<b>Ministry of Energy, Mines and Petroleum Resources</b>	The Ministry of Energy, Mines and Petroleum Resources is responsible for British Columbia's electricity, alternative energy, mining and petroleum resource sectors. The Ministry is responsible for the following Crown Corporations: BC Hydro, Columbia Power Corporation, BC Oil and Gas Commission and Columbia Basin Trust.	<a href="http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/energy-mines-and-petroleum-resources">www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/energy-mines-and-petroleum-resources</a> <a href="mailto:EMPR.Minister@gov.bc.ca">EMPR.Minister@gov.bc.ca</a>
<b>Ministry of Environment &amp; Climate Change Strategies</b>	The Ministry of Environment and Climate Change Strategy is responsible for the effective protection, management and conservation of B.C.'s water, land, air and living resources.	<a href="http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/environment-climate-change">www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/environment-climate-change</a> <a href="mailto:ENV.Minister@gov.bc.ca">ENV.Minister@gov.bc.ca</a>

**CASE STUDY**

**Wildfire Recovery and Invasive Species**

The BC wildfires in the summer of 2017 were unprecedented throughout much of the interior of the province. It is critical that post-fire recovery strategies include managing for the invasive species that thrive on disturbances such as wildfires and invade quickly and effectively after fires. Not only will the invading plants outcompete natural vegetation and create monocultures that are detrimental to wildlife and ecosystems, but they will also create a fuel load for the following fire season. The Ministry of Forests, Lands, Natural Resource Operations and Rural Development is currently designing recovery plans that will address the threat of invasive species entering wildfire recovery areas. In 2018, recovery plans will outline the steps required to that invasive

species do not enter wildfire recovery zones.

There are currently a number of resources that address wildfire recovery from the 2017 fires here:

Wildfire Status: [www2.gov.bc.ca/gov/content/safety/wildfire-status](http://www2.gov.bc.ca/gov/content/safety/wildfire-status)

Wildfire Management: [www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/wildfire-management?keyword=wildfire](http://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/wildfire-management?keyword=wildfire)

BC Government Recovery Programs: [www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-response-and-recovery/recovery-programs](http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/emergency-response-and-recovery/recovery-programs)



BC Wildfires 2017, K. Palmantier

BC Government Agriculture Recovery Initiative: [www2.gov.bc.ca/gov/content/industry/agriculture-seafood/programs/insurance-and-in-come-protection-programs/bc-wildfires-agrrecovery-initiative](http://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/programs/insurance-and-in-come-protection-programs/bc-wildfires-agrrecovery-initiative)

Red Cross Emergency Response — BC Wildfires: [www.redcross.ca/how-we-help/current-emergency-responses/british-columbia-fires](http://www.redcross.ca/how-we-help/current-emergency-responses/british-columbia-fires)

BC Economic Development Association — BC Wildfires: [www.bceda.ca/bcwildfires](http://www.bceda.ca/bcwildfires)

<b>Ministry of Forests, Lands, Natural Resource Operations &amp; Rural Development</b>	Forests, Lands, Natural Resource Operations and Rural Development is responsible for stewardship of Provincial Crown land and natural resources, and protection of B.C.'s archaeological and heritage resources.	<a href="http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/forests-lands-natural-resource-operations-and-rural-development">www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/forests-lands-natural-resource-operations-and-rural-development</a> <a href="mailto:FLNR.Minister@gov.bc.ca">FLNR.Minister@gov.bc.ca</a>
<b>Ministry of Indigenous Relations and Reconciliation</b>	The Ministry of Indigenous Relations and Reconciliation leads the B.C. Government in pursuing reconciliation with the First Nations and Indigenous peoples of British Columbia.	<a href="http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/indigenous-relations-reconciliation">www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/indigenous-relations-reconciliation</a> <a href="mailto:ABR.Minister@gov.bc.ca">ABR.Minister@gov.bc.ca</a>
<b>Union of British Columbia Municipalities</b>	UBCM is an organization that has served and represented the interest of local governments in BC. UBCM initiates, monitors, interprets and reacts when changes could have an effect on local governments and the communities they serve.	604-270-8226, Richmond 250-356-5133, Victoria <a href="http://ubcm.ca">ubcm.ca</a>
<b>Invasive Species Council of BC (ISCBC)</b>	Through province-wide cooperation and coordination, the ISCBC is working to minimize the negative ecological, social, and economic impacts caused by the introduction, establishment, and spread of invasive species.	250-305-1003 <a href="http://bcinvasives.ca">bcinvasives.ca</a> Indigenous Listserv: <a href="http://bcinvasives.ca/about/partners/indigenous-communities">bcinvasives.ca/about/partners/indigenous-communities</a>

## REGIONAL AGENCIES

AGENCY/ ORGANIZATION	JURISDICTION/ROLE	CONTACT INFORMATION
<b>Regional Invasive Species Committees</b>	There are 12 independent regional invasive species committees located across the province that work on invasive species management in a variety of capacities.  For all 12 contacts and a map, please see <a href="#">Appendix 5</a> .	<a href="http://bcinvasives.ca/about/partners/bc-stakeholders">bcinvasives.ca/about/partners/bc-stakeholders</a>
<b>Local Governments</b>	Municipalities and regional districts provide BC with essential local and regional services, for example clean water, sewer systems, parks and recreation, and fire protection. Local governments plan and shape their communities and adopt bylaws benefitting their communities.	<a href="http://www2.gov.bc.ca/gov/content/governments/local-governments">www2.gov.bc.ca/gov/content/governments/local-governments</a>
<b>Indigenous Governments</b>	This is a comprehensive list of Indigenous Governments in the province.	<a href="http://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing">www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing</a>

## Section 5: Invasive Species Management Plan Development

The purpose of this section is to provide a concise set of steps and resources to simplify the invasive species management process.

Coordination and collaboration are a key component of Invasive Species Management Plan development. The first step in this process is to contact your local regional invasive species committee (see [Appendix 5](#)). The regional invasive species coordinator in your area will be able to help find available resources and provide information and guidance throughout the entire planning process.

**Consider the potential presence of invasive species on parcels of land in treaty negotiations. Inheriting land back that is infested with invasive species could pose significant costs.**

### Step 1: Identify and Map the Management Area

Mapping the management area will provide a basis for decision-making and long-term planning. The map should include the management area, resources within that area along with any areas that are endangered, culturally significant, and those areas with known invasive species infestations.

### Step 2: Conduct an Invasive Species Inventory

Once the management area is mapped, it is time to identify the invasive species that are present. See Section 8 for a list of tools to help with identification. If the area is large, you may need to do some prioritizing



R. Mueller

SPECIES SPOTLIGHT

#### KNAPWEED

Large infestations of spotted knapweed can increase runoff and erosion, leading to sedimentation of watercourses. Displacement of native vegetation may impact biodiversity, and the dead plant material can increase risk of fire. Knapweed also has the ability to alter soil chemistry, preventing the growth of other plants.



Japanese knotweed infestation, Nuxalk First Nation

CASE STUDY

### Nuxalk First Nation Award

Several years ago, through the ISCBC's Hotspots Program, an inventory was completed of Japanese Knotweed in the Bella Coola Valley. The inventory revealed significant spread of this aggressive invasive plant. At this time, the Nuxalk Nation had a moratorium on the use of herbicides in their traditional territory, but they recognized that without a timely response, the knotweed could spread throughout the Valley. In

2011, through considerable consultation, a Band Council Resolution was passed to allow the use of herbicide to treat specific species. The Band also resolved to take the lead on invasive species control within their territory. They partnered with the Province and the Cariboo Chilcotin Coast Invasive Species Committee to receive training and support on invasive plant treatment methods. An invasive species management

program commenced in 2012, and in 2015, the Nuxalk First Nation was recognized for their dedication to invasive species management at the Invasive Species Council of BC's Together In Action Awards. They were recognized for their innovative initiatives taken, the leadership they have shown in the region, and their unique partnership-building that has been sustained over time.



