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**RECOMMENDED:**

**Area Supervisors:**

**North Okanagan**
**Signature_____Date:_____**
**Central Okanagan**
**Signature_____Date:_____**
**Boundary**
**Signature_____Date:_____**
**Similkameen**
**Signature_____Date:_____**
**South Okanagan**
**Signature_____Date:_____**

**APPROVED BY:**

**Resource Officer**
**Signature_____Date:_____**
**Operations Officer**
**Signature_____Date:_____**
**Recreation Officer**
**Signature_____Date:_____**

**DISTRICT MANAGER**
**Signature_____Date:_____**

# 1.0 Weed Management Plan Summary

This Weed Management Plan (WMP) for the Okanagan District of British Columbia (BC) Parks (BC Parks) will serve as a strategic weed management planning tool, which allows for effective noxious and invasive (exotic) weed prevention and control.

The Okanagan District manages over 280,000 hectares of diverse ecosystems including arid grasslands, fertile riparian areas and productive forested lands in the North, East, West and South Okanagan, Boundary, Manning and Similkameen areas (Figure 1 – Okanagan District Map). These areas provide critical habitat for many rare and endangered species; however, this habitat has also proven favourable to weeds. Weeds currently infest thousands of hectares of land in BC and have the potential to invade many more. They have been spreading at an alarming rate, resulting in displaced native vegetation, reduced biodiversity and degraded habitat quality. For these reasons, weeds have become a top priority for management within the Okanagan District.

Typically, noxious weeds are the most harmful non-native plant species, introduced to North America without their natural enemies. They are legislated as noxious under the *British Columbia Weed Control Act* by the Ministry of Agriculture, Food and Fisheries. Land occupiers are required to control noxious weeds under this Act. Included in this designation are diffuse knapweed, spotted knapweed, dalmatian toadflax, hound's-tongue, canada thistle, purple loosestrife and sulphur cinquefoil, to name a few of the most ecologically detrimental in the Okanagan District (Table 2 and Table 3). Invasive weeds, although still a concern, are not regulated by the *Weed Control Act*. Included in this designation are common bugloss, chicory, bull thistle, field bindweed and St. John's-wort (Table 4). Priority weeds include both noxious and invasive weeds. Weeds designated as priority weeds are of primary concern within the Okanagan District (Table 5, Table 6 and Table 7). Throughout this document, unless otherwise noted, noxious, invasive (exotic) and priority weeds will be referred to as "weeds".

The Okanagan District has written this plan as part of an effort to stop further negative impacts of weeds. It will be implemented for a five-year term from May 31, 2002 to May 30, 2007. Under this plan the Okanagan District will be working towards eradicating small isolated patches of weeds and containing larger patches to stop weeds from spreading. This Weed Management Plan is based on the principles of Integrated Pest Management (IPM), which includes preventative methods, mechanical control, biological control and chemical control.

Prevention is the most important option for controlling weeds. Employees of the Okanagan District are trained in weed identification and educated about the serious impacts weeds have on our natural habitats. The Okanagan District, in co-operation with the Regional District of the Okanagan-Similkameen (RDOS), has also contributed funding towards a Weed Co-ordinator position, community weed displays and weed days for children at schools.

Furthermore, in co-operation with BC E-Teams and Katim Enterprises, the Okanagan District has been and will continue to employ youth to inventory and mechanically control noxious weeds within the district. Inventory allows current weed infestations to be identified and later monitored or controlled to prevent spread into new areas. The Okanagan District also hopes to involve junior staff with biological control in the future.

Where warranted, chemical methods will be used to control weeds. As per BC Parks *Conservation Program Policies*, pesticides will be used as a last resort. Pesticides will be applied in accordance with the *Pesticide Control Act of British Columbia*. The following pesticides will be considered for use under this Weed Management Plan (Section 6.3.5): 2,4-D Amine 500 (2,4-D), Banvel (dicamba), Grazon (2,4-D and picloram), Roundup (glyphosate), Tordon 22K (picloram) and Transline (clopyralid).

This Weed Management Plan identifies problem weeds in the Okanagan District, describes past management initiatives, provides treatment options and strategies and outlines a treatment decision making process.

# 2.0 Overview of Weed Management Plan Area

## *2.1 Primary Land Use*

This Weed Management Plan area encompasses Class A parks (provincial parks), recreation areas, protected areas and ecological reserves found within the Okanagan District. As defined by the *Park Act* (Chapter 334, Section 5), a Class A park is dedicated to the preservation of its natural environments for the inspiration, use and enjoyment of the public. Protected areas are legislated under the *Environment and Land Use Act*, which defines land use similar to the *Park Act*, with the exception of grazing rights and other resource extraction that is allowed under the *Environment and Land Use Act*. The protected areas and recreational areas in the Okanagan District are currently awaiting approval to be mandated under the *Park Act*. As stated in the *Ecological Reserve Act* (Chapter 101), an ecological reserve functions to reserve Crown land for ecological purposes, including areas:

a) Suitable for scientific research and educational purposes associated with studies in productivity and to other aspects of the natural environment.
b) Representative examples of natural ecosystems in British Columbia.
c) Serve as examples of ecosystems that have been modified by human beings and offer an opportunity to study the recovery of the natural ecosystems from modification.
d) Where rare or endangered native plants and animals in their natural habitat may be preserved.
e) Contain unique and rare examples of botanical, zoological or geological phenomena.

## *2.2 Public Use*

Parks and protected areas are open to the public for appropriate recreational activities. Ecological Reserves are generally open to the public for non-destructive activities such as hiking, photography, and observation however some may be closed to protect the integrity of extra-sensitive species or ecosystems.

## *2.3 Term of Plan*

The Okanagan District's Weed Management Plan will be effective from April 01, 2002 to March 31, 2007. Throughout this five-year plan, the Okanagan District will work towards effective weed prevention and control using Integrated Pest Management (IPM) Program principles (Section 6.0).

## *2.4 Weed Species of Concern[1]*

The following weed species are the top concern for management in the Okanagan District. See Table 2, Table 3 and Table 4 to determine if the weed species is designated as a provincial noxious weed, regional noxious weed or an invasive weed. Photography

[1] Cranston, R., Ralph, D. and Wikeem, B. 2000, Parish, Coupe R. R. and Lloyd, D. 1996 and Whitson, T. D., Ed. 1992

was selected from the Field Guide to Noxious and Other Selected Weeds of British Columbia, Ministry of Agriculture and Food and the Ministry of Forests.

**Bull thistle** (*Cirsium vulgare*) is a taprooted biennial that varies in height from 0.3-1.5 metres. It has broadly lance-shaped leaves that are dark green in colour and similar to the sage coloured leaves of the native wavy-leafed thistle (*Cirsium undulatum*). Bull thistle's pinkish-purple flowers are large, 4-7.5 metres, with several overlapping bracts that are tipped with prickles.

Known Occurrence: Ellison PP, Kalamalka Lake PP, Kekuli Bay PP, Fintry PP, Hayne's Lease ER, Mahoney Lake ER, Trout Creek ER, Cathedral PP, Haynes Point PP, Boundary Creek PP, Johnstone Creek PP, Kettle River PP, White Lake Grasslands PA and the South Okanagan Grasslands PA.

**Canada thistle** (*Cirsium arvense*) is found at low to mid elevations in rich moist soils. This perennial grows to a height of 1.2 metres. It has dark green lance-shaped stem leaves with spines and small pink/purple/white flower heads without spines. It spreads by both horizontal roots and seeds. Canada thistle is the only thistle with male and female flowers on separate plants.

Known Occurrence: Ellison PP, Kalamalka Lake PP, Kekuli Bay PP, Bear Creek, Fintry PP, Hayne's Lease ER, Mahoney Lake ER, Trout Creek ER, Haynes Point PP, Boundary Creek PP, Johnstone Creek PP, White Lake Grasslands PA and the South Okanagan Grasslands PA.

**Common bugloss** (*Anchusa officinalis*) a.k.a. Common Anchusa is a taprooted perennial growing to a height of 0.6 metres. It has lance-shaped leaves and purple/blue flowers with white centers. The overall plant is coarsely haired, allowing resistance to herbicides. Common bugloss reproduces by seed and prefers sandy to gravelly soils.

Known Occurrence: Kettle River PP.

**Common Burdock** (*Artium species*) is a biennial weed that invades disturbed sites, especially those with moist soils. Burdock grows from 1-3 metres with basal leaves that are very large, egg shaped and green in colour. It has rounded flower heads that are bur-like due to the hooked bracts.

Known Occurrence: Kalamalka Lake PP, Ellison PP, Fintry PP, Johnstone Creek PP, Inkaneep PP, Kekuli Bay PP and Kettle River PP.

**Dalmatian toadflax** (*Linaria dalmatica*) is a perennial varying in height from 0.4-1.2 metres. Its pale green heart shaped leaves have a waxy texture and clasp the stems. The flowers are bright yellow and shaped like the flowers on snapdragons. Dalmatian toadflax propagates both from seed and creeping rhizomes. This weed was introduced as an ornamental and has since spread rapidly into

disturbed sites as well as healthy plant communities. It is extremely difficult to control; new patches should be managed immediately.

Known Occurrence: Ellison PP, Kalamalka Lake PP, Kekuli Bay PP, Fintry PP, Fields Lease ER, Hayne's Lease ER, Inkaneep PP, Mahoney Lake ER, Sun-Oka Beach PP, Trout Creek ER Vaseux Lake PP, Kettle River PP, the South Okanagan Grasslands PA, and the White Lake Grasslands PA.

**Diffuse knapweed** (*Centaurea diffusa*) may be an annual, biennial or a short-lived perennial. It is a strong competitor invading disturbed and natural plant communities to a point of high density. Its leaves are divided, hairy and gray-green in colour and have a bitter taste. The disk flowers are a cream colour, sometimes varying to pinkish-purple, and have overlapping bracts with small weak spins. Diffuse knapweed reproduces by seed, which is spread by the wind when the plant breaks at the base to form a "tumbleweed".

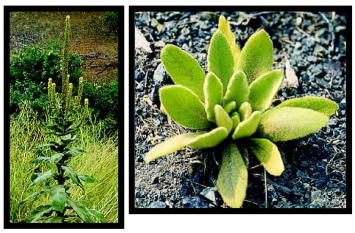
Known Occurrence: Ellison PP, Kalamalka Lake PP, Kekuli Bay PP, Bear Creek PP, Fintry PP, Fields Lease ER, Hayne's Lease ER, Inkaneep PP, Mahoney Lake ER, Sun-Oka Beach PP, Trout Creek ER, Vaseux Lake PP, Cathedral PP, Haynes Point PP, Boundary Creek PP, Johnstone Creek PP, Kettle River PP, the South Okanagan Grasslands PA and the White Lake Grasslands PA.

**Hound's-tongue** (*Cynoglossum officinale*) is well adapted to invade damp areas, pastures and semi-shaded areas. It is a taprooted biennial that grows to heights of 1.2 metres. It has a large basal rosette with soft hairy oblong leaves resembling a dog's tongue. Stems have smaller leaves and dull reddish purple flowers, which can be seen in drooping clusters. Hound's-tongue is often referred to as a "hitch-hiker weed" because it produces burred seeds that attach themselves to clothing and animals, allowing easy spread to new areas. This weed also has the potential to poison grazing animals.

Known Occurrence: Kekuli Bay PP, Fields Lease ER, Hayne's Lease ER, Inkaneep PP, Mahoney Lake ER, Vaseux Lake PP, Cathedral PP, Hayne's Point PP, Boundary Creek PP, Johnstone Creek PP, Kettle River PP, Jewel Lake PP, the South Okanagan Grasslands PA and the White Lake Grasslands PA.

**Leafy spurge** (*Euphorbia esula*) is a perennial that reproduced from seed and expands by vertical and horizontal roots. It is usually 0.8 metres in height, with light green basal leaves. The green flowers are very small, with larger yellow bracts surrounding them. Leafy spurge contains milky latex that is an irritant to livestock and humans. It is common at low to mid elevations on roadsides and disturbed habitats. Presently there are only a few known areas with leafy spurge in BC, but it is very common in the Pacific Northwest states.

Known Occurrence: Kettle River PP.



**Mullein** (*Verbascum thapsus*) is easily distinguished by its basal rosettes, which have pale green hairy lance-shaped leaves. This taprooted biennial grows to 2 metres with yellow flowers on a dense spike at the top of the stem. Mullein is generally found in disturbed sites, where there are sandy or rocky soils.

Known Occurrence: Ellison PP, Kalamalka Lake PP, Kekuli Bay PP, Cathedral PP, Johnstone Creek PP, the South Okanagan Grasslands PA and the White Lake Grasslands PA.