Cranbrook, C. Stevens

to figure out which section to do first. In addition, other agencies may have done work in or near the management area that could help reduce the workload. In addition, you need to prioritize which areas need to be inventoried first. You may want to start with traditional hunting grounds, berry picking sites, or sensitive habitat sites including riparian areas and endangered habitat.

Find out what inventory work/mapping and or treatment of invasive species has been done within the management area. Work may have been conducted by various jurisdictions including but not limited to:

AGENCY/JURISDICTION	WEBSITE
<b>BC Hydro</b>	<a href="http://bchydro.com">bchydro.com</a>
<b>FortisBC</b>	<a href="http://fortisbc.com">fortisbc.com</a>
<b>Federal Government</b>	<a href="http://canada.ca">canada.ca</a>
<b>Parks Canada</b>	<a href="http://pc.gc.ca">pc.gc.ca</a>
<b>BC Ministry of Environment &amp; Climate Change Strategy</b>	<a href="http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/environment-climate-change">www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/environment-climate-change</a>
<b>Ministry of Forests, Lands, Natural Resources and Rural Development</b>	<a href="http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/forests-lands-natural-resource-operations-and-rural-development">www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/forests-lands-natural-resource-operations-and-rural-development</a>
<b>CN Rail</b>	<a href="http://cn.ca">cn.ca</a>
<b>Local Governments (Municipalities, Regional Districts)</b>	<a href="http://www2.gov.bc.ca/gov/content/governments/local-governments">www2.gov.bc.ca/gov/content/governments/local-governments</a>

In addition, there may be ranchers, grazing leases, local stewardship groups and other organizations involved. Your regional invasive species organization will be able to help you identify other groups in your area.

## DON'T RECOGNIZE AN INVASIVE?

If there are species that you do not recognize, take a photo or bag and press a sample safely (for plants only) for your local invasive species coordinator or specialist to identify.

Locating small invasive species infestations is crucial to the eradication of new unwanted species!

## Step 3: Set Management Goals and Objectives

The purpose for setting goals and objectives is to help guide the planning process. Goals are generally very broad, and objectives are more specific and measurable. Each goal will have more than one objective (see examples in the checklist in [Appendix 3](#)).

## Step 4: Set Priorities for Invasive Species Management

There are two parts to consider when prioritizing invasive species management: species and location. Relatively aggressive species need to be treated first, as do high priority locations such as high traffic areas. To make sure you manage the high priority invasives first, refer to the *Early Detection Rapid Response Plan for BC*, that you can find here:

[www.for.gov.bc.ca/hra/invasive-species/edrr.htm](http://www.for.gov.bc.ca/hra/invasive-species/edrr.htm)

For invasive plants, you can use the BC Invasive Plant Core Ranking Process to help determine which plants to treat/manage first:

[www.for.gov.bc.ca/hra/invasive-species/calculatorIndex](http://www.for.gov.bc.ca/hra/invasive-species/calculatorIndex)

## Step 5: Select Management Strategies

There are many invasive species management strategies. Generally, for invasive species management to be effective, more than one strategy will need to be used on any one infestation in order to meet your management goals and objectives. The strategies that you select will be used in Step 6. Below is a list of invasive species management strategies:

- » Prevention
- » Physical strategies
- » Cultural strategies
- » Biological control
- » Use of herbicides



Japanese knotweed infestation.  
Nuxalk First Nation

## CASE STUDY

### Chawathil First Nation Emergency with Knotweed

Chawathil First Nation recently encountered an unprecedented challenge with knotweed that almost caused the death of an elder in the community. In the late spring, a Chawathil elder with a heart rate monitor required ambulance service due to his heart condition. A neighbour called 911 for the ambulance, and they waited. However, on the highway leading to the elder's home, the knotweed was 6 feet tall and in

full bloom, with some plants hovering over the roadside and reflectors, created seriously limited visibility. In IR4, Chawathil First Nation's largest reserve, there are about 10 driveways along the highway, with almost all of their reflectors blocked by knotweed.

The ambulance was unable to find the home of the elder in distress and was forced to engage the 911

dispatcher to call the original number and receive detailed directions on how to navigate the knotweed. They then quickly found the home and were able to avoid serious consequences; however, the extra time it took to find the home due to the knotweed could have meant the difference between survival and a death in the community.



For more information and examples of invasive species management strategies, visit:

[www.whistler.ca/sites/default/files/related/rmow\\_ismmp\\_2014\\_1.pdf](http://www.whistler.ca/sites/default/files/related/rmow_ismmp_2014_1.pdf)

[www.for.gov.bc.ca/hra/plants/weedsbc/7StepsToManagingYourWeeds.pdf](http://www.for.gov.bc.ca/hra/plants/weedsbc/7StepsToManagingYourWeeds.pdf)

## Step 6: Develop an Integrated Pest Management Plan

Integrated pest management or IPM refers to the use of more than one management strategy to eradicate, control or manage invasive species. An integrated management plan will include the use of various strategies over time in your management area, depending on the invasive species that are present and the funding available.

[www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/plant-health/integrated-pest-management](http://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/plant-health/integrated-pest-management)

## Step 7: Develop a Monitoring Plan

In order to decide whether or not the management strategies that you have chosen are working or if there are changes that need to be made, you will need to monitor your management area. In order to be effective, a monitoring plan needs to be easy to follow and maintained consistently over time. A basic monitoring plan needs to outline exactly where in the management area to go, when to go there, and what to measure. Clear records and field notes must be kept in order for the information to be useful.

For examples of monitoring plans, visit: [www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/integrated-land-resource-registry](http://www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/integrated-land-resource-registry)



### ORANGE HAWKWEED

This invasive plant competes with native species and impacts ranching and agriculture by decreasing yields and quality of forage production, resulting in crop and financial losses. Orange hawkweed negatively impacts biodiversity by out-competing native plants and reducing habitat for wildlife and rare protected species.

SPECIES SPOTLIGHT

### HERBICIDE EVOLUTION

*Herbicides are one tool of many used to manage and control invasive species, and this tool has evolved quickly in recent years. Considering sensitive ecological systems is paramount, and herbicides are now very targeted, species-specific and low impact. With strategic use, herbicides can be a useful tool when other effective options are unavailable.*

## Section 6: Responding to Pest Management Plans

Indigenous communities receive Pest Management Plan (PMP) referrals from industry and government for mining, forestry operations, highway maintenance, and oil and gas development.

This section is designed to make the process simple, effective and successful. Responding to PMP referrals and developing integrated pest management plans is a critical step in working collaboratively to prevent the spread of invasive species.

### Resources

The BC Ministry of Environment has created the *Draft Guideline for Integrated Pest Management Proponents* that outlines how to conduct consultation with Indigenous communities (see below). Indigenous communities may want to be familiar with the recommended process for consultation. Failure to respond within the prescribed time period can result in the proponent being given approval to carry out their plans.

### Guideline for Consulting First Nations

[www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/publications-guides](http://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/publications-guides)

A Pest Management Plan (PMP) is a legislative requirement of the Integrated Pest Management Act and its regulation. This legislation is delivered and monitored by the Ministry of Environment, and a document exists on the Ministry website that discusses how to interpret the Act and how to prepare a PMP (see below).



### CASE STUDY

#### The Haisla Nation's Challenges with Knotweed

The Haisla Nation had some invasive species challenges during 2017. Japanese knotweed is a problem in Bella Coola, where the Haisla Nation is located. Professional pesticide applicator contractors have been very difficult to find, and some of the

infestations of Japanese knotweed have been challenging to access. Despite these challenges, 2017 has also brought successes to this Indigenous community. Members of the Haisla Nation have been in the field with proponent contractors,

and have a very good inventory of the invasive infestations within their reserve. Also, one of the Haisla community members has been certified as a Pesticide Applicator this year and will be ready to treat infestations this coming season.