**Parasitic dodder** (*Cuscuta species*) is an annual parasitic plant with no green parts. Instead it has yellow-orange thread-like stems which wrap around the host, attaching with suckers and drawing off nutrients. Parasitic dodder spreads by seed and can use any plant material as a host, including other weeds.

Known Occurrence: Currently unknown on BC Parks (Okanagan District) land.

**Puncturevine** (*Tribulus terrestris*) spreads along the ground forming dense mats with hairy leaves and yellow flowers. This annual has fruits with five divisions that form the sharp spines that are known to puncture rubber tires and leather. Puncturevine is common in sandy soils.

Known Occurrence: Currently unknown on BC Parks (Okanagan District) land.

**Purple loosestrife** (*Lythrum salicaria*) is a wetland perennial that invades swamps and marshes at low to sub-alpine elevations. It grows to heights of 50-200 cm, with lance-shaped leaves and heart-shaped leaves at the base. The flowers are magenta-purple and found in crowded clusters at the tip of the stem. Purple loosestrife reproduces by seeds, but can regenerate from root fragments.

Known Occurrence: Vaseux Lake PP and Hayne's Point PP.

**Rush skeletonweed** (*Chondrilla juncea*) invades well-drained, light soils in pastures and along roadsides. It grows to 1.3 metres and has wiry stems covered in red/brown hairs at the base and filled with milky latex. This taprooted perennial has inconspicuous narrow leaves and small yellow flowers. It reproduces by seed and can regenerate from root fragments.

Known Occurrence: Currently unknown on BC Parks (Okanagan District) Land; however there is an infestation 4 kilometers South of Fintry PP.

**Russian knapweed** (*Acroptilon repens*) is a perennial that grows to 1 metre. Its stems are covered in gray hairs and its pinkish-purple flowers are produced singly. Unlike spotted and diffuse knapweed, russian knapweed has the potential to spread by the lateral extensions of its roots.

Known Occurrence: Inkaneep PP.

**Spotted knapweed** (*Centaurea maculosa*) is a taprooted biennial to short-lived perennial, growing to 1.5 metres, with hairy gray divided leaves. The disk flowers are pinkish-purple with overlapping bracts that have darkened dips giving them a spotted appearance. This weed is well established, colonizing at low and mid elevations in dry climates.

Known Occurrence: Ellison PP, Kalamalka Lake PP, Kekuli Bay PP, Bear Creek PP, Fintry PP, Sun-Oka Beach PP, Hayne's Point PP, Boundary Creek PP, Johnstone Creek PP and Kettle River PP.

**St. John's-wort** (*Hypericum perforatum*) contains a toxin that results in a skin irritation to grazing animals. It is a perennial growing to 1 metre. The green oblong leaves have transparent dots that are visible on the surface of the leaves in light. Flowers are yellow with 5 petals that turn a rusty colour at maturity. St. John's-wort is used as a medicinal herb.

Known Occurrence: Johnstone Creek PP and Kettle River PP.

**Sulphur cinquefoil** (*Potentilla recta*) is a taprooted perennial that grows from 0.3 to 0.8 metres tall. Its leaves are palmately divided into 5 to 7 leaflets and its flowers are a pale yellow with 5 heart shaped petals. This seed reproducer also has the ability to propagate from root fragments. It is an aggressive competitor, out competing other noxious weeds, including knapweed. Sulphur cinquefoil is a recent addition to the Okanagan Valley, however it has already infested many sites, both disturbed and undisturbed.

Known Occurrence: Ellison PP, Kalamalka Lake PP, Kekuli Bay PP, Bear Creek PP, Fintry PP, Mahoney Lake ER, Cathedral PP, Johnstone Creek PP, Kettle River PP, the South Okanagan Grasslands PA and the White Lake Grasslands PA.

## 3.0 Scope of the Problem

Noxious weeds are terrestrial and aquatic plants that are typically introduced from another country, without their natural predators and pathogens that would normally keep their populations in check. Noxious weeds are typically extremely invasive, aggressive plants that are capable of displacing native vegetation, reducing biodiversity, degrading habitat values and upsetting the integral balance of natural ecosystems. Noxious weeds

are defined by the *Weed Control Act* (BC)[2] and will be removed from provincial parks, protected areas and ecological reserves in accordance with policies outlined in the Vegetation Management section of the *Conservation Program Policies* document. Provincial and Regional noxious weeds, designated as noxious under the *Weed Control Act* (BC), are listed in Table 2 and Table 3 of Section 4.1 and are treated accordingly by the Okanagan District (Section 6.0).

Exotic or invasive weeds, as defined by the *Management of Exotic Plant Species Policy*[3], will be controlled if:

a) Such species lead to competitive elimination of native species or vegetation types.
b) Such species pose a danger to the public in high-use areas (e.g. poisonous foreign plants).
c) The presence of such species will impair the ecological integrity of the protected area.
d) The control measures will not lead to a long-term loss of native species.

The *Management of Exotic Plant Species Policy* also notes that no control measures will be undertaken in protected areas without an adequate problem analysis (including base-line inventory of species in the treatment area) and commitment to a long-term monitoring program before and (up to 10 years) after the treatment.

Invasive weeds, as defined by the Management of Exotic Plant Species Policy, are listed in Table 4 of Section 4.1 and are treated accordingly by the Okanagan District.

Priority weed species are weeds (both noxious and invasive) that have the ability to invade an area and alter the ecosystem through competition with other native species. These species thrive within the Biogeoclimatic Ecosystem Classification (BEC) zones of the Okanagan District and are detailed in Table 5, Table 6 and Table 7 of Section 4.1.1. Non-priority weed species are weeds (both noxious and invasive) that do not pose an immediate threat to ecosystem integrity within the Okanagan District; however, they are still a concern and their spread will be controlled.

Representative areas of significant biological integrity and ecosystem value have been deemed priority areas for weed management and control. Such areas have been designated by BC Parks and the Okanagan-Similkameen Weed Control Committee (BC Parks, Okanagan District is a committee member) and are described in Section 4.2 of this Weed Management Plan.

[2] A weed designated by regulation to be a noxious weed and includes the seeds of the noxious weed.
[3] Vegetation Management section of the *Conservation Program Policies* document.

## *3.1 Relevant Legislation, Authorities, Policies and Guidelines*[4]

More than 100 acts, regulations, policies and guidelines in Canada have authority over pesticide use for control of weeds. Pertinent legislation includes:

### 3.1.1 Federal Legislation

***Plant Protection Act***
Describes the requirements for the introduction of biological control agents into Canada.

***Pesticide Control Products Act***
Summarizes the registration and availability of pesticides. Prohibits application under unsafe conditions.

***Migratory Birds Convention Act***
Describes the requirements to protect migratory birds from pesticides.

***Fisheries Act***
Establishes criteria for the protection of fisheries and fish habitat from pesticides.

***Transportation of Dangerous Goods Act***
Provides information regarding the storage and transportation of pesticides (and other dangerous goods).

***Food and Drugs Act***
Describes restrictions on pesticide use on livestock forage and where humans will consume livestock.

***Waste Management Act***
Outlines procedures for the disposal of pesticide wastes.

***Canada Seed Act***
Provides guidelines for the content of noxious weed seeds in crop seed and transportation of crop seed in Canada.

### 3.1.2 Provincial Legislation

***Weed Control Act***
Outlines the obligation to control designated noxious weeds, not necessarily with pesticides, by the land occupier. The Ministry of Agriculture, Food and Fisheries administers the Weed Control Act.

***Park Act***
Describes, in Sections 3(1)(b) and 3(1)(c), the management of flora and its habitat and, in Sections 9(1) and 9(2), the protection of natural features.

***Ecological Reserve Act***
Provides guidelines for the complete protection of natural vegetation within Ecological Reserves.

***Forest Act***
Authorizes, in conjunction with the Ministry of Forests Act, the Ministry of Forests to control pests (not necessarily with pesticides). The Ministry of Forests administers the Forest Act.

[4] Pethybridge, J. "Noxious Weed Pest Management Plan 2001-2006" BC Ministry of Forests (Penticton Forest District), revised June 2001

***Range Act***
Guides grazing activities including existing tenures listed in Schedules D and E of the *Park Act*. The Ministry of Forests administers the *Range Act*.
***Pesticide Control Act***
Regulates and restricts the use of pesticides, including herbicides, for pest control. Pesticides cannot be applied without a current Pesticide Use Permit (PUP) or Pest Management Plan (PMP). The Ministry of Water, Lands and Air Protection administers the *Pesticide Control Act*.
***Waste Management Act***
Describes waste management procedures, including the handling, storage and disposal of pesticides and herbicides. The Ministry of Water, Lands and Air Protection administers the *Waste Management Act*.
***Plant Protection Act***
Regulates the spread within British Columbia of an insect, pest, or disease destructive to plants. The Ministry of Agriculture, Food and Fisheries administers the *Plant Protection Act*.
***Forest Practices Code of British Columbia Act* Part 4, Division 1, Section 52(1)(2)**
Defines a noxious weed as in the Weed Control Act and emphasizes that persons carrying out forest practices (e.g. forest road building and livestock grazing) must do so, in accordance with regulations and standards, at a time and in a manner that will limit their spread.
***Wildlife Act***
Establishes criteria for the protection of wildlife and wildlife habitat.
***Environmental Management Act***
Outlines the process for appeals of pesticide use.
***Environmental Appeal Board Procedure Regulation***
Governs the process for appeals of pesticide use permits (PUP) and pest management plans (PMP).
***BC Transportation of Dangerous Goods***
Provides information regarding the storage and transportation of pesticides.

Other relevant Federal and Provincial legislation includes:

- ***Worker's Compensation Act***
- ***Plant Quarantine Act***
- ***Pesticide Residual Compensation Act.***

### 3.1.3 Municipal Legislation

Municipal bylaws in several areas, districts, towns and cities are accounted for in weed management activities. The Okanagan District includes North, East, West and South Okanagan, Boundary, Manning and Similkameen Management Areas. Municipalities within each Management Area include Vernon (North Okanagan), Kelowna (East Okanagan), Summerland (West Okanagan), Penticton (South Okanagan), Grand Forks (Boundary), Manning Park (Manning) and Keremeos (Similkameen).

### 3.1.4 Provincial Policy

***Conservation Program Policies***
Vegetation Management - *Management of Exotic Plant Species Policy* where exotic or non-native plant species will be managed and /or controlled to protect and /or conserve ecosystem health and biodiversity.
***Silviculture Policy – Forest Seedings of Recently Disturbed Land***
Describes opportunities for forage seeding when appropriate to limit encroachment of noxious weeds.
***Forest Health Policy – Forest Health Concerns***
Outlines forest management techniques that will be used to prevent damage to forest and range resources from causal agents, such as noxious and invasive weeds.

### 3.1.5 Provincial Guidebooks

***Range Management Guidebook***
Describes what noxious weeds are and outlines strategies for preventing their spread to new areas in forest operations. Details how noxious weed management and control is an integral part of range use plans (RUP).

## *3.2 Other Processes and Higher Level Plans*[5]

### 3.2.1 Regional Pesticide Review Committee (RPRC)

The Regional Pesticide Review Committee (RPRC) consists of representatives from the BC Ministry of Forests, the BC Ministry of Agriculture, Food and Fisheries, the BC Ministry of Water, Lands and Air Protection and Environment and Health Canada (Pest Management Regulatory Agency). RPRC committee members review and comment on draft PMPs and WMPs ensuring pesticide treatment proposals will not cause unreasonable adverse effects to the environment or human health.

### 3.2.2 Okanagan Shuswap Land and Resource Management Plan (LRMP)

The Okanagan Shuswap Land and Resource Management Plan (LRMP) identifies specific noxious weed control objectives including:

a) Preventing and controlling noxious weeds on Crown Land.
b) Preventing and controlling noxious weeds within rare species habitats with non-chemical treatment methods where feasible.
c) Minimizing or reducing the impacts of noxious weeds or weed species of concern due to road development and use and well as off-road use.
d) Minimizing soil disturbances to reduce or eliminate establishment or spread of noxious weeds.

[5] Pethybridge, J. "Noxious Weed Pest Management Plan 2001-2006" BC Ministry of Forests (Penticton Forest District), revised June 2001

# 4.0 Weed Identification and Prioritization

Fact sheets (including Weed Alerts), guidebooks and web-site information (Table 1) assist in the identification, management and control of weeds. These information sources are available from the Ministry of Forests, the Ministry of Agriculture, Food and Fisheries, other pertinent agencies and organizations and Okanagan District Staff.

**Table 1: Web-site Information**

| Web-sites for Weed Information | |
|---|---|
| Ministry of Forests | http://www.for.gov.bc.ca/research/ecoearth/ordroad/weeds.htm |
| Penticton Forest District | http://www.for.gov.bc.ca/kamloops/district/pentic/Programs/Range/index.htm |
| Ministry of Agriculture and Food | http://www.agf.gov.bc.ca/croplive/cropprot/weedguid/weedguid.htm |

## *4.1 Weed Species of Concern*

Weeds of concern include noxious weeds (provincial and regional) and invasive weeds. Provincial (Table 2) and regional noxious weeds (Table 3) are those weeds defined in the *Weed Act* and are listed in the following tables:

**Table 2: Provincial Noxious Weeds**

| Provincial Noxious Weeds | |
|---|---|
| **Common Name** | **Latin Name** |
| Annual Sowthistle | *Sonchus oleraceus* |
| Canada Thistle | *Cirsium arvense* |
| Crupina | *Crupina vulgaris* |
| Dalmatian Toadflax | *Linaria dalmatica* |
| Diffuse Knapweed | *Centaurea diffusa* |
| Dodder | *Cuscuta spp.* |
| Gorse | *Ulex europaeus* |
| Hound's-tongue | *Cynoglossum officinale* |
| Jointed Goatgrass | *Aegilops cylindrica* |
| Leafy Spurge | *Euphorbia esula* |
| Perennial Sowthistle | *Sonchus arvensis* |
| Purple Nutsedge | *Cyperus rotundus* |
| Rush Skeletonweed | *Chondrilla juncea* |
| Scentless Chamomile | *Matricaria maritima* |
| Spotted Knapweed | *Centaurea maculosa* |
| Tansy Ragwort | *Senecio jacobaea* |
| Velvetleaf | *Abutilon theophrasti* |
| Wild Oats | *Avena fatua* |
| Yellow Nutsedge | *Cyperus esculentus* |
| Yellow Starthistle | *Centaurea solstitialis* |
| Yellow Toadflax | *Linaria vulgaris* |

**Table 3: Regional Noxious Weeds**

| Regional Noxious Weeds | | |
|---|---|---|
| **Common Name** | **Latin Name** | **Regional District** |
| Blueweed | *Echium vulgare* | Cariboo, Central Kootenay, Columbia-Shuswap, East Kootenay, Okanagan- Similkameen, Thompson-Nicola |
| Burdock | *Arctium spp.* | Bulkley-Nechako, Cariboo, Columbia-Shuswap, Fraser-Fort George, Kitimat-Stikine, North Okanagan, Okanagan-Similkameen, Peace River, Thompson-Nicola |
| Cleavers | *Galium aparine* | Peace River |
| Common Tansy | *Tanacetum vulgare* | Central Kootenay, Columbia-Shuswap, East Kootenay, North Okanagan |
| Field Scabious | *Knautia arvensis* | Bulkley-Nechako |
| Green Foxtail | *Setaria viridis* | Peace River |
| Hoary Cress | *Cardaria spp.* | Columbia-Shuswap, North Okanagan, Thompson-Nicola |
| Kochia | *Kochia scoparia* | Peace River |
| Meadow Knapweed | *Centaurea pratensis* | Columbia-Shuswap |
| Night-Flowering Catchfly | *Silene noctiflora* | Peace River |
| Orange Hawkweed | *Hieracium aurantiacum* | Cariboo, Central Kootenay, Columbia-Shuswap, East Kootenay, Thompson-Nicola |
| Oxeye Daisy | *Chrysanthemum leucanthemum* | Cariboo, North Okanagan, Thompson-Nicola, Peace River |
| Perennial Pepperweed | *Lepidium latifolium* | East Kootenay, Thompson-Nicola |
| Plumeless Thistle | *Carduus acanthoides* | Central Kootenay |
| Puncturevine | *Tribulus terrestris* | Okanagan-Similkameen |
| Quackgrass | *Agropyron repens* | Peace River |
| Russian Knapweed | *Acroptilon repens* | North Okanagan |
| Russian Thistle | *Salsola kali* | Peace River |
| Scotch Thistle | *Onopordum acanthium* | North Okanagan |
| Sulphur Cinquefoil | *Potentilla recta* | Columbia-Shuswap, North-Okanagan, Okanagan-Similkameen, Thompson-Nicola |
| Tartary Buckwheat | *Fagopyrum tataricum* | Peace River |
| White Cockle | *Lychnis alba* | Peace River |
| Wild Chervil | *Anthriscus sylvestris* | Fraser Valley |
| Wild Mustard | *Sinapsis arvensis* | Peace River |

Invasive weeds, although still a concern, are not regulated by the *Weed Control Act* and are shown in the following table:

**Table 4: Invasive Weeds**

| Provincial Invasive Weeds | |
|---|---|
| **Common Name** | **Latin Name** |
| Bog Rush | *Juncus effusus* |
| Broad-Leaved Plantain | *Plantago major* |
| Bull Thistle | *Cirsium vulgare* |
| Common Bugloss | *Anchusa officinalis* |
| Common Chickweed | *Stellaria media* |
| Chicory | *Cichorium intybus* |
| Corn Spurry | *Spergula arvensis* |
| Creeping Buttercup | *Ranunculus repens* |
| Cudweed | *Gnaphalium uliginosum* |
| Curled Dock | *Rumex crispus* |
| Field Bindweed | *Convolvulus arvensis* |
| Foxtail Barley | *Hordeum jubatum* |
| Western Goat's-Beard | *Tragopogon dubius* |
| Groundsel | *Senecio vulgaris* |
| Hemp-Nettle | *Galeopsis tetrahit* |
| Henbit | *Lamium amplexicaule* |
| Hoary Alyssum | *Berteroa incana* |
| Field Horsetail | *Equisetum arvense* |
| Lady's-Thumb | *Polygonum persicaria* |
| Lamb's-Quarters | *Chenopodium album* |
| Common Mallow | *Malva neglecta* |
| Marsh Plume Thistle | *Cirsium palustre* |
| Showy Milkweed | *Asclepias speciosa* |
| Mullein | *Verbascum thapsus* |
| Nightshade | *Solanum species* |
| Nodding Beggar-Ticks | *Bidens cernua* |
| Nodding Thistle, a.k.a. Musk Thistle | *Carduus nutans* |
| Pineappleweed | *Matricaria matricariodes* |
| Purple Loosestrife | *Lythrum salicaria* |
| Redroot Pigweed | *Amaranthus retroflexus* |
| Sheep Sorrel | *Rumex acetosella* |
| Shepherd's-Purse | *Capsella bursa-pastoris* |
| Spiny Annual Sow-thistle | *Sonchus asper* |
| St. John's-Wort | *Hypericum perforatum* |
| Stinkweed | *Thlapsi arvense* |
| Cluster Tarweed | *Madia glomerata* |
| Water Hemlock | *Cicuta douglasii* |
| Wild Buckwheat | *Polygonum convolvulus* |
| Witchgrass | *Panicum capillare* |

### 4.1.1 Priority Weeds

Priority one species are extremely invasive and are the highest risk to native vegetation, endangered ecosystems and recreational land. Priority one species are also those species that have recently invaded BC Parks (Okanagan District).

**Table 5: Priority 1 Weed Species**

| Priority 1 Species | |
|---|---|
| **Common Name** | **Latin Name** |
| Common bugloss | *Anchusa officinalis* |
| Dalmatian toadflax | *Linaria dalmatica* |
| Leafy spurge | *Euphorbia esula* |
| Parasitic dodder | *Cuscuta species* |
| Puncturevine | *Tribulus terrestris* |
| Purple loosestrife | *Lythrum salicaria* |
| Rush skeletonweed | *Chondrilla juncea* |
| Sulphur cinquefoil | *Potentilla recta* |

Priority two species pose a moderate threat to native vegetation, endangered ecosystems and recreational land. Priority two species are either less competitive then priority one species or are more easily controlled due to their biology and ecology.

**Table 6: Priority 2 Weed Species**

| Priority 2 Species | |
|---|---|
| **Common Name** | **Latin Name** |
| Canada thistle | *Cirsium arvense* |
| Diffuse knapweed | *Centaurea diffusa* |
| Hound's-tongue | *Cynoglossum officinale* |
| Spotted knapweed | *Centaurea maculosa* |
| Tansy Ragwort | *Senecio jacobea* |

Priority three species (non-priority species) are weak competitors and pose minimal threat to native vegetation, endangered ecosystems and recreational land. Biological control agents may also effectively control priority three species.

**Table 7: Priority 3 Weed Species**

| Priority 3 Species | |
|---|---|
| **Common Name** | **Latin Name** |
| Bull thistle | Cirsium vulgare |
| Burdock | Artium species |
| Hoary cress | Cardaria draba |
| Mullein | Verbascum thapsus |
| Oxeye daisy | Chrysanthemum leucanthemum |
| Russian knapweed | Acroptilon repens |
| Salsify | Tragopogon dubius |
| St. John's-wort | Hypericum perforatum |

### *4.2 Priority Weed Sites in the Okanagan District*

Representative areas of significant biological integrity and ecosystem value have been deemed priority areas for weed management and control. The Okanagan-Similkameen Weed Control Committee (the Okanagan District is a committee member) has designated such areas to be priority areas for weed management and control (Appendix 4). Reasons for identifying priority sites include, but are not limited to, the protection of uninfested sites, species and/or habitats at risk (Appendix 1) forage base and grasslands, natural environmental elements and wildlife values.

For an area to be deemed a priority site for weed management and control the site is assessed based on the following criteria:

- Conservation values (species and habitats at risk, sensitive ecosystems, etc.).
- Dollars available.
- Inventory completed.
- Historical and current containment success.
- Level of public priority (profile level: high, medium or low).
- Number participants (other agencies, committees, public groups and individuals, First Nations, etc.).
- Complementary management activities within and adjacent to the site.
- Weed species present (priority or non-priority) and the potential for infestation spread.

Based on the above criteria five sites, in no particular order, within the Okanagan District have been designated high priority sites for weed management[6]:

- Haynes Lease Ecological Reserve (Osoyoos Oxbows).
- South Okanagan Grasslands Protected Area (Kilpoola Lake area and Chopaka area).
- White Lake Grasslands Protected Area (White Lake Basin and Mahoney area).
- Snowy Protected Area and Cathedral Lakes Provincial Park (Ashnola area and Lower and West Similkameen areas).
- Okanagan Mountain Provincial Park (Chute Lake).
- Anarchist Protected Area (McKinney and Anarchist area).

## 5.0 Weed Control History

A Weed Management Plan for the Okanagan District of BC Parks was composed in 2000 detailing area descriptions, current control, priority weeds and non-priority weeds for each of the provincial parks and ecological reserves within the Okanagan District (Appendix 10).

### *5.1 Biological*

Biological control agents have been released in provincial parks, protected areas and ecological reserves throughout the Okanagan District of BC Parks (Table 8). Release site

[6] Brackets indicate the corresponding South Okanagan-Similkameen Weed Committee Priority Weed Management Site – 2001.

locations include Kal Lake Park, Fintry Park, Ellison Park, Boundary Creek Park, Kettle River Park, Johnstone Creek Park, Myra Bellevue Protected Area, White Lake Grasslands Protected Area and South Okanagan Grasslands Protected Area.

**Table 8: Biological Control Releases 1997-2001**

| Biological Control Agent | Weed Species | Number of Releases/Year | | | | | Location |
|---|---|---|---|---|---|---|---|
| | | 2001 | 2000 | 1999 | 1998 | 1997 | |
| Agapeta zoegana | Diffuse knapweed | 5 | 1 | 0 | 1 | 0 | Kal Lake Park, Kettle River Park, Johnstone Creek Park and White Lake Grasslands PA |
| Aphthona flava | Leafy spurge | 0 | 0 | 0 | 1 | 0 | Near Johnstone Creek Park |
| Aphthona nigriscutis | Leafy spurge | 0 | 0 | 0 | 1 | 0 | Near Johnstone Creek Park |
| Cyphocleonus achates | Diffuse knapweed Spotted knapweed | 0 | 1 | 1 | 1 | 0 | Boundary Creek Park, Kettle River Park, Johnstone Creek Park, White Lake Grasslands PA and South Okanagan Grasslands PA |
| Larinus minutus | Diffuse knapweed | 1 | 0 | 0 | 0 | 0 | South Okanagan Grasslands PA |
| Mecinus janthinus | Dalmatian toadflax | 0 | 10 | 4 | 0 | 0 | Kettle River Park, Fintry Park, Kal Lake Park and Ellison Park |
| Urophora stylata | Bull thistle | 1 | 0 | 0 | 0 | 0 | Myra Bellevue PA |

## *5.2 Chemical*

In the summer of 2001 provincial parks: Ellison, Kalamalka Lake, Kekuli Bay, Bear Creek, Finty, Inkaneep, Sun-Oka, Vaseux Lake and Haynes' Point, and ecological reserves: Field's Lease, Haynes' Lease and Mahoney Lake were chemically treated under the Pesticide Use Permit No 671-001-2001/2003. Additionally, glyphosate was previously used on Dalmatian toadflax and Diffuse knapweed at Haynes' Lease, Haynes' Point and Fields Lease under Pesticide Use Permit 138-169-69/98.