## How To Develop a Pest Management Plan

[www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/publications-guides/explanatory-notes](http://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/publications-guides/explanatory-notes)

In addition to Pest Management Plans, there are a variety of other agreements that exist and may encompass similar aspects of the PMP. These include Strategic Engagement Agreements and New Relationship Agreements. For information on the difference between these agreements, visit [www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/strategic-engagement-agreements](http://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/strategic-engagement-agreements)

## Responding to a PMP Referral

Consultation is an opportunity for both parties to communicate, collaborate and negotiate. It begins when your community receives a referral notice from a proponent requesting a response. If you choose to respond, it is recommended that your written response outlines when and how you wish to be consulted, and clearly states your needs and interests. Responding to PMP referrals has to be made within the identified time period or it may not be taken into consideration.

For example, consultation guidelines that were used to respond to referrals were developed by the Northern Secwepemc te Qelmu'cw (NStQ), the treaty arm of the Northern Shuswap Tribal Council. The consultation guidelines were developed and endorsed by Motion # 09-06-03-06, which guides how governments and third parties will engage the NStQ on proposals, issues, and activities within the Secwepemc'ecw. To see a copy of consultation guidelines see here: [nstqportal.org/themes/nstq/documents/other/NStQ\\_Consultation\\_guidelines.pdf](http://nstqportal.org/themes/nstq/documents/other/NStQ_Consultation_guidelines.pdf)

## Considerations

Indigenous communities may want to consider neighbouring groups who may be sharing information with the proponent regarding the proposed plan. It is recommended that any overlapping territories be discussed in order to present a collaborative response. The status of your community is of utmost importance as there are several stages of treaty negotiations taking place throughout the province.

Determining involvement and authority of representatives are important first steps. Where implications of unjustified infringement exist, consult with the affected Chief and Council. If your group has an existing bylaw, BCR, or other relevant agreement, refer to the existing agreement for guidance (see [Appendices 1 and 2](#)). Pesticide Applicator Training or other invasive species training might be considered. The Invasive Species Council of BC provides a wide range of training opportunities that can be tailored to your community's specific needs.



### GOLDFISH

Goldfish have been released into BC lakes by pet owners who no longer want to care for their fish. This has caused a huge problem for native species. Goldfish can grow to fit the size of their habitat, and they eat both plants and animals, creating competition for native species.

SPECIES SPOTLIGHT



### Clean Drain Dry

Boats and other watercraft are also a frequent method of invasive species entering key habitat within BC such as the province's lakes, streams and wetlands. With jurisdictions across North America struggling with the impacts of this aquatic invasion, the need for boaters and other outdoor recreation enthusiasts to pay attention and take action is growing. Clean Drain Dry encourages you to 'clean drain dry' all boats and equipment to help reduce the spread of invasive species and organisms to BC waters.

**THERE HAVE BEEN CHANGES TO THE INTEGRATED PEST MANAGEMENT REGULATION!**

The Ministry of Environment has recently amended the Integrated Pest Management Regulation under the Integrated Pest Management Act. The changes follow extensive consultation on the sale and cosmetic use of pesticides, to ensure that pesticides will be used by people with knowledge and training, as part of an Integrated Pest Management Plan, and more. These changes took effect on July 1, 2016.

[www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/pesticide-use/regulations-consultations](http://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/pesticide-use/regulations-consultations)

Once approved, a Pest Management Plan exists for a five-year term and is required by companies who apply pesticide on a land base of more than 20 hectares per year. A PMP is also required for companies managing invasive species on public land where more than 50 hectares are treated in a year, or for mosquito control where treatment will be delivered on more than one hectare of water. For further information, please refer to the *Handbook for Pesticide Applicators and Dispensers*.

**RESPONDING TO PMP REFERRALS**

See [Appendix 4](#) for the associated checklist and [Appendix 6](#) for the graphic.

**Step 1: Structuring the Process**

Discuss the process itself; some proponents require only a simple consultation process while others are more complex. Your community is entitled to negotiate the structure of the process that best suits your political and administrative structures, priorities, and capacities. Information exchange must follow the principles of recognition and respect for your community, rights, and reconciliations.



## Step 2: Response to Referral

The information you receive from the proponent should be sufficient enough to enable your group to make fully informed decisions in regard to the proposal. Your written response letter should include a statement of how the proposed activity is anticipated to be of benefit or detriment to your rights and interests, including a traditional territory map showing that the basis for the claim lies within that territory.

## Step 3: Discussion and Negotiation

**If your community operates with existing referral guidelines or similar protocol, ensure that you follow them during this process.**

If the initial plan, or portions of the plan, does not adequately meet the needs or interests of your community, there are ways to work cooperatively to find common ground. Begin by opening a line of communication with the proponent to discuss the preferred changes to the PMP and to organize a field visit. Next, set a meeting with the proponent, the traditional land holder(s), and/or Indigenous community representatives to show how the plan could potentially adversely affect your interests. It is recommended that you provide alternative solutions to mitigate possible impacts.

## Step 4: Agreement

When you have successfully completed the negotiation process, print two copies of the agreed upon PMP and have both parties sign and date each of the copies.

## Step 5: Follow-up

If possible, organize field visits to the treated sites to see the effects of the invasive species treatment. In areas where herbicide was used, only enter after the no-entry period has expired; the no-entry period is dependent on the herbicide used. This information is available on the herbicide label. Make field notes of all positive and negative changes that you see for future reference. If time allows, follow-up with the proponent to help build positive, ongoing relationships. These relationships will foster the exchange of knowledge, benefiting everyone involved, and potentially create future partnerships or projects.

**The above steps have been used to create a checklist for information exchange found in [Appendix 4](#). It is recommended that all activities taken in the five steps listed above be accurately documented for future reference. If you have any questions about this process, please contact the BC Government's PMP specialist at [bc.ipm@gov.bc.ca](mailto:bc.ipm@gov.bc.ca)**

### Buy It Where You Burn It

*BC's forests are threatened by non-native insects that can kill large numbers of trees, and new infestations of tree-killing insects and diseases are often first found in campgrounds and parks. Once transported into new areas, these insects can become established and kill local trees. One of the most important things we can do to protect trees is stop moving invasive pests and diseases to new areas on firewood.*



### FERAL PIGS

Feral pig populations, are growing quickly and expanding their range in BC. They damage crops and land, livestock, and other wildlife and can reproduce 2-3 times per year with more than 6 piglets each time. These animals are very large, and eat primarily roots that must be dug up, creating massive disturbances that cause habitat loss, and create ideal conditions for invasive plants to grow. Feral pigs can carry disease and will prey on the nests of native bird species.

**SPECIES SPOTLIGHT**

## Section 7: Legislation

### PROVINCIAL LEGISLATION

LEGISLATION	DESCRIPTION	LOCATION
<b>BC Weed Control Act</b>	Legislates an occupier to control of noxious weeds on their land.	<a href="http://www.bclaws.ca/Recon/document/ID/freeside/00_96487_01">www.bclaws.ca/Recon/document/ID/freeside/00_96487_01</a>
<b>BC Community Charter</b>	Outlines provisions for government to government relationships in BC.	<a href="http://www.bclaws.ca/civix/document/id/complete/statreg/03026_10">www.bclaws.ca/civix/document/id/complete/statreg/03026_10</a>
<b>BC Oil and Gas Activities Act</b>	Regulates oil and gas and related activities in B.C., including wells, facilities, oil refineries, natural gas processing plants, pipelines and oil and gas roads, through permits, authorizations, orders and regulations.	<a href="http://www.bclaws.ca/civix/document/id/complete/statreg/08036_01">www.bclaws.ca/civix/document/id/complete/statreg/08036_01</a>
<b>Integrated Pest Management Act</b>	Outlines specific requirements for pesticide and herbicide use.	<a href="http://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/plant-health/integrated-pest-management">www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/plant-health/integrated-pest-management</a>

### FEDERAL LEGISLATION

LEGISLATION	DESCRIPTION	LOCATION
<b>Plant Protection Act</b>	This Act prevents the import/export and spread of invasive species that negatively impact plants.	<a href="http://laws-lois.justice.gc.ca/eng/acts/P-14.8/">laws-lois.justice.gc.ca/eng/acts/P-14.8/</a>
<b>Seeds Act</b>	Regulates seed import/export and ensures a standard that restricts the spread of invasive species.	<a href="http://laws-lois.justice.gc.ca/eng/acts/S-8/">laws-lois.justice.gc.ca/eng/acts/S-8/</a>
<b>Aquatic Invasive Species Regulations</b>	This legislation prevents the introduction of aquatic invasive species into Canada, and controls and manages their establishment and spread once they have been introduced.	<a href="http://laws-lois.justice.gc.ca/eng/regulations/SOR-2015-121/FullText.html">laws-lois.justice.gc.ca/eng/regulations/SOR-2015-121/FullText.html</a>
<b>First Nations Land Management Act</b>	This legislation provides Indigenous communities the authority to make laws in relation to reserve lands, resources and the environment.	<a href="http://www.laws-lois.justice.gc.ca/eng/acts/F-11.8/index.html">www.laws-lois.justice.gc.ca/eng/acts/F-11.8/index.html</a>

## Section 8: Tools & Resources

### Indigenous Invasive Species Network

The primary goal of the Indigenous Invasive Species Network (IISN) is to provide a forum for exchanging information on available resources, identifying needs and sharing lessons learned for invasive species management, programs and projects related to Indigenous interests.

The Indigenous Invasive Species Network was involved in reviewing and updating the Aboriginal Invasive Plant Community Toolkit originally published in 2011. The IISN also provided input on how to enhance education, outreach, training, networking and communication within and between Indigenous organizations and governments across BC. They assisted in identifying key invasive species resources for Indigenous groups and provided guidance on additional programs and resources as they arose. Check out the link below for more information and how to join. [bcinvasives.ca/about/partners/indigenous-communities/thanks-for-joining-the-indigenous-invasive-species-network](https://bcinvasives.ca/about/partners/indigenous-communities/thanks-for-joining-the-indigenous-invasive-species-network)

### Report-A-Weed App

Available on both iPhones and Android devices, this free useful App can function outside of cellular reception and send the report once you re-enter a reception zone. Invasive plants can be searched by common name, scientific name and flower colour!

### Report-Invasives-BC App

This exciting new free App includes all of the plant species from the Report-A-Weed App, plus an additional 126 other invasive species! They make great portable field guides. Download both apps at: [reportaweedbc.ca](https://reportaweedbc.ca)

### Integrated Vegetation Management Association of BC

The IVMA is dedicated to the responsible practice of vegetation management in BC and across Canada. They are a recognized organization that offers the most up-to-date, professional vegetation management information and news available on government actions and regulations, and suppliers and contractors. They liaise between agencies, provide consultation and have championed legislation reform. [ivma.com](https://ivma.com)

### TIPS Factsheets

TIPS factsheets are an information series for everyone involved in invasive species management. Each publication focuses on best management practices and principles for operational activities or a specific species. [bcinvasives.ca/resources/tips](https://bcinvasives.ca/resources/tips)

### The Invasive Alien Plant Program

The IAPP database is an online tool that houses invasive plant surveys, treatments, and activity plans for the entire province of BC. The comprehensive data in this program is regularly entered by a wide variety of user groups (Indigenous groups, ministries, regional districts, invasive species committees, forest licensees, utilities, conservation groups, federal departments and others). [www.for.gov.bc.ca/hra/plants/application.htm](https://www.for.gov.bc.ca/hra/plants/application.htm)

### BC Inter-Ministry Invasive Species Working Group

Check out this great resource as a hub of information on invasive species and where to go when you are looking for more! [www.for.gov.bc.ca/hra/invasive-species/index.htm#](https://www.for.gov.bc.ca/hra/invasive-species/index.htm#)



Targeted goat grazing on Tobacco Plains Indian Reserve. G. Carignan

## Community Knowledge Keeper

This online tool offers analysis of the potential impacts of projects on traditional land use, species habitat, and any areas of importance to a community. This referrals and consultation tracking and management system can be customized to support your community's needs. Community Knowledge Keeper also offers an online archive for documents, photographs, audio, and video files. [knowledgekeeper.ca](http://knowledgekeeper.ca)

## CASE STUDY

### Tobacco Plains Goats and Invasive Plants!

Tobacco Plains Indian Reserve (TPIR) is located within the southern Rocky Mountain Trench and spans over 5000 hectares of historically fire-regulated grassland and open forested ecosystems. As a result of fire suppression practices, which have been in place since the early 20th century, the region has experienced heavy encroachment of ponderosa pine and Douglas fir. Many invasive plants are also threatening grasslands and open forests on the reserve. As TPIR is federal land, it has been excluded from the provincially led, highly-successful, Rocky Mountain Trench Ecosystem Restoration (ER) Program, which has been in effect since the late 1990s. TPIR represents a significant area of critical grassland and open forest habitat for many species. The reserve provides winter range for mule deer, white-tailed deer, and elk. As well, TPIR is home to several federally listed species at risk. Since 2015, Keefer Ecological Services Ltd. (KES) has been actively working with Tobacco Plains Indian Band (TPIB) to manage invasive plants on the reserve. Over the years, efforts have been supported by the Fish and Wildlife Compensation Program and have involved a range of management and control methods.

In 2015, an invasive plant survey of the reserve was conducted, and an invasive plant management report was developed based on survey results. Some of the high priority invasive plants found include leafy spurge, orange hawkweed, field bindweed and spotted knapweed. In 2016, in addition to the herbicide treatment started in 2015, targeted goat grazing was introduced on 48 hectares of grassland habitat infested with sulphur cinquefoil using approximately 300 goats. Targeted goat grazing offers a potential long-term and environmentally friendly alternative to herbicide application to manage sulphur cinquefoil. In 2017, monitoring of invasive plant infestations sprayed in 2015 and 2016 was done to assess the success of the herbicide use. Continued monitoring is critical to assess the effectiveness of treatment efforts and determine if continued treatment is necessary.

In 2017, the project encountered some challenges based on the goat owner's availability. Due to these challenges, and interest expressed by East Kootenay Invasive Species Council, a study was designed to assess the success of using targeted goat grazing and herbicide to control

sulphur cinquefoil. The objective of the proposed study is to determine which of the following management techniques most effectively suppresses sulphur cinquefoil over a three-year period:

- » Targeted goat grazing, conducted once per year
- » Targeted goat grazing, conducted twice per year
- » Herbicide application, conducted once per year
- » Herbicide application, conducted twice per year
- » Targeted goat grazing and herbicide application, conducted once per year

The study will occur on TPIR, within a grassland area located in the northern reach of the reserve, adjacent to the village. This area has been selected for the study because it is adjacent to the village and thus members of the Tobacco Plains community are able to examine the research project. As well, the area is over 8 km from the Canada-United States border, which is a known bighorn sheep range, thus reducing the risk of disease transfer between the goats and bighorn sheep. This project has been supported by Columbia Basin Trust and will begin in summer 2018.



## Funding Opportunities

There are funding opportunities for Indigenous communities through Indigenous Services Canada (ISC) and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) found here:

[www.aadnc-aandc.gc.ca/eng/1425576051772/1425576078345](http://www.aadnc-aandc.gc.ca/eng/1425576051772/1425576078345)

The Indigenous Invasive Species Network will share funding opportunities through their webpage on the [bcinvasives.ca](http://bcinvasives.ca) website. For more information, contact [liaison@bcinvasives.ca](mailto:liaison@bcinvasives.ca).