**Table 9: Chemical Treatment Summaries 2000-2001**

| Year | Tordon 22K Active Ingredient (kg) | Tordon 22K Area Treated (ha) | Location | Round-up Active Ingredient (kg) | Tordon 22K Area Treated (ha) | Location |
|---|---|---|---|---|---|---|
| 2001 | 3.53 | 6.5 | SunOka Park, Vaseux Lake, Bear Creek Park, Kekuli Bay Park, Kal Lake Park, Kalamalka Park and Fintry Park | 18.10 | 7.2 | SunOka Park, Vaseux Lake, Mahoney Lake, Haynes Point Park, Inkaneep Park, Field's Lease and Hayne's Lease |
| 2000 | 82.08 | 152 | Ellison Park, Kalamalka Park, Kekuli Bay Park, Inkaneep Park, Vaseux Lake, Fintry Park, Bear Creek Park, Kentucky/Alleyne Park, Bromley Rock Park, Stemwinder Park, Johnstone Creek Park, Kettle River Park and Boundary Park | 20.25 | 8.1 | Ellison Park, Kalamalka Park, Kekuli Bay Park, Fintry Park, Bear Creek Park, Kentucky/Alleyne Park, Bromley Rock Park, Stemwinder Park, Johnstone Creek Park, Kettle River Park and Boundary Park |

## *5.3 Environmental Youth Teams*

For the past two years the Okanagan District has collaborated with the Environmental Youth Teams (E-Teams) and Katim Enterprises to fund, hire and train E-Teams. Three E-Teams were employed in the summer of 2000 where they worked in the Boundary-Osoyoos, South Okanagan-Similkameen and Monashee-North Okanagan areas. Four E-Teams were employed in the summer of 2001 and worked in the South Okanagan, North and West Okanagan, and

Similkameen areas. During their work period the E-Teams inventoried, mapped and physically controlled weeds in provincial parks and ecological reserves.

### *5.4 Fire*

An ineffective burn was done at Kekuli for the entire area, the weeds re-established immediately. Inkaneep Park was burnt by wildfire in July of 2000. In August of 2000 new rosettes of Dalmatian toadflax were observed, and the area has since been re-established with weeds, particularly cheatgrass.

### *5.5 Mechanical*

**Table 10: Mechanical Treatment Summaries 2000-2001**

| Treatment Area | E-Teams 2001 | E-Teams 2000 | Other |
|---|---|---|---|
| Boundary Creek PP | | Pulled and dug Hound's-tongue | |
| Cathedral PP | | Pulled Dalmatian toadflax | |
| | | Cut Hound's-tongue and Common Burdock | |
| Fields Lease ER | | Pulled Dalmatian toadflax and Diffuse knapweed | Pulled Dalmatian toadflax |
| Haynes Lease ER | | Pulled Dalmatian toadflax | Pulled Dalmatian toadflax and Diffuse knapweed |
| Haynes Point PP | Pulled Diffuse knapweed, Spotted knapweed and Dalmatian toadflax | | Pulled Diffuse knapweed and Spotted knapweed |
| Inkaneep PP | Pulled Diffuse knapweed and Common Burdock | Pulled Dalmatian toadflax | Pulled Dalmatian toadflax |
| | | Cut and bagged Hound's-tongue | |
| Kettle River PP | | Pulled and dug Hound's-tongue | |
| | | Pulled Dalmatian toadflax and Sulphur cinquefoil | |
| Mahoney Lake ER | Pulled Dalmatian toadflax and Diffuse knapweed | Cut and bagged Hound's-tongue | |
| | | Pulled Dalmatian toadflax | |
| Vaseux Lake PP | | Pulled Dalmatian toadflax | |
| | | Cut and bagged Hound's-tongue | |

## 6.0 Integrated Pest Management Program

An Integrated Pest Management (IPM) approach to weed management is balanced and effective. IPM principles focus on managing threatened resources (critical habitat, ecosystem diversity, wildlife values, pristine landscapes, etc.) and maintaining their competitive ability rather than on weed infestation eradication. For IPM to be successful the following processes must be included:

- Identification and treatment of weed species.
- Inventory and monitoring of weed populations and treatment effects and/or damage (reduced plant vigour, reduced infestation size, infestation eradication, etc.).
- Prevention of weed invasion (inventory, education, awareness, weed management planning, infestation containment, etc.).
- Implementing controlled decisions based on knowledge of potential damage, cost of control method and environmental impact of the weed(s) and control decision.

- Applying control strategies that may include a combination of methods to reduce the weed population to an acceptable level.
- Evaluating the effectiveness and effects of management decisions.

## *6.1 Inventory and Monitoring*

### 6.1.1 Inventory

Completing inventory on weeds allows current weed infestations to be identified and later monitored or controlled to prevent spread into new areas.

Every summer BC Parks has hired E-Team crews to inventory weeds in designated parks. In the summer of 2000, thirteen provincial parks and four ecological reserves were inventoried. This inventorying consisted of identifying weeds on a scaled hand drawn map. For the summer of 2001, E-Team crews were hired to inventory the remaining parks. These crews mapped weed infestations using global positioning systems (GPS) technology and standardized weed inventory forms (Appendix 2). Weed infestation inventory spatial and attribute data will be transferred to the access database PENWEED (Appendix 3) for analysis and display. The weed inventory forms and PENWEED were both developed by the Penticton Forest District and are used by BC Parks, with permission, as part of standardizing weed control efforts in the Okanagan.

### 6.1.2 Monitoring

Previously inventoried weed infestations will be monitored to record increases or decreases in infestation size. Monitoring aids in selecting treatment options (Section 6.3) and post-treatment inspections (before treatment and after treatment comparison).

## *6.2 Treatment Thresholds*

The Okanagan District is committed to applying an integrated approach to controlling weeds for any and every weed infestation found within the district. Historically, it has been proven ecologically disastrous to leave an individual weed untreated. Diffuse knapweed, which was identified in the 1940's at two locations in British Columbia and one in Washington State, is an excellent example of the inevitable expansion of untreated weeds. The cost of controlling weed infestations increases every year when infestations are left untreated because infestation size and weed seed banks increase annually; therefore, it is economically imperative to control weeds immediately. However, given current fiscal restraints priority weed species and priority sites will receive primary attention.

The goal of treatment for the Okanagan District is to protect non-infested lands and control those lands that are infested. The Okanagan District hopes this will improve habitat quality for wildlife and recreational users as well as conserve biodiversity in all areas managed by BC Parks, Okanagan District. Where weeds are generally in smaller isolated patches, BC Parks will be working towards weed eradication. Where weed eradication is unfeasible due to the size of the area and accessibility, BC Parks will be working towards controlling weed spread.

## *6.3 Treatment Options*

### 6.3.1 Prevention

Although prevention is critical in weed management, it is the least practiced control strategy. Vectors of weed spread (seeds and plant parts) include, but are not limited to, wind, water, wildlife, livestock and man. Natural vectors are very difficult if not impossible to control; however, when man is the vector, negligence or a lack of understanding is a key contribution.

Education is an essential component of long-term weed control. Park employees are trained in weed identification and are aware of the serious impacts weeds have on our natural habitats. The Okanagan District, in co-ordination with RDOS, has also contributed to the funding of a Weed Co-ordinator position, community weed displays and weed days for children at schools. Education programs and publications directed at the recreational users of the parklands would also increase early detection and decrease spread. Specifically, an interpretation program will be developed which outlines the importance of native ecosystems and the impacts that weeds are have on them.

In addition to education, preventative strategies include:

- Limiting the further spread of weed infestations through mechanical, cultural, biological and/or chemical treatments.
- Sowing certified seeds on high use recreational land (e.g. campgrounds) and disturbed sites to limit or halt weed establishment.
- Sowing native seeds on high use recreational land (e.g. campgrounds) and disturbed sites within identified priority weed management sites (Section 4.2).
- Cleaning machinery, vehicles, livestock and personnel (clothes, boots, etc.) prior to leaving the infested site.

### 6.3.2 Mechanical

Mechanical control is an effective and environmentally safe method if timed right and precautions are taken to minimize soil disturbance and native vegetation loss; however, it is not practical for large laborious areas where an alternative method may be applied. Proper use of equipment is required to ensure safety. Costs will include equipment, wages and transportation to the site.

**Table 10: Mechanical Control Methods**

| Mechanical Control Methods | | | |
|---|---|---|---|
| **Methods** | **Selection** | **Efficiency** | **Equipment Required** |
| Bagging or collecting | When weeds are going to seed | Effective in removing seeds to prevent further individuals, follow up each year | Bags |
| Hand cutting, weed-whacking or mowing | Seasonally when weed is flowering | Very effective on biennials, killing individuals and stopping seed production | Hand Sickles, weed-whackers, etc |
| Hand pulling or digging | Weeds with taproots or where soils allow easy pulling | Effective on annuals and biennials. Perennials are more difficult. | Gloves, shovels |
| Re-vegetation | Areas with high disturbance or lack of native competition | Effective competition for most weeds. Some tough weeds will invade even if there is competition | Appropriate native seeds |
| Grazing | Livestock and weeds species specific | Weed suppression, does effectively eliminate weeds. Check if grazing is permitted (Protected Areas) | Livestock |

### 6.3.3 Cultural

Cultural control applies native and/or crop plant competition to suppress weed establishment. This is accomplished through seed sowing, plant competition and native plant establishment.

### 6.3.4 Biological

Biological control uses the weed's natural enemies (primarily insects and pathogens) to reduce weed populations to a desirable level. Effective biological control releases provide self-perpetuating, self-dispersing, continual control of weeds; therefore, being a cost-effective, sustainable, environmentally compatible weed control method. Predominant treatment effects include:

- Decreased weed reproduction and competition abilities.
- Decreased weed vigour.
- Increased native vegetation re-establishment.

Biological control establishes a long-term balance between the biological control organism and the weed; however, this treatment method is not an alternative for good land management practices. It is important to note that biological control organisms are thoroughly tested prior to introduction to insure that they will not harm native vegetation and ecosystem integrity.

### 6.3.5 Chemical

This Weed Management Plan intends to have the option of using six different chemical products: 2,4-D amine 500, Banvel, Grazon, Roundup, Tordon 22K and Transline. These chemicals will only be incorporated into weed control in circumstances where it is environmentally safe and alternative measures are unsuccessful or inappropriate. Environmental safety considerations include, but are not limited to, water sources (riparian areas, domestic water intakes, etc.), pollution (herbicide drift, off-site contamination, etc.), sensitive (critical) species and sensitive (critical) habitats.

Effectiveness of the chemical is dependent on the weed's leaf and age as well as temperature and climate. Equipment (wipe on gloves, backpack sprayers, etc) required for application site specific and will be provided by the applicator. General safety equipment will also be provided by the applicator and general safety precautions will be followed by all applicators as outlined by the specific herbicide label and Section 8.0 of this plan. To avoid environmental hazards applicators will follow the guidelines outlined in Sections 8.0 and Section 9.0 of this plan and the specific herbicide label. Historically, typical daily applicator costs are between $600 and $1000. This price does not include the cost of the chemicals, which are listed individually below for each herbicide.