## Canadian Food Inspection Agency

The objectives of the plant protection program within the CFIA are to prevent the introduction and spread within Canada of plant pests of quarantine significance, to detect and control or eradicate designated plant pests in Canada.

[www.inspection.gc.ca/plants/plant-pests-invasive-species/eng/1299168913252/1299168989280](http://www.inspection.gc.ca/plants/plant-pests-invasive-species/eng/1299168913252/1299168989280)

## Tsunami debris

Since the earthquake in Japan in 2011, debris has been washing ashore in BC and other Pacific Northwest areas. One of the greatest concerns are the invasive species that have hitched a ride on the debris, and are now present in BC waters. To report invasive species that are found on tsunami debris, contact the Ministry of Environment here: [www2.gov.bc.ca/gov/content/environment/waste-management/recycling/tsunami-debris-removal-recycling](http://www2.gov.bc.ca/gov/content/environment/waste-management/recycling/tsunami-debris-removal-recycling)

## Invasive Species Council of BC

The Invasive Species Council of BC (ISCBC) is a registered charity and non-profit society that helps coordinate and unite a wide variety of concerned stakeholders in the struggle against invasive species in BC. The Council supports a range of training courses, resources and behaviour change programs for Indigenous communities, industry gardeners, outdoor recreation enthusiasts. [bcinvasives.ca](http://bcinvasives.ca)

## Canadian Council on Invasive Species

Invasive species councils, committees, and coalitions representing the majority of provinces and territories in Canada have established as a federal society to work together to reduce the impact of invasive species across the country. [canadainvasives.ca](http://canadainvasives.ca)

## Invasive Species Strategy for BC

The first [Invasive Species Strategy for British Columbia](#) (the ‘Strategy’) was completed in May 2012. This Strategy set the stage in BC as a foundation for invasive species work across the province and is the basis for our programs and efforts. At the close of the 5-year implementation period of that first Strategy, provincial stakeholders once again provided input into the development of an updated [Invasive Species Strategy for British Columbia for 2017-2022](#). This document is reflective of the invasive species goals and objectives for BC for the next five-year period. [bcinvasives.ca/about/invasive-species-strategy-for-bc](http://bcinvasives.ca/about/invasive-species-strategy-for-bc)

## Landfill Information in BC

Learn more about BC’s integrated solid waste management plans and landfill criteria here: [www2.gov.bc.ca/gov/content/environment/waste-management/garbage/landfills](http://www2.gov.bc.ca/gov/content/environment/waste-management/garbage/landfills)

For detailed information regarding landfills in your region, please contact your local invasive species committee here: [bcinvasives.ca/about/partners/bc-stakeholders/](http://bcinvasives.ca/about/partners/bc-stakeholders/)

## British Columbia First Nations Fill Management Guide

The Department of Indigenous Services Canada (DISC) recently developed and published the British Columbia First Nations Fill Management Guide (2018). A four-page insert was created to accompany the guide: “Preventing Invasive Species in Soil Fill”. The insert deals with the management of invasive species that are spread through soil, including information on transmission pathways, regulations, soil considerations, soil treatments and disposal. Please visit [bcinvasives.ca/resources/publications/](http://bcinvasives.ca/resources/publications/) to download the insert.

# Appendix

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# APPENDIX 1: EXAMPLE BAND COUNCIL RESOLUTION



Indian and Northern  
Affairs Canada

## BAND COUNCIL RESOLUTION

Chronological no.

File reference no.

NOTE: The words "from out and Funds" "capital" or "revenue", which is the case, must appear in all resolutions requesting expenditures from Band Funds.

The council of the <b>Stz'uminus First Nation</b>					Cash free balance	
Date of duly convened meeting					Capital Account	\$ _____
<input type="checkbox"/>	D-J <b>07</b>	M <b>03</b>	Y-A <b>12</b>	Province <b>BC</b>	Revenue account	\$ _____

DO HEREBY RESOLVE:

### By-law No. 2012.03 Being a By-law Respecting the Control of Animals on the Reserve.

**WHEREAS** section 81, paragraph (a), (d), (e), (q) and (r), of the *Indian Act* empower the Council of an Indian Band to pass by-laws to provide for the health of residents on the reserve, the prevention of nuisances, the protection against and the prevention of trespass by domestic animals, matters arising out of or ancillary to the exercise of powers under this section, and the imposition of a penalty for the violation of any such by-law;

**AND WHEREAS** the Council of the Stz'uminus First Nation is of the opinion that the uncontrolled ownership, breeding, and running at large of dogs may be detrimental to the health of the residents on the reserve, and a nuisance to such residents;

**THEREFORE**, the Council of the Stz'uminus First Nation enacts this Animal Control Bylaw, Number 2012.03, as follows:

#### SHORT TITLE

1. This by-law may be cited as the "Stz'uminus First Nation Animal Control By-law".

#### INTERPRETATION

2. In this by-law: "**council**" means the Council of the Stz'uminus First Nation, as defined in the *Indian Act*; "**dog**" means any dog, male or female and includes an animal that is a cross between a dog and a wolf; "**muzzle**" means to secure a dog's mouth in such a fashion that it cannot bite anything; "**officer**" means any police officer, police constable or other person charged with the duty to preserve and maintain public peace, and a by-law officer or any other person, including a band by-law officer, appointed by the Council for the purpose of maintaining law and order on the reserve pursuant to By-Law No. 2012.03 relating to Law and Order; "**owner**" of a dog includes a person who possesses or harbors a dog, and the terms "**owns**" and "**owned**" have a corresponding meaning; "**at large**" or "**running at large**" means off the premises of the owner and not muzzled or under the control of any person; "**reserve**" means the Stz'uminus First Nation Indian Reserve(s) No.10, 11, 12 and 13.

- 3.1 Subject to subsection (2), every owner of a dog shall keep the dog under control at all times.
- 3.2 No owner shall allow his dog to remain unfed or without water whereby it either amounts to cruelty or causes the dog to become a nuisance.
- 3.3 No person shall punish or abuse a dog in a manner or to an extent that is cruel or unnecessary.
- 3.4 No owner shall permit a dog to bark, yelp, growl or otherwise annoy or disturb the peace of residents on the reserve.
- 3.5 No owner shall permit a female dog in heat to be off the owner's premises.
- 3.6 (a) The Council may at any time prohibit the keeping of dogs within any area of the reserve. (b) Notice of any prohibition made by Council pursuant to par. (a) shall be posted in the Band office and after the date of the posting of such notice, no person shall keep or have a dog within the prohibited area.

#### Seizure

- 4.1 An officer may seize a dog from any person whom he has reasonable cause to believe is violating or has violated or is about to violate any of the provisions of this by-law.
- 4.2 Subject to subsection (4), an officer who has seized a dog pursuant to subsection (1) shall restore possession of the dog to its owner where: (a) the owner claims possession of the dog within five (5) days after the date of seizure, and (b) the owner pays to the officer all expenses incurred in securing, caring for and feeding the dog;
- 4.3 Where a dog has not been reclaimed within five (5) days after seizure, pursuant to subsection (2), the officer may humanely destroy or dispose of the dog as he seems fit and no damages or compensation may be recovered as a result of the destruction or disposal of the dog by the officer.

4.4 Where, in the opinion of the officer, a dog is seized under this section is injured, diseased or should be destroyed without delay for humane reasons or for reasons of health or safety, the officer shall destroy the dog as soon after seizure as he thinks fit and no damages or compensation may be recovered as a result of the destruction of the dog by the officer.

5.1 Where an officer, after reasonable effort, is unable to seize a dog that is running at large, contrary to the provisions of this by-law, he may destroy the dog.

5.2 No damages or compensation may be recovered as a result of the destruction of a dog by an officer pursuant to subsection (1).

**Protection from dogs**

6.1 Any person may kill a dog that is running at large and is in the act of pursuing, attacking, injuring, damaging, killing or destroying: (a) person, (b) another dog that is tethered, or (c) a cache, harness or other equipment;

6.2 No damages or compensation may be recovered as a result of the killing of a dog by an officer pursuant to subsection (1)



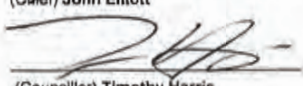
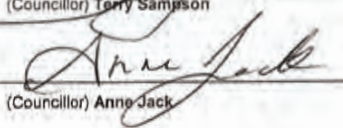
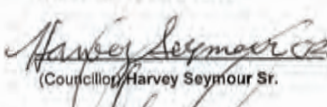
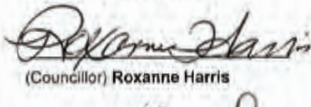
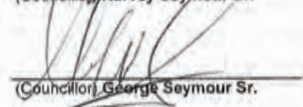

**Penalty**

7.1 Every person who contravenes any of the provisions of this by-law is guilty of an offence and is liable on summary conviction to a fine of not more than five hundred dollars (\$500) or to imprisonment for a term of 30 days, or both.

**THIS BY-LAW IS HEREBY** enacted by the Council of Stz'uminus First Nation at a duly convened meeting of the Council dated on the 7<sup>th</sup> day of March 2012.

Voting in favour of the by-law are the following members of Council:

Quorum Five (5)

_____ (Councillor)	 (Chief) John Elliott	_____ (Councillor)
 (Councillor) Terry Sampson	 (Councillor) Timothy Harris	_____ (Councillor) Kevin Frenchy
 (Councillor) Anne Jack	 (Councillor) Harvey Seymour Sr.	 (Councillor) Roxanne Harris
_____ (Councillor) Gordon Seymour	 (Councillor) George Seymour Sr.	 (Councillor) Herb Seymour

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE					
Expenditure- Dépense	Authority (Indian Act Section) Autorité (Article de la Loi sur Les Indiens)	Source of funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue Revenu	Expenditure- Dépense	Authority (Indian Act Section) Autorité (Article de la Loi sur Les Indiens)	Source of funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue Revenu
Recommending officer- Recommandé par			Recommending officer- Recommandé par		
Signature _____		Date _____	Signature _____		Date _____
Approving officer - Approuvé par			Approving officer - Approuvé par		
Signature _____		Date _____	Signature _____		Date _____



## APPENDIX 1: SAMPLE TEMPLATE

### Band Council Resolution to Provide Management of Invasive Species

#### WHEREAS:

Invasive species pose a threat to our community's environment, health, safety and economics on Indian reserve land; and

Invasive plants pose a threat to our lands affecting foods, medicinal plants and animals by overtaking their habitat.

#### BE IT THEREFORE RESOLVED THAT:

The [NAME OF INDIGENOUS COMMUNITY] representing the interests of the people in the traditional territories recognizes the threat caused by the invasive species.

The [NAME OF INDIGENOUS COMMUNITY] hereby grants [NAME OF REPRESENTATIVE OR DEPARTMENT] authority to pursue funding on behalf of the nation to remove and manage the invasive species on Indian reserve land/or traditional territories off reserve lands.

The [NAME OF INDIGENOUS COMMUNITY] hereby grants [NAME OF REPRESENTATIVE OR DEPARTMENT] authority to manage and control of invasive species on [INSERT NAME OF INDIAN RESERVE LAND].

The [NAME OF INDIGENOUS COMMUNITY] hereby grants [NAME OF REPRESENTATIVE OR DEPARTMENT] authority to manage and control invasive species according to the relevant laws of the Province of British Columbia.

The [NAME OF INDIGENOUS COMMUNITY] hereby grants [NAME OF REPRESENTATIVE OR DEPARTMENT] authority to enter into agreements with provincial or federal governments of Canada and/or agencies concerning invasive species on reserve lands or adjacent to reserve lands where Indigenous rights and interests may be affected.

## APPENDIX 2: EXAMPLE BYLAWS

The Council of the Squamish Band of Indians at a meeting held on the 23rd day of March, 1965, makes the following by-law pursuant to paragraphs (j) and (r) of section 80 of the Indian Act.

### BY-LAW NO. 2

A by-law to provide for the destruction and control of noxious weeds in the Squamish Indian Reserves, in the Province of British Columbia.

- (a) The holder of a certificate of possession or occupant of any land within the reserve shall cut or cause to be cut down or otherwise destroy all noxious weeds including blackberry vines, morning glory plants, nettles, yellow broom, alder and maple and cottonwood growth, growing thereon as often in each year as is deemed necessary to prevent them from going to seed.
- (b) The inspector appointed by the council shall give notice in writing to the holder of a certificate of possession or occupant of any land where noxious weeds are growing and in danger of going to seed requiring him to have the same cut down or destroyed within Ten days from the service of such notice, and in the event of such holder of a certificate of possession or occupant refusing or neglecting to cut down or destroy the said noxious weeds within the period aforesaid, he shall be deemed guilty of a breach of the provisions of this bylaw.

- (c) Any person who violates any of the provisions of this by-law shall be guilty of an offence and shall be liable on summary conviction to a fine not exceeding ten dollars or imprisonment for a term not exceeding seven days, or both fine and imprisonment.

Chap Mathews Jr  
CHIEF

Frank Rivers  
Councillor

Simon Baker  
Councillor

Percy Paull  
Councillor

Philip Lettitt Jr  
Councillor

Lorne Mahoney  
Councillor

Jim Moody  
Councillor

Alvie Anderson  
Councillor

Thomas Findlay  
Councillor

Sam Baker  
Councillor

\_\_\_\_\_  
Councillor

**THE OSOYOOS INDIAN BAND  
BY-LAW NO. 2001-002**

**Respecting the Construction, Maintenance  
And Regulation of Waterworks System**

**WHEREAS** the Council of the Osoyoos Indian Band deems it expedient to enact a by-law for the purpose of constructing, maintaining and regulation of a waterworks system on the Reserve of the Band.

**AND WHEREAS** paragraphs 81(1), (a), (f), 91, (q), and ⑧ of the Indian Act, R.S.C. 1985, c. 1-5, empower the Council of a Band to make by-laws to provide for the health of residents, the construction and maintenance of watercourses, roads, bridges, ditches, fences and other local work, the construction and regulation of the use of public well, cisterns, reservoirs and other water supplies, with respect to any matter arising out of or ancillary to the exercise of powers under section 81, and the imposition on summary conviction of a fine or imprisonment for violation thereof;

**NOW THEREFORE** the Council of the Osoyoos Indian Band enacts as a by-law thereof as follows:

**PART 1 – GENERAL PROVISIONS**

Short Title

1. This by-law may be cited as the “The Osoyoos Indian Band Waterworks By-Law”

Interpretation

2. In this By-Law  
“Act” means the Indian Act, R.S.C. 1985, c.1-5;  
  
“Band” means The **Osoyoos Indian Band**.  
  
“Connection line” **means** any pipe or other device conveying water from the waterworks system **to lands**;  
  
“Council” means the **Council** of the Band;  
  
“O&M” means the **Manager** of the Community Works and Operation Division of the Osoyoos Indian Band, **appointed** from time to time by the Council of his authorized representative;  
  
“Fee Schedule” means that schedule **of fees attached as schedule “A”** to this by-law and forming a part hereof;



## APPENDIX 2: SAMPLE BYLAW

Bylaw #\_ EFF [DATE]

### CONTROL OF INVASIVE SPECIES

The Council of the [NAME OF INDIGENOUS COMMUNITY] at a meeting held [DATE AND LOCATION] makes the following bylaw pursuant to paragraph (j) and (r) of Section 80 of the Indian Act.

Bylaw No. [#]

A bylaw to provide for the management and control of invasive species in [NAME OF INDIAN RESERVE], in the Province of British Columbia.