**2,4-D Amine 500** (2,4-D) is selective, non-residual herbicide which targets most broadleaf weeds and brush. 2, 4-D is very effective on annuals when applied at the seedling stage and moderately effective on biennials when applied at the rosette stage. Approximate Cost: $60/10L

**Banvel** (dicamba) is a non-residual herbicide that selectively controls broadleaf plants. It is very effective on annuals, biennials and perennials if applied when the weed is small and actively growing. Approximate Cost: $400/10L

**Grazon** (2,4-D and picloram) is residual and selective. It is a mix of 2,4-D and picloram. Together these active ingredients provide initial and long term control. Approximate Cost: $140/10L

**Roundup** (glyphosate) is a non-residual and non-selective herbicide. It is very effective, but timing is important when used on tough perennials. Extreme care must be taken in grassland areas due to the non-selectivity characteristic. Approximate Cost: $100/10L

**Tordon 22K** (picloram) is a 4-5 year residual herbicide that selectively controls broadleaf plants. It is effective on annuals, biennials, perennial, including tough perennials. Tordon 22K is moderately toxic to fish and should not be used in permeable soils. Approximate Cost: $400/10L

**Transline** (clopyralid) is an 18-month residual herbicide that selectively controls broadleaf plants. It is very effective on the *Asteracea* family. Approximate Cost: $1400/10L

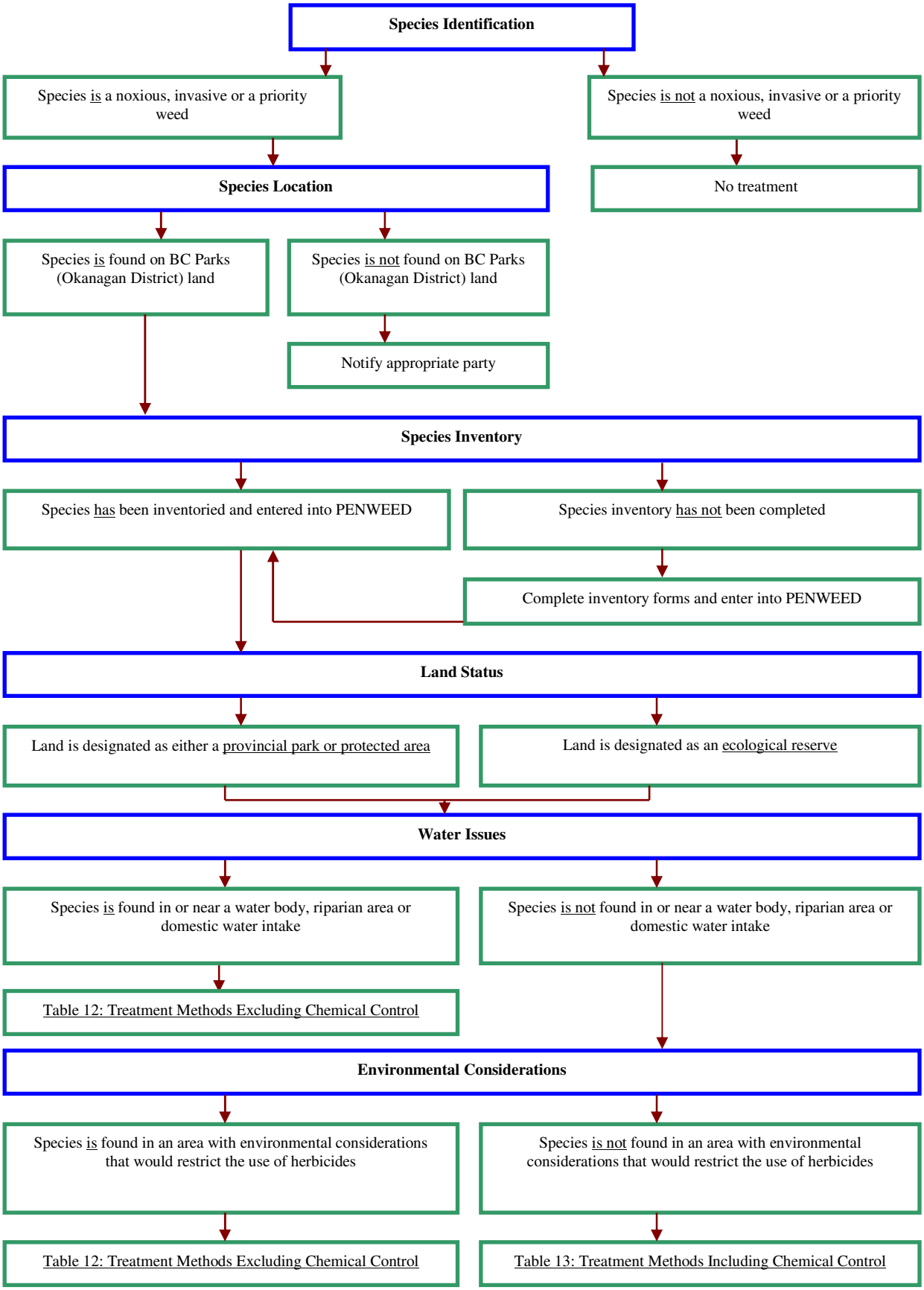
**Table 11: Herbicide Rates**

| | | |
|---|---|---|
| Banvel (dicamba) | 2.1 | Canada thistle*, bull thistle |
| | 4.6 | Spotted knapweed, diffuse knapweed |
| Grazon (2,4-D and picloram) | 3.8 | Spotted knapweed, diffuse knapweed, sulphur cinquefoil and rush skeleton weed (18 months post application) |
| Roundup (glyphosate) | 33% wipe on | All weeds |
| Tordon 22K (picloram) | 4.5 | Leafy spurge, dalamatian toadflax, Russian knapweed, Canada thistle* |
| | 2.25 | Spotted knapweed, diffuse knapweed, hound's tongue, sulphur cinquefoil, rush skeletonweed, common burdock, |
| Transline (clopyralid) | 0.7 (PCP #24085) | Spotted and Diffuse Knapweed |
| | 0.42 to 0.83 | Canada thistle* |
| Transline (clopyralid) | 0.75 - 1.50 (PCP #24084) | Canada Thistle |

## *6.4 Treatment Selection*

The following treatment selection flow chart (Figure 2) outlines which treatment options are applicable under identified circumstances. Once treatment options have been identified, specific weed species control strategies and weed control comparison tables (Table 12 and Table 13) will be consulted to determine the best course of action. BC Parks recognizes that in some circumstance treatment selection may be site specific; therefore, treatment selection will be left to professional discretion and approval from the District Manager, Okanagan District.

**Figure 2: Treatment Selection Flow Chart**



It is important to note that although the guidelines for pesticide use in ecological reserves are unclear, BC Parks (Okanagan District) feels that this treatment method is permitted under a Weed Management Plan. Chemical control is and will be a last resort action; therefore, only being used if other methods fail.

Distribution codes used in the following tables correspond to those provided on the Penticton Forest District's Weed Inventory Form (Appendix 2).

**Table 12: Treatment Methods Excluding Chemical Control**

| Treatment Methods Excluding Chemical Control | | | |
|---|---|---|---|
| | Small (Individual Plant - 0.5 hectares) | Medium (0.5 - 2 hectares) | Large (more than 2 hectares) |
| Limited Distribution (Codes 1, 2, 3 and 4) | 1. Digging and Hand Pulling<br>2. Cutting | 1. Digging and Hand Pulling<br>2. Cutting | 1. Cutting |
| Patchy Distribution (Codes 5 and 6) | 1. Digging and Hand Pulling<br>2. Cutting | 1. Biological<br>2. Cutting | 1. Biological |
| Continuous Distribution (Codes 7, 8 and 9) | 1. Biological<br>2. Cutting | 1. Biological | 1. Biological |

**Table 13: Treatment Methods Including Chemical Control**

| Treatment Methods Including Chemical Control | | | |
|---|---|---|---|
| | Small (Individual Plant - 0.5 hectares) | Medium (0.5 - 2 hectares) | Large (more than 2 hectares) |
| Limited Distribution (Codes 1, 2, 3 and 4) | 1. Digging and Hand Pulling<br>2. Cutting<br>3. Chemical | 1. Digging and Hand Pulling<br>2. Cutting<br>3. Chemical | 1. Cutting<br>2. Chemical |
| Patchy Distribution (Codes 5 and 6) | 1. Digging and Hand Pulling<br>2. Cutting<br>3. Chemical | 1. Biological<br>2. Cutting<br>3. Chemical | 1. Biological |
| Continuous Distribution (Codes 7, 8 and 9) | 1. Biological<br>2. Cutting<br>3. Chemical | 1. Biological | 1. Biological |

### 6.4.1 Specific Species Treatment

For all species prevention is the most effective control option available. See Section 6.3.1 for prevention strategies.

**Canada thistle:** Plants can be effectively dug out only if the extensive root system is removed. Pulling or mowing will not effectively control Canada thistle. Cutting after the

bolt, but prior to seed production, is a short-term control strategy; however, cutting must be repeated several times each growing season to achieve any control. If cutting occurs after seed production, cut plants should be bagged and burned or buried. Cuttings will only effectively control Canada thistle if repeated for several years, thus eventually depleting root reserves. Chemical control should be timed for spring or fall applications, when the plant is in the early flower stage or during fall re-growth. Follow-up applications are necessary. There are three biological control agents available for Canada thistle (Appendix 5).

**Bull thistle:** First year plants (rosettes) should be dug out to remove the taproot and prevent re-growth. Second year plants can be hand pulled or cut close to the ground prior to seed production. Chemical herbicides are effective and should be timed for spring or fall spot applications for rosettes; however, spring application should be used on second year plants only. Follow-up applications may be necessary. There is currently only one biological control agent available for bull thistle (Appendix 5).

**Common bugloss:** Cutting or pulling before flowering will prevent seed production. If mature plants contain seeds they must be bagged and burnt or buried. Chemical control is most effective at the seedling stage. Biological control is not available.

**Common burdock:** First year plants (rosettes) should be dug out to remove the taproot and prevent re-growth. Second year plants can be hand pulled or cut close to the ground prior to seed production. Chemical herbicides are effective and should be timed for spring or fall spot applications for rosettes; however, spring application should be used on second year plants only. Follow-up applications may be necessary.

**Dalmatian toadflax**: Pulling is effective for small isolated patches, particularly in sandy or moist soils; however, this species has an extensive root system that is difficult to completely remove. Roots may give rise to new plants following mechanical control, often times making the patch worse than the original. Cutting at the base of the plant before seed set is also an effective way to prevent seed production for one year. If mature plants contain seeds, then bag and burn or bury plants. Chemical control is effective if applied in the spring or fall when the plant is actively growing. There are currently three biological control agents available; effectiveness is currently unknown but initial observations indicate promising results (Lisa Scott, Pers. Comm).

**Diffuse, spotted and Russian knapweed**: Hand pulling may provide effective control of diffuse and spotted knapweed if it is timed before seeding and repeated. Hand pulling is not effective for Russian knapweed due to the rhizomateous root system. Cutting should be done prior to seed set, but after bolting. Cutting must also be repeated for many years to be effective at reducing the seed bank and in the case of Russian knapweed, to deplete root reserves. If mature plants contain seeds the bag and burn or bury. Fire is not an effective control for knapweed; seeds are resistant to fire. Grazing with sheep or goats will suppress diffuse and spotted knapweed; animals do not usually graze on Russian knapweed. Chemical control is most effective when plants are young and actively growing. There are about twelve biological control agents established in BC, that attack

diffuse and spotted knapweed and another two that have been approved for release on Russian knapweed.

**Hound's-tongue**: First year plants should be dug out or chemically treated. Cutting is extremely effective in controlling second year plants when followed up seasonally. Cutting at the base, after bolting and before seed production, will kill the plant and stop seed production. If cutting occurs too late in the flowering stage seeds may still be produced on the cut plant. In this case, plants should be cut in half or knocked down to prevent seed spread. If mature plants contain seeds, then bag and burn or bury plants. Livestock generally do not graze on hound's-tongue; hound's-tongue can be fatal to livestock. Chemical control is most effective in spring or fall on rosettes plants or in spring prior to flowering. There are currently no biological control agents available for hound's tongue (Appendix 5).

**Leafy spurge**: Pulling, digging, cutting and burning are ineffective control options. Prevention is deemed the number one control option with this weed. Leafy spurge has an extensive root system that can initiate new growth. Sheep and goats are considered effective control for leafy spurge, they prefer spurge to grass. Chemical control is effective if applied at the early flower stage. There are currently several biological control agents available, including *Apthona nigriscutis*, which is very successful at controlling leafy spurge. Fungi are also under development.

**Mullein:** Pull second-year individuals, after rosette stage (spring to early summer) and bag and burn if flowers are present. Because seedling need bare ground for germination, seeding bare ground with native plants may reduce seedling growth. Control of mullein is most effective at the rosette stage. Biological control is undeveloped in Canada.

**Parasitic dodder:** Hand pulling is not an effective tool, but may be the only option in environmentally sensitive areas. Burn or destroy any infested plant material. Burning is the most effective option. Herbicide control is limited. Biological control is not available.

**Puncturevine:** Puncturevine is an annual weed with a small root system and can effectively be hand pulled or dug out. Physical control must occur prior to seed production to be effective. If mature plants contain seeds, they should be bagged and burnt or buried. Biological control agents have been released, but have not shown much success; however, herbicides will control this weed.

**Purple loosestrife:** Pulling plants is easiest and most effective when they are young. When pulling it is essential to get the entire root, because root fragments may sprout new plants. Cutting is effective at reducing seed production but it does not kill the plants. Chemical control is effective at killing the plant, but is limited to dry land control. There are three biological control agents approved for release in Canada. Biological control agents released in the Lower Mainland and Vaseux Lake are successful in stunting plant growth and significantly reducing seed production.