- a.) The holder of a certificate of possession or occupant of any lease land within the reserve shall manage and control invasive species as often in each year as is deemed necessary to prevent them from spreading.
- b.) All home owners within the reserve shall manage and control invasive species as often in each year as it is deemed necessary to prevent them from spreading.
- c.) All traditional land owners within the reserve shall manage and control invasives species as often in each year as is deemed necessary to prevent them from spreading.
- d.) The [NAME OF DEPARTMENT OR REPRESENTATIVE] appointed by the Council shall give notice in writing to the holder of a certificate of possession or occupant of any land where invasive species exist and are in danger of spreading, requiring him/her to have them managed, controlled and monitored as appropriate based on the species.
- e.) Any person who violates any of the provisions of this bylaw shall be guilty of an offense and shall be liable for all costs incurred to manage and control the invasives species or will be evicted from their residence, or both fine and eviction.

# APPENDIX 3: INVASIVE SPECIES MANAGEMENT PLAN CHECKLIST

## Invasive Species Management Plan Development

Indigenous Community \_\_\_\_\_

Start Date of Plan Development \_\_\_\_\_

Date of Plan Completion \_\_\_\_\_

### 1. Identify and Map the Management Area

- Map the management area as a whole
- Identify resources within the area
- Identify areas that are endangered
- Identify areas of cultural significance
- Identify known invasive species infestations

### 2. Conduct an Invasive Species Inventory

- Prioritize sections of the larger area (hunting grounds, berry picking, sensitive/endangered habitats)
- Connect with agencies that may have done similar work in the area to reduce the workload
- Unknown plants: take a photo or bag and press a sample for your local invasive species specialist to identify
- Record and report any invasive species identified during the inventory

### 3. Set Management Goals and Objectives

- Each goal should have more than one objective

*Example:*

**Goal:** Preserve riparian habitat and species

**Objective 1:** Remove XXX invasive species from the management area in one year

**Objective 2:** increase the abundance of native plants by 50% in degraded riparian areas within the management area over five years.

#### 4. Set Priorities for Invasive Species Management

##### Step 1

- Identify invasive species, and create a baseline inventory
- Identify locations, and the relative abundance and extent of the invasion

##### Step 2

- Identify high priority invasive species (EDRR species, aggressive invasives)
- Identify high priority locations (small or single infestations, high traffic areas, etc.). Consider nearby adjacent properties and the watershed and region as a whole

#### 5. Select Management Strategies

Choose one or more of the following options, based on research, species of concern, location, etc.

- Prevention (education, minimizing soil disturbance, etc.)
- Mechanical removal (mowing, burning, hand pulling, tillage)
- Cultural strategies (crop rotation, livestock grazing)
- Biological control (in partnership with local invasive species experts)
- Herbicides (for application only by a certified Pesticide Applicator)

#### 6. Develop an Invasive Species Management Plan

- Choose one or more management strategy
- Commit to a timeline
- Explore funding options to proceed with the plan

#### 7. Develop a Monitoring Plan

- Identify where in the management area to go
- Identify when to visit each area
- Identify what to measure when visiting each area
- Decide on a timeline and consistency for monitoring, based on species specific research and location

For more information on land use in BC: [www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/integrated-land-resource-registry](http://www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/integrated-land-resource-registry)

## APPENDIX 4: PMP REFERRAL RESPONSE CHECKLIST

### Responding to PMP Referrals – CHECKLIST

Proponent Name: \_\_\_\_\_

Indigenous Community: \_\_\_\_\_

Date of PMP Referral Delivery: \_\_\_\_\_

Date of response: \_\_\_\_\_

#### 1. Structure the Process

- Review areas of interest (maps, photos, aerial footage...)
- Contact neighbouring groups with overlapping interest areas
- Research internal policies and procedures for information exchange guidelines (see resources)
- Review internal Band Council Resolutions or bylaws
- Identify how the proposed activity is anticipated to be of benefit and/or detriment to your rights and interests

#### 2. Respond to the Referral

Prepare a document to the proponent indicating that your group is interested in engagement. Include:

- How the proposed activity is anticipated to be of benefit and/or detriment to your rights and interests
- Include a traditional territory map showing that the basis for the claim lies within that territory
- Include any requests for field visits or other information or resources your group deems necessary

#### 3. Discuss and negotiate

- Open lines of communication with the proponent to discuss the preferred changes to the PMP request
- Request clarification or further information from proponent that will assist your group in making a fully informed decision

- Organize a field visit if necessary
- Explore training and employment opportunities
- Provide alternative solutions to mitigate possible impacts

---

#### 4. Agree

- Print two copies of the agreement upon PMP and have both parties sign and date each copy

---

#### 5. Follow-up

- If possible, organize field visits to the treated sites to see the effects of treatment on the ground
- Follow up with the proponent(s) to help build positive, ongoing relationships
- These relationships will foster the exchange of technical and traditional knowledge benefiting everyone involved

# APPENDIX 5: REGIONAL INVASIVE SPECIES COMMITTEES CONTACTS

## Regional Organizations

### 1. Coastal Invasive Species Committee

Coastal Invasive Species Committee (Coastal ISC)  
Ph: 250-857-2472 • [www.coastalisc.com](http://www.coastalisc.com)  
Email: [info@coastalisc.com](mailto:info@coastalisc.com)

▶ The Coastal ISC covers the geographic areas of Vancouver Island, the Gulf Islands and the Sunshine Coast.

### 2. Metro Vancouver

Invasive Species Council of Metro Vancouver (ISCMV)  
Ph: 604-880-8358 • [www.iscmv.ca](http://www.iscmv.ca)  
Email: [info@iscmv.ca](mailto:info@iscmv.ca)

▶ The ISCMV covers all lands within the Metro Vancouver Regional District.

### 3. Fraser Valley

Fraser Valley Invasive Plant Council (FVIPC)  
Ph: 604-615-WEED(9333) • Email: [info@fvipc.ca](mailto:info@fvipc.ca)  
[www.fraservalleyweeds.com](http://www.fraservalleyweeds.com)

▶ The FVIPC covers the Fraser Valley Regional District boundaries, from east of Hope to west of Abbotsford/Mission, and north to Skatin and Lil'wat territory. Adjacent communities may also be included in the FVIPC where invasive plant infestations are observed.

### 4. Sea to Sky Corridor

Sea to Sky Invasive Species Council  
Ph: 604-698-8334 • [www.ssisc.info](http://www.ssisc.info)  
Email: [ssinvasives@gmail.com](mailto:ssinvasives@gmail.com)

▶ SSISC covers all lands within electoral areas C and D of the Squamish-Lillooet Regional District as well as the Village of Lions Bay.

### 5. Lillooet

Lillooet Regional Invasive Species Society  
Ph: 250-256-4292 • Email: [lrinvasives@gmail.com](mailto:lrinvasives@gmail.com)

▶ LRISS covers all lands within electoral areas A and B of the Squamish-Lillooet Regional District, including the northern extent of the Cascades Forest District and the boundary of the Northern St'at'imc Territory, including waterways of the Fraser River, Bridge River, Cayoosh Creek, and Seton Lake.

### 6. Okanagan-Similkameen

Okanagan and Similkameen Invasive Species Society (OASISS)  
Ph: 250-404-0115 • [www.oasiss.ca](http://www.oasiss.ca)  
Email: [oasiss@shaw.ca](mailto:oasiss@shaw.ca)

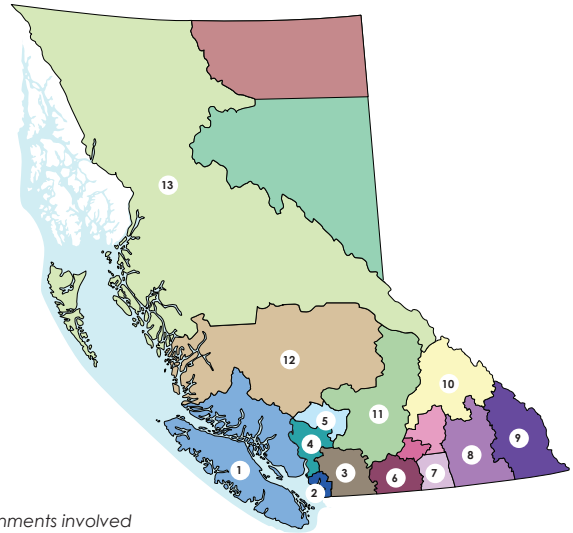
▶ OASISS covers all lands within the Regional District Okanagan-Similkameen (RDOS), including the municipalities of Summerland, Penticton, Oliver, Osoyoos, Keremeos and Princeton. Please direct all inquiries to OASISS or for further information on invasive species in this region, refer to [www.oasiss.ca](http://www.oasiss.ca).

### 7. Boundary

Boundary Invasive Species Society (BIS)  
Ph: 250-446-2232 • [www.rtkb.com](http://www.rtkb.com)  
Email: [boundaryinvasives@gmail.com](mailto:boundaryinvasives@gmail.com)

▶ BIS covers the municipalities of Midway, Greenwood, and Grand Forks, as well as Electoral Areas D & E of the Regional District of Kootenay Boundary.

As invasive species do not respect administrative boundaries, collaboration is key to success. Across BC, private and public organizations undertake actions to reduce the spread and impacts of invasive species. A unique network of specialized invasive species, non-government organizations are located across the province.



Note: A map of local governments involved is under development.

### 8. Central and West Kootenay

Central Kootenay Invasive Species Society (CKISS)  
Ph: 1-844-352-1160 • [www.ckiss.ca](http://www.ckiss.ca)  
Email: [info@ckiss.ca](mailto:info@ckiss.ca)

▶ CKISS covers the Central Kootenay Regional District and areas A & B of the Kootenay Boundary Regional District from the Paulson Summit East.

### 9. East Kootenay

East Kootenay Invasive Plant Council (EKIPC)  
Ph: 1-888-55-EKIPC (35472) • [www.ekipc.com](http://www.ekipc.com)  
Email: [coordinator@EKIPC.com](mailto:coordinator@EKIPC.com)

▶ The EKIPC covers all land within the Regional District of East Kootenay.

### 10. Columbia-Shuswap

Columbia Shuswap Invasive Species Society (CSISC)  
Ph: 1-855-PUL-WEED (1-855-785-9333)  
[www.columbiashuswapinvasives.org](http://www.columbiashuswapinvasives.org)  
Email: [info@columbiashuswapinvasives.org](mailto:info@columbiashuswapinvasives.org)  
PO Box 2853, Revelstoke, BC, V0E 2S0

▶ The CSISC covers all land within the Columbia-Shuswap Regional District.

### 11. Thompson-Nicola

Southern Interior Weed Management Committee (SIWMC)  
Ph: 250-851-1699 • [www.siwmc.ca](http://www.siwmc.ca)  
Email: [info@siwmc.ca](mailto:info@siwmc.ca)

▶ The SIWMC covers the Thompson-Nicola Regional District, with an area of 45,279 square kilometers. It includes ten municipalities (Ashcroft, Barriere, Cache Creek, Chase, Clearwater, Clinton, Kamloops, Logan Lake, Lytton and Merritt) as well as ten electoral areas.

### 12. Cariboo, Chilcotin, Coast

Cariboo Chilcotin Coast Invasive Plant Committee (CCCIPC)  
Ph: 250-855-9333 • [www.cccipc.ca](http://www.cccipc.ca)  
Email: [info@cccipc.ca](mailto:info@cccipc.ca)

Cariboo Regional District (CRD)  
Ph: 1-800-665-1636 ext. 266  
[www.cariboord.bc.ca/Services/InvasivePlants.aspx](http://www.cariboord.bc.ca/Services/InvasivePlants.aspx)  
Email: [invasiveplants@cariboord.bc.ca](mailto:invasiveplants@cariboord.bc.ca)

▶ The CCCIPC covers the Cariboo Regional District, the Chilcotin, and the Central Coast Regional District. This ranges from Hixon north of Quesnel, south to 70 Mile House, east to Wells Grey Park, and west to the Pacific Ocean.

### 13. Northwest

Northwest Invasive Plant Council (NWIPC)  
Ph: 1-866-44WEEDS (449-3337) • [www.nwipc.org](http://www.nwipc.org)  
Email: [manager@nwipc.org](mailto:manager@nwipc.org)

▶ The NWIPC covers four regional districts: Bulkley-Nechako, Fraser Fort George, Kitimat-Stikine, and Skeena Queen Charlotte; and, the Stikine Region adjacent to the Yukon border, and all municipalities within these regions.

## Provincial Organization

### Invasive Species Council of BC (ISCBC)

#100 - 197 North 2nd Ave.  
Williams Lake, BC V2G 1Z5  
Ph: 250-305-1003 or  
1-888-933-3722  
Email: [info@bcinvasives.ca](mailto:info@bcinvasives.ca)  
[www.bcinvasives.ca](http://www.bcinvasives.ca)



▶ The Invasive Species Council of BC is a registered charity that works collaboratively on provincial and multi-jurisdictional issues, including with independent regional invasive species committees.

# APPENDIX 6: PMP REFERRAL GRAPHIC



*An action-oriented organization making a difference to all British Columbians in reducing the impact of invasive species in BC.*

## APPENDIX 7: ADDITIONAL REFERENCES

In addition to the references identified throughout the document, please visit the following for more information:

- » Feeding and Habitat Preferences of Non-Native Smallmouth Bass (*Micropterus dolomieu*) in Lakes Throughout British Columbia Martina Beck, University of Victoria, 2008  
[dspace.library.uvic.ca:8080/handle/1828/4752](https://dspace.library.uvic.ca:8080/handle/1828/4752)
- » Economic Impacts of Invasive Plants in British Columbia 2009  
[bcinvasives.ca/documents/Report12\\_Econ\\_Impacts.pdf](https://bcinvasives.ca/documents/Report12_Econ_Impacts.pdf)
- » Preliminary Damage Estimates for Selected Invasive Fauna in B.C. 2013  
[www.for.gov.bc.ca/hra/invasive-species/Publications/BC\\_Invasives\\_Final\\_Report.pdf](http://www.for.gov.bc.ca/hra/invasive-species/Publications/BC_Invasives_Final_Report.pdf)
- » A Guide to Preparing Environmental Management Plans for Operational First Nations 2016  
[labrc.com/wp-content/uploads/2016/11/A-Guide-to-preparing-EMPs-for-Operational-FNs.pdf](https://labrc.com/wp-content/uploads/2016/11/A-Guide-to-preparing-EMPs-for-Operational-FNs.pdf)
- » Invasive Species Strategy for British Columbia 2018  
[bcinvasives.ca/documents/Invasive\\_Species\\_Strategy\\_for\\_BC-2018-180117-WEB.pdf](https://bcinvasives.ca/documents/Invasive_Species_Strategy_for_BC-2018-180117-WEB.pdf)
- » BC Invasive Mussel Defence Program Fall 2017 Status Report  
[bcinvasives.ca/documents/2017\\_11-01-IMDP\\_fall\\_Status\\_Report\\_Final.pdf](https://bcinvasives.ca/documents/2017_11-01-IMDP_fall_Status_Report_Final.pdf)
- » Invasive Species Control/Management Plan (ISCP) Guidance 2006  
[www.nae.usace.army.mil/Portals/74/docs/regulatory/InvasiveSpecies/ISCPGuidance.pdf](http://www.nae.usace.army.mil/Portals/74/docs/regulatory/InvasiveSpecies/ISCPGuidance.pdf)