**Rush Skeletonweed:** Hand pulling is not effective due to the deep root system. Cutting should be done before seed production. Herbicides will control this species effectively if the plant doesn't respond to cutting. There are two biological control agents currently found on Rush Skeletonweed plants in BC and a third undergoing screening for release in North America (Appendix 5).

**St. John's wort:** This species is effectively controlled by biological control in some areas (Appendix 5). Pulling and/or digging also effectively control plants if treatments are repeated. Repeated chemical treatments will also control St. John's wort.

**Sulphur cinquefoil:** Pulling is effective for small patches as long as the upper root crown is removed. The area disturbed by pulling should be re-seeded or re-planted with native species to help prevent re-establishment of sulphur cinquefoil. While cutting or mowing may be effective at reducing seed production, these techniques do not effectively control spread and plants often re-grow with thicker and more woody stems. Chemical control is very effective when applied to actively growing plants (spring/fall). Due to the close relationship of sulphur cinquefoil to strawberries and to native cinquefoils, biological control may not be an option. Research of various agents is currently underway.

### *6.5 Post Treatment Evaluation*

As per BC Parks' *Vegetation Management Policies*, all sites treated will be committed to a long-term monitoring program before and (up to ten years) after treatment. Treatment evaluations will be conducted no later than 10 days after treatment completion on all sites. At this time, the effectiveness of treatment and/or negative impacts of treatment will be evaluated to determine the appropriate follow up option. These evaluations will include looking for dried up or dead plants, reduced vigour, mortality of non-target species, new growth, soil disturbance, etc. For chemical treatments it is district policy to re-seed with native seeds after treatment. Monitoring by other government agencies or private sector is encouraged and preferred.

## 7.0 Consultation and Co-ordination with Other Agencies

### *7.1 First Nations*

Consultation with First Nations will follow policy as directed by the Ministry of Water, Lands and Air Protection (MWLAP), BC Parks, Okanagan District.

### *7.2 Co-ordination Committees*

The *British Columbia Weed Act* states that 'every occupier has the responsibility to control Noxious Weeds'. The Okanagan District of BC Parks conducts its weed management program in communication and co-operation with other 'land occupiers' including:

- South Okanagan-Similkameen Weed Committee
- North Okanagan Weed Committee
- Boundary Weed Committee
- Osoyoos Indian Band

- Penticton Indian Band
- Upper Nicola Indian Band
- Upper Similkameen Indian Band
- Lower Similkameen Indian Band
- Westbank First Nation
- Okanagan Indian Band
- Okanagan Nation Alliance.

### *7.3 Public and Stakeholders*

A Notice of Intent to submit a Pest Management Plan for approval was published in four different local newspapers, ensuring that circulation covered the entire Okanagan district of BC Parks. The Notice of Intent welcomed any written information offered by the public that was relevant to the development of the Pest Management Plan. See Appendix 6 for a copy of the notice that was published in The Daily Courier, the Penticton Herald, the South Okanagan Review and the Osoyoos Times in February 2002.

## 8.0 Environmental Protection and Conservation

### *8.1 Community Watersheds and Domestic Water Intakes*

There are six community watersheds in the areas covered by BC Parks (Okanagan District):

1. Upper Shuswap
2. Okanagan River
3. Nicola River
4. Kettle River
5. Simikameen River
6. Skagit River.

The following list details measures that will be taken to prevent herbicide contamination both directly and indirectly into these watersheds and other irrigation, livestock watering and drinking water sources (Ministry of Water, Lands and Air Protection Pesticide Use Permit Restriction):

a) A 10 metre pesticide-free zone will be maintained along all water bodies.
b) Applicators will provide adequate buffers to ensure the pesticide free zones are maintained.
c) Pesticides will not be applied within 30 metres of a domestic water intake or well.
d) A 2 metre pesticide-free zone will be maintained along all water bodies where Roundup is applied by wick-applicator.
e) Appropriate precautions will be taken to ensure that the pesticide is used in a manner that will not result in contamination of aquifers, damage to non-target plant species or to the contamination of soil used for agriculture crop production, gardening or landscaping purposes. These precautions include soil assessments and soil map consultation before considering the use of Tordon 22K in areas where groundwater of shallow aquifers is within 1.8 metres of the surface, and

making sure Tordon 22K is not applied to roadsides or ditches that are not self-contained.

f) Pesticides will be applied using ground operated low nozzle pressure (less than 300kPa) application equipment.
g) Pesticides will be applied on a spot- treatment only basis to weeds that are designated noxious under the *Weed Control Act*.
h) Pesticides will not be applied when winds exceed 8 km/hour.

### *8.2 Fish and Wildlife Resources and Values*

Fish and wildlife resources and riparian areas will be protected by maintaining appropriate pesticide-free zone along all bodies of water, and around domestic water intakes or wells as indicated in Section 8.1. Additional buffer zones will also be applied to ensure that the pesticide-free zones are maintained. Environmental conditions (rain, temperature, soil, wind, etc) will be monitored to prevent pesticide drift and leaching. No pesticides will be applied directly or indirectly to areas that will result in pesticide contamination of fish housing water or riparian areas.

### *8.3 Species Requiring Protection or Special Management Initiatives*

Where there is a significant risk of contaminating plants used for human food or harming vulnerable plant or animal species, other options, including mechanical and biological control will be used. Biological agents are not expected to cause damage to non-target species due to their extensive screening process. Participants conducting mechanical control will ensure they only control target species and minimize soil disturbance as much as possible. In cases where pesticides are a must, safe techniques and equipment will be used. Applications will also be timed around human use and species use in order to reduce the risk of negative effects. See Appendix 1 for a list of Red and Blue listed species.

## 9.0 Herbicide Application Operational Practices

### *9.1 Qualification of Personnel*

The following table outlines the minimum qualifications of personnel involved the development and operational implementation of the Weed Management Plan:

**Table 14: Qualification of Personnel**

| Task | Personnel |
|---|---|
| PMP Development | Student enrolled in a recognized Post Secondary Institution under the guidance of a Park Officer |
| PMP Consultation | Park Officer |
| Site Assessment | Park Area Supervisor |
| Site Inventory | E-Team Participant |
| Pesticide Application | Certified Applicator |

## *9.2 Herbicide Handling Practices*

### 9.2.1 Herbicide Transport

The *Transport of Dangerous Goods Act* regulates the handling and transportation of poisonous substances, which may include herbicides. The *Pesticide Control Act Regulation* (section 35) also specifies certain transport procedures listed below:

No person shall transport or cause or permit the transport of a pesticide other than an EXEMPTED pesticide as scheduled in Annex 1 unless the pesticide is:

a) Secured in a manner sufficient to prevent the escape, discharge or unauthorized removal of the pesticide from the vehicle.
b) Separated in a manner sufficient to prevent contamination of food or drink intended for human or animal consumption, household furnishings, toiletries, clothes, bedding or similar items that is transported with that pesticide.

### 9.2.2 Herbicide Storage

BC Parks (Okanagan District) does not store herbicides on the premises. All herbicides are to be kept with the contracted applicator, and stored in accordance with the *Pesticide Control Act Regulation* and the Workers' Compensation Board document entitled "*Standard Practices for Pesticide Applicators*".

## *9.3 Herbicide Treatment Procedures*

### 9.3.1 Herbicide Mixing and Loading

Mixing and Loading of Herbicides shall follow procedures outlined in the *Handbook for Pesticide Applicators and Pesticide Dispensers* (Robert W. Adams 1992).

### 9.3.2 Herbicide Residual and Container Disposal

Proper disposal of pesticide containers will be the responsibility of the contract applicator and shall follow the guidelines outlined in the *Handbook for Pesticide Applicators and Pesticide Dispensers* (Robert W. Adams 1992).

### 9.3.3 Herbicide Spill Response Plan

It is the responsibility of the pesticide dispenser to prepare a spill response plan. This plan will be approve by the Area Supervisor prior to treatment commencement. In the case of

a spill, the contractor is to contact the Area Supervisor. Spill kits are to be carried on all vehicles and shall include:

a) Emergency numbers.
b) Herbicide first aid kit.
c) Personal protective equipment (unlined rubber or plastic gloves, unlined boots, coveralls, and a cartridge respirator suitable for pesticides).
d) ABC fire extinguisher.
e) Absorbent material such as kitty litter, sand, vermiculite, or sawdust.
f) Soap and bleach.
g) A broom, dustpan, shovel, garbage bags and a plastic bucket or garbage pail.

### 9.3.4 Herbicide Application Equipment Maintenance and Calibration

Equipment will be supplied and maintained by the applicator. Equipment operators will conduct ongoing calibration and inspection of their equipment throughout the treatment term.

### 9.3.5 Herbicide Treatment Site Boundary Layout

Park Area Supervisor will outline site boundaries with contract applicator at the site location. The boundaries discussed will be incorporated into the written contract along with maps provided by BC Parks indicating these areas. Boundaries to be marked include pesticide free zones, domestic water intakes, biological control release sites, sensitive areas and other areas to be excluded from treatment. The Contract applicator is responsible for marking these boundaries with ribbon, BC Parks is responsible for their removal. Application shall commence no later than 7 days after these boundaries are marked.

### 9.3.6 Herbicide Treatment Signs

Signs of at least 28x43 centimetres (cm) of a water-resistant material will be placed at all vehicle access points to the pesticide spray site. Signs will be placed immediately prior to commencement and removed a minimum of seven days after treatment. The sign will state:

a) Title “HERBICIDE USE NOTICE” in capital letters not less than 2.0 cm tall
b) PMP number
c) Date of Application
d) Pesticide Trade Name
e) Common name of the active ingredient of the pesticide
f) Purpose
g) Names, address, contact names and phone number of the PMP holder.

### 9.3.7 Weather Monitoring

An anemometer and thermometer will be used at the treatment sites before herbicide treatment occurs to ensure weather conditions are suitable for herbicide application. Foliar treatments will only be carried out when:

a) Temperature is less than 27 degrees Celsius
b) Wind speed is less than 8 km per hour
c) No precipitation is forecast for at least 8 hours.

Site weather conditions will be recorded on the Penticton Forest District Weed Treatment Record Form (Appendix 7). Information collected includes air temperature, precipitation, humidity, wind velocity and direction.

# 10.0 Implementing the Weed Management Plan

## *10.1 Impact Assessments*

BC Parks' policy requires that Impact Assessments be completed prior to any "actions" that may impact the environment or resources on land managed by BC Parks. Impact Assessments will include the following information:

a) Site identification (i.e., address, mileage numbers, map references.
b) Site characteristics (site series, general topography, etc.).
c) Bodies of water, watercourses, and wetland areas.
d) Fish habitat presence and required protective measures.
e) Other required measures to protect the environment.
f) Parties notified of action.
g) Other human activities associated with the site.

Pesticide Service Contracts and Weed Treatment Record Forms will include the information in the Impact Assessments in addition to the following:

a) Community watersheds or water intakes within 200 metres of the proposed treatment site.
b) Other environmentally sensitive areas.
c) Pesticide free zones.
d) Treatment methods.
e) pesticide prescription details, including:
    i. Pesticide trade name and PCP Number.
    ii. Application rate (kg active ingredient/ha).
    iii. Treatment area.
    iv. Quantity of active ingredient.

Copies of Impact Assessments, Pesticide Service Contracts and Weed Treatment Record Forms for areas treated under this Weed Management Plan are available for viewing at the district office during regular office hours.

### *10.2 Treatment Area Maps*

Maps will be provided to contractors indicating proposed treatment areas and areas to be avoided, such as watercourses, bodies of water and wetlands, biological release sites, etc. Upon competition of the contract, applicators will provide maps indicating all areas treated.

### *10.3 Annual Reporting*

BC Parks will provide the following information to the Deputy Administrator, Pesticide Branch before December 31 each year:

10.3.1 Weed Management Plan area treated during the calendar year:

a) Total area treated with each pesticide (ha).
b) Total quantity of each pesticide active ingredient used (kg).
c) Method and area of non-pesticide controls used in weed management (this information is not mandatory, but is requested).

10.3.2 Each site treated during the calendar year:

a) PMP or WMP number.
b) Site name or description.
c) Pesticide used, including PCP number.
d) Method.
e) Total area treated (ha).
f) Quantity of each active ingredient used (kg).

## 11.0 References

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## 12.0 Appendices

**Appendix 1** Red and Blue Listed Species
**Appendix 2** Penticton Forest District Weed Inventory Form
**Appendix 3** PENWEED Information
**Appendix 4** Priority Weed Management Sites for the South Okanagan-Similkameen Regional District 2001 (South Okanagan-Similkameen Weed Committee)
**Appendix 5** Biological Control Agents
**Appendix 6** Notice of Intent of Submission of a Pest Management Plan
**Appendix 7** Penticton Forest District Weed Treatment Record Form
**Appendix 8** Penticton Forest District Biological Control Release Form
**Appendix 9** Glossary of Terms
**Appendix 10** Okanagan District Weed Management Plan 2000

Regional Noxious Weeds
Okanagan Region

| Common Name | Scientific Name | Known Locations in Okanagan Region | Management Strategy |
|---|---|---|---|
| Blueweed | *Echium vulgare* | White Lake Grasslands PA | Contain/Eradicate at MacDonald Dam |
| Burdock | *Arctium* spp. | Throughout (riparian areas) | Control/Contain |
| Common Bugloss | *Anchusa officinalis* | Kettle River PP | Eradicate |
| Common Tansy | *Tanacetum vulgare* | NT Murdock Property | Contain |
| | | EC Manning | Contain/Eradicate at higher elevations |
| Field Scabious | *Knautia arvensis* | None inventoried in PP and PA | Eradicate |
| Hoary Alyssum | *Berteroa incana* | Ellison PP<br>Kalamalka Lake PP (to be confirmed)<br>Kettle River PP (to be confirmed) | Contain/Eradicate |
| Hoary Cress | *Cardaria* spp. | White Lake Grasslands PA | Control/Contain |
| Orange Hawkweed | *Hieracium aurantiacum* | Near Silver Star PP | Eradicate |
| Oxeye Daisy | *Leucanthemum vulgare* | Okanagan Mountain PP<br>EC Manning PP<br>Myra-Bellevue PP | Control/Contain |
| Puncturevine | *Tribulus terrestris* | Hayne's Lease ER | Control/Contain |
| | | White Lake Grasslands PA (to be confirmed) | Eradicate |
| | | Vaseux PP | Eradicate |
| Purple Loosestrife | *Lythrum salicaria* | Vaseux PP<br>Hayne's Point PP<br>Kekuli Bay PP (to be confirmed) | Biological |
| | | Okanagan Mountain PP (to be confirmed) | Eradicate |
| Russian Knapweed | *Acroptilon repens* | South Okanagan Grasslands PA<br>NT Wainwright<br>White Lake Grasslands PA<br>Mahoney Lake ER<br>NT Vaseux Farms<br>Okanagan Mountain PP<br>Cathedral PP | Control/Contain |
| Scotch Thistle | *Onopordum acanthium* | NT Parker South (to be confirmed) | Eradicate |
| | | Bear Creek PP<br>Kalamalka Lake PP | Contain larger patches/Eradicate isolated patches |
| Sulphur Cinquefoil | *Potentilla recta* | Throughout | Control/Contain |

Other Invasive Plant Species of Concern
Okanagan Region

| Common Name | Common Name | Scientific Name | Known Locations in Okanagan Region | Management Strategy |
|---|---|---|---|---|
| Baby's-Breath | Baby's breath | *Gypsophila paniculata* | Sun-Oka PP (Trout Creek)<br>Hayne's Point PP | Control/Contain |
| | | | NT Murdock | Eradicate |
| Bull Thistle | Bull thistle | *Cirsium vulgare* | Throughout | Control/Contain |
| Flag Iris | Flag iris | *Iris pseudacorus* | None inventoried in PP/PA | Eradicate |
| Mullein | Mullein | *Verbascum thapsus* | Throughout | Control/Contain |
| Russian Olive | Russian olive | *Elaeagnus angustifolia* | Hayne's Point PP | Control/Contain |
| Sandbur | Sandbur | *Cenchrus longispinus* | Inventory does not exist; however, it is present in and adjacent to PP/PA | Unknown |
| Siberian Elm | Siberian elm | *Ulmus pumila* | Hayne's Point PP | Control/Contain |
| St. John's-Wort | St.John's-wort | *Hypericum perforatum* | Throughout | Biological |

**Ministry of Water, Land and Air Protection**
**Environmental Stewardship Division**

BRITISH COLUMBIA

## Invasive Plant Program Priority Areas

| Area | PP/PA/ER/Conservation Land | DTPIPPP: Rank | CRA: Conservation Value Score | Priority Rank (1,2,3) | Recommended Treatment/Inventory Months |
|---|---|---|---|---|---|
| South | Anarchist PA | 127/155 | | 1 | Inventory: April-August<br>Treat: June-July & September<br>November |
| | Christie Memorial PP | 22/155 | | 3 | |
| | Field's Lease ER | 80/155 | 20/44 | 2 | |
| | Hayne's Lease ER | 110/155 | 18/44 | 1 | |
| | Inkaneep PP | 82/155 | 19/44 | 2 | |
| | Mahoney Lake ER | 110/155 | 18/44 | 1 | |
| | Okanagan Falls PP | 25/155 | 17/44 | 3 | |
| | SOG - Kilpoola North & South | 109/155 | 25/44 | 1 | |
| | SOG - Chopaka East | | | 1 | |
| | SOG - Chopaka West | | | 1 | |
| | SOG - Kobau Mountain | | | 1 | |
| | Vaseux PP | 155/155 | 20/44 | 1 | |
| | Vaseux PA | | 29/44 | 1 | |
| | White Lake Grasslands PA | 137/155 | 28/44 | 1 | |
| East | Boundary Creek PP | 32/155 | | 3 | Inventory: May-August<br>Treat: June-July & September<br>October |
| | Christina Lake PP | 19/155 | | 3 | |
| | Conkle Lake PP | 57/155 | | 2 | |
| | Gladstone PP | 77/155 | | 2 | |
| | Granby PP | 72/155 | | 2 | |
| | Hayne's Point PP | 86/155 | 25/44 | 2 | |
| | Jewel Lake PP | | | 3 | |
| | Johnstone Creek PP | 62/155 | | 2 | |
| | Kettle River PP | 94/155 | | 2 | |
| | Myra-Bellevue PA | 131/155 | 26/44 | 1 | |
| | Okanagan Mountain PP | 149/155 | 30/44 | 1 | |
| North | Campbell-Brown ER | 80/155 | 17/44 | 2 | Inventory: June-August<br>Treat: June-July & September<br>October |
| | Cougar Canyon ER | 57/155 | 21/44 | 2 | |
| | Echo Lake PP | | | 3 | |
| | Ellison PP | 78/155 | 17/44 | 2 | |
| | Enderby Cliffs PA | 73/155 | 15/44 | 2 | |
| | Greenbush Lake PA | 57/155 | 23/44 | 2 | |
| | Kalamalka Lake PP | 133/155 | 28/44 | 1 | |
| | Kalamalka Lake PA | 65/155 | | 2 | |
| | Kekuli PP | 91/155 | 22/44 | 2 | |
| | Kingfisher Creek PP | 57/155 | 19/44 | 2 | |
| | Kingfisher Creek ER | | | 2 | |
| | Mabel Lake PP | | | 3 | |
| | Mara Lake PP | | | 3 | |
| | Mara Meadows ER | 57/155 | | 2 | |
| | Monashee PP | 67/155 | 25/44 | 2 | |
| | Mount Griffin PP | | | 3 | |
| | Mount Griffin ER | | | 3 | |
| | Shuswap River Islands PP | | | 3 | |
| | Silver Star PP | | | 3 | |
| | Skookumchuck Rapids PP | | | 3 | |
| | Truman Dagmus Locheed PP | | | 3 | |
| | Upper Shuswap River ER | | 11/44 | 3 | |
| | Upper Violet Creek PP | | | 3 | |
| | Vance Creek ER | | 20/44 | 3 | |

** CRA = Conservation Risk Assessment (the higher the score out of 44, the higher the conservation values)*
** DTPIPPP = Decision Tool to Prioritize Invasive Plant Program Projects*
*(Priority 1: 101-155 / Priority 2: 51-100 / Priority 3: 0-50)*
** SOG = South*

**Ministry of Water, Land and Air Protection**
**Environmental Stewardship Division**

BRITISH COLUMBIA

## Invasive Plant Program Priority Areas

| Area | PP/PA/ER/Conservation Land | DTPIPPP: Rank | CRA: Conservation Value Score | Priority Rank (1,2,3) | Recommended Treatment/Inventory Months |
|---|---|---|---|---|---|
| Central | Bear Creek PP | 86/155 | 12/44 | 2 | Inventory: June-August<br>Treat: June-July & September<br>October |
| | Big White Mountain ER | | 14/44 | 3 | |
| | Brent Mountain PA | | 22/44 | 3 | |
| | Browne Lake ER | | 18/44 | 3 | |
| | Browne Lake PP | | 14/44 | 3 | |
| | Buck Hills ER | | 18/44 | 3 | |
| | Darke Lake PP | | 23/44 | 3 | |
| | Eneas Lakes PP | | 16/44 | 3 | |
| | Fintry PP & PA | 101/155 | 27/44 | 1 | |
| | Greystokes PP | 80/155 | 17/44 | 2 | |
| | Kickininee PP | | | 3 | |
| | Lily Pad Lake ER | | 20/44 | 3 | |
| | Nickel Plate PP | | | 3 | |
| | Okanagan Lake PP | | 14/44 | 3 | |
| | Pennask Creek PP | | | 3 | |
| | Pennask Lake PP | | 12/44 | 3 | |
| | Sun-Oka PP | 70/155 | 19/44 | 2 | |
| | Trout Creek ER | 102/155 | | 1 | |
| | Trepanier Crk PA | | 23/44 | 3 | |
| | Wrinkly Face PP | | | 3 | |
| West | Allison Lake PP | | | 3 | Inventory: June-August<br>Treat: June-July & September<br>October |
| | Bromley Rock PP | | | 3 | |
| | Kentucky Alleyne PP | | 17/44 | 3 | |
| | Keremeos Columns PP | | | 3 | |
| | Cascade RA | 98/155 | 29/44 | 2 | |
| | Cathedral PP & PA | 111/155 | 33/44 | 1 | |
| | Manning PP | 127/155 | 29/44 | 1 | |
| | Otter Lake PP | | | 3 | |
| | Snowy PA | 118/155 | 31/44 | 1 | |
| | Stemwinder PP | | | 3 | |
| | Whipsaw ER | | 17/44 | 3 | |
| Lease-Back Nature Trust | Brock (Upper Restoration Area) | 155/155 | | 1 | Inventory: April-August<br>Treat: June-July & September<br>November |
| | Emery/Sublot 15 | 149/155 | | 1 | |
| | Franmar | 109/155 | | 1 | |
| | Kilpoola | | | | |
| | Long | | | | |
| | McIntyre | | | | |
| | Murdock | 139/155 | | 1 | |
| | O'Neill | 109/155 | | 1 | |
| | Skaha Eastside | | | | |
| | Schneider | | | | |
| | Sublot 3 & 35 | 109/155 | | 1 | |
| | Thomas | | | | |
| | Trust Creek | | | 3 | |
| | Vaseux Farms | 109/155 | | 1 | |
| | Vaseux Westside | | | | |
| | Wainwright | | | | |
| WMA | SOWMA | 99/155 | | 2 | |

** CRA = Conservation Risk Assessment (the higher the score out of 44, the higher the conservation values)*
** DTPIPPP = Decision Tool to Prioritize Invasive Plant Program Projects*
*(Priority 1: 101-155 / Priority 2: 51-100 / Priority 3: 0-50)*
** WMA = Wildli*

# Decision Tool to Prioritize Invasive Plant Program Projects, Okanagan Region 2005

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | | | **16%** | Existing/threatening priority (1, 2 or 3) invasive plant species |
| **2. Conservation Values (includes SAR)** | **5** | | | **16%** | Conservation values (low, moderate or high) |
| **3. Risk to Ecological Resources** | **2** | | | **6%** | Likelihood of impact and magnitude of consequence of potential impact |
| **4. Able to Leverage Funds** | **3** | | | **10%** | Partnerships, contribution agreements… |
| **5. Risk of Lost Opportunity** | **4** | | | **13%** | If the area is not treated immediately, how likely is the loss of future eradication/control success? |
| **6. Existing Investment** | **3** | | | **10%** | Total funds and staff time (in-kind time) that has been administered by WLAP and/or adjancent land managers (Nature Trust) in treatments, inventory and monitoring over |
| **7. Adjacency issues** | **4** | | | **13%** | Adjacent to: conservation lands (H), the international border (H), provincial border (H), forest (L) and range land (H), private land (M) |
| **8. Wildfire/Disturbance** | **5** | | | **16%** | Level/intensity of disturbance including burn severity, disturbance size (number of hectares), disturbance type (prescribed fire, wildfire, utility corridor, road construction, etc) |
| **TOTAL** | | | | **100%** | |

***Justification.** Provide rationale to justify the value assigned.

**Instructions**
To determine ***evaluation points*** use table on next page. To determine ***total points*** multiply ***evaluation points*** by ***weighting***.

Total points available = 155

If using in Excel just fill in points for each ***Criteria*** in ***Evaluation Points*** column and totals will automatically be calculated.

***Evaluation points***

| *Criteria* | *Value* | *Points* |
|---|---|---|
| ***1. Priority Invasive Plant Species*** | low | 1 |
| | moderate | 3 |
| | high | 5 |
| ***2. Conservation Values (incl SAR)*** | low | 1 |
| | moderate | 3 |
| | high | 5 |
| ***3. Risk to Ecological Resources*** | low | 1 |
| ***(see matrix)*** | moderate | 3 |
| | high/very high | 5 |
| ***4. Able to Leverage Funds*** | none | 0 |
| | low | 1 |
| | moderate | 3 |
| | high | 5 |
| ***5. Risk of Lost Opportunity*** | none/low | 0 |
| | moderate | 3 |
| | high | 5 |
| ***6. Existing Investment*** | none | 0 |
| | low | 1 |
| | moderate | 3 |
| | high | 5 |
| ***7. Adjacency Issues*** | none | 0 |
| | low | 1 |
| | moderate | 3 |
| | high | 5 |
| ***8. Wildfire Impacted Area/Disturbance*** | none | 0 |
| | low | 1 |
| | moderate | 3 |
| | high | 5 |

***5. Risk to Ecological Resource - Risk Assessment Matrix***

| *Likelihood of impact* | *Magnitude of impact* | *Risk rating* |
|---|---|---|
| high | high | **very high** |
| high | moderate | **high** |
| moderate | high | **high** |
| high | low | **moderate** |
| moderate | moderate | **moderate** |
| low | high | **moderate** |
| moderate | low | **low** |
| low | moderate | **low** |
| low | low | **low** |

***Likelihood of impact***. How ***Likely*** it is that negative impacts on ecological resources will occur. This is NOT how serious impact are expected to be.

***Magnitude of consequence of potential impact.*** This is how ***Serious*** the result of the impact would be on ecological resources.

Millar, J. Klym, C. 2005

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | | | 16% | |
| 2. Conservation Values (includes SAR) | 5 | | | 16% | |
| 3. Risk to Ecological Resources | 2 | | | 6% | |
| 4. Able to Leverage Funds | 3 | | | 10% | |
| 5. Risk of Lost Opportunity | 4 | | | 13% | |
| 6. Existing Investment | 3 | | | 10% | |
| 7. Adjacency issues | 4 | | | 13% | |
| 8. Wildfire/Disturbance | 5 | | | 16% | |
| TOTAL | | | | 100% | |

# Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area: Anarchist PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **3** | **15** | **16%** | The smaller the infestation of priority species, especially if there are no known infestations, the higher the evaluation points |
| **2. Conservation Values (includes SAR)** | **5** | **5** | **25** | **16%** | Antelope brush ecosystem, SAR (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | Due to wildfire disturbance and invasive plants outside of the protected area |
| **4. Able to Leverage Funds** | **3** | **3** | **9** | **10%** | IMIPC, SOSIPS, Anarchist Fire Task Team |
| **5. Risk of Lost Opportunity** | **4** | **5** | **20** | **13%** | Early detection and rapid response |
| **6. Existing Investment** | **3** | **1** | **3** | **10%** | Historical IP Management |
| **7. Adjacency issues** | **4** | **5** | **20** | **13%** | Conservation lands (H), the international border (H), forest (L) and range land (H), private land (M) |
| **8. Wildfire/Disturbance** | **5** | **5** | **25** | **16%** | wildfire impacted area in 2003 |
| **TOTAL** | | | **127** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Hayne's Lease ER**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Puncturevine present - contain/eradicate |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | Antelope brush ecosystem; preserves a representative natural segment of the most arid ecosystem in BC and Canada (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Reduced/degraded conservation values and critical habitat; ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | Due to adjacent land infestations (Osoyoos IR) the threat is ongoing |
| 6. Existing Investment | 3 | 5 | 15 | 10% | High |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | Range land, close to US border |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | No |
| TOTAL | | | 110 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Mahoney ER**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Priority 1 and 2 species present |
| **2. Conservation Values (includes SAR)** | **5** | **5** | **25** | **16%** | Conserves a southern interior saline lake having unique limological features (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | Ecosystem loss |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | Eco-Warden active, IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **3** | **12** | **13%** | Control success observed |
| **6. Existing Investment** | **3** | **5** | **15** | **10%** | Ongoing mechanical control with the Nature Trust Crew |
| **7. Adjacency issues** | **4** | **5** | **20** | **13%** | Bordering White Lake Grasslands PA and range land |
| **8. Wildfire/Disturbance** | **5** | **0** | | **16%** | No |
| **TOTAL** | | | **110** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **South Okanagan Grasslands PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Isolated infestations of priority 1 and 2 invasive plant species present; high risk of spread |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | Protects many red and blue listed SAR as well as a mosaic of open forest, grassland, deciduous and wetland areas (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC; no partners at this time |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | Isolated infestations of sulphur cinquefoil currently exist - if no treatments occur, it will spread rapidly |
| 6. Existing Investment | 3 | 3 | 9 | 10% | Treatments, both mechanical and chemical, have been implemented |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | Range land, near US border, conservation lands |
| 8. Wildfire/Disturbance | 5 | 1 | 5 | 16% | Grazing |
| TOTAL | | | 109 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Vaseux PP and PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Priority 1 and 2 invasive plant species are present |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | Protects: SAR, winter range for California big horn sheep, low to mid-elevation grasslands, antelope brush ecosystems, critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Due to fire disturbance, the area is extremely susceptable to invasive plant invasion |
| 4. Able to Leverage Funds | 3 | 5 | 15 | 10% | IMIPC, SOSIPS, the Nature Trust of BC, CWS, MoF |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | 5 years post-fire are extremely critical (fire was in 2003) |
| 6. Existing Investment | 3 | 5 | 15 | 10% | Extensive inventory completed in 2004; chemical/mechanical treatments initiated in 2004 and to continue in 2005 |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | Conservation lands, private land, range land, forest land |
| 8. Wildfire/Disturbance | 5 | 5 | 25 | 16% | Wildfire affected area in 2003 |
| TOTAL | | | 155 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **White Lake Grasslands PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Priority 1 and 2 invasive plant species present |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | Protects: SAR, critical habitat, mule deer winter range, Class 1 California big horn sheep winter range and lambing area, old growth ponderosa pine (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | High conservation values |
| 4. Able to Leverage Funds | 3 | 5 | 15 | 10% | IMIPC; adjacent land managers include MoF, the Nature Trust of BC, NRC, CWS, White Lake Ecosystem Management Plan |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | moderate |
| 6. Existing Investment | 3 | 5 | 15 | 10% | Ongoing inventories and control (mechanical/chemical) by MWLAP and adjacent land managers |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | CWS, Range land, conservation land, biodiversity ranch |
| 8. Wildfire/Disturbance | 5 | 3 | 15 | 16% | Grazing, motorized vehicles |
| TOTAL | | | 137 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Myra-Bellevue PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Tansy ragwort |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | SAR, critical habitat, unique natural features (Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Ecosystem Loss |
| 4. Able to Leverage Funds | 3 | 5 | 15 | 10% | SOSIPS, MoF, IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | Extensive invasive plant infestations in lower elevations |
| 6. Existing Investment | 3 | 3 | 9 | 10% | Inventory initiated in 2004 |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | range land, Okanagan Mountain PP, private land |
| 8. Wildfire/Disturbance | 5 | 5 | 25 | 16% | wildfire impacted area in 2003 |
| TOTAL | | | 131 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Okanagan Mountain PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Priority 1 and 2 species present - particularly tansy ragwort |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | SAR, critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Ecosystem loss |
| 4. Able to Leverage Funds | 3 | 5 | 15 | 10% | IMIPC, SOSIPS, MoF |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | wildfire impacted area |
| 6. Existing Investment | 3 | 3 | 9 | 10% | inventory and control (chemical/mechanical) initiated in 2004 |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | conservation land, range land, private land - tansy ragwort infestations occur adjacent to the park boundary and are encroaching |
| 8. Wildfire/Disturbance | 5 | 5 | 25 | 16% | 80% of the park is severely burned by the 2003 wildfire |
| TOTAL | | | 149 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Kalamalka Lake PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Priority 1 and 2 species present or adjacent to PP boundary |
| **2. Conservation Values (includes SAR)** | **5** | **5** | **25** | **16%** | SAR, critical habitat, disappearing grasslands (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | Infestations currently established at lower elevations |
| **4. Able to Leverage Funds** | **3** | **3** | **9** | **10%** | Habitat restoration, thinning, prescribed fire, IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **5** | **20** | **13%** | control critical pre and post-prescribed fire |
| **6. Existing Investment** | **3** | **3** | **9** | **10%** | moderate |
| **7. Adjacency issues** | **4** | **5** | **20** | **13%** | Friends of Kal Lake, forest land, recreation, Coldstream Ranch |
| **8. Wildfire/Disturbance** | **5** | **3** | **15** | **16%** | habitat restoration: thinning and prescribed fire |
| **TOTAL** | | | **133** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Fintry PP and PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Priority 1 and 2 species present |
| **2. Conservation Values (includes SAR)** | **5** | **5** | **25** | **16%** | SAR, critical habitat, historic California big horn sheep habitat (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | ecosystem loss |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **5** | **20** | **13%** | Containment possible |
| **6. Existing Investment** | **3** | **3** | **9** | **10%** | Control program in progress (chemical, mechanical, biological) |
| **7. Adjacency issues** | **4** | **1** | **4** | **13%** | Unknown |
| **8. Wildfire/Disturbance** | **5** | **1** | **5** | **16%** | Agriculture |
| **TOTAL** | | | **101** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Trout Creek ER**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | sulphur cinquefoil |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | semi-arid ecosystem (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | Current sulphur cinquefoil eradication/control success |
| 6. Existing Investment | 3 | 3 | 9 | 10% | Control program in progress (chemical, mechanical, biological) |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | range land |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 102 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **EC Manning PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Priority 1 and 2 species present |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | SAR, Critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Risk of spread to "pristine areas" high; fuel reduction project in progress |
| 4. Able to Leverage Funds | 3 | 3 | 9 | 10% | Skagit Environmental Endowment Commission |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | Infestations currently restricted to vectors |
| 6. Existing Investment | 3 | 1 | 3 | 10% | Inventory and control initiated in 2004 |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | Cascade RA, US border, forest lands |
| 8. Wildfire/Disturbance | 5 | 3 | 15 | 16% | fuel reduction program |
| TOTAL | | | 127 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Cathedral PP and PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Priority species present |
| **2. Conservation Values (includes SAR)** | **5** | **5** | **25** | **16%** | SAR, Critical habitat, transition zone (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | ecosystem loss |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **5** | **20** | **13%** | Contain and prevent spread |
| **6. Existing Investment** | **3** | **1** | **3** | **10%** | Ashnola valley and access trailheads |
| **7. Adjacency issues** | **4** | **5** | **20** | **13%** | Range land, forest land, US border, EC Manning PP, Snowy PA |
| **8. Wildfire/Disturbance** | **5** | **1** | **5** | **16%** | livestock in lower elevations |
| **TOTAL** | | | **111** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Snowy PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Unknown; however, historic range use may have introduced invasive plant species |
| **2. Conservation Values (includes SAR)** | **5** | **5** | **25** | **16%** | SAR, Critical habitat (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | Ecosystem loss |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **5** | **20** | **13%** | no inventory exists - historical range use |
| **6. Existing Investment** | **3** | **0** | | **10%** | no invasive plant management to date |
| **7. Adjacency issues** | **4** | **5** | **20** | **13%** | Range land, US border, Cathedral PP |
| **8. Wildfire/Disturbance** | **5** | **3** | **15** | **16%** | Grazing |
| **TOTAL** | | | **118** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Nature Trust Lease-Back Lands (South)**

Including: Franmar, Kilpoola, Long, McIntyre, Skaha Eastside, O'Neil, Schneider, Sublot 3&35, Thomas, Vaseux Farms, Vaseux Westside, Wainwright

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Priority 1 and 2 species present |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | SAR, critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | the Nature Trust of BC, HSD, HRDC, IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | moderate |
| 6. Existing Investment | 3 | 3 | 9 | 10% | moderate |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | Conservation Lands, Parks and Protected Areas, US Border, CWS |
| 8. Wildfire/Disturbance | 5 | 1 | 5 | 16% | Grazing occurs on some of the properties |
| TOTAL | | | 109 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Field's Lease ER**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 3 | 15 | 16% | Priority 1 and 2 species present; biocontrol on Dalmatian toadflax; needs assessment |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | Antelope brush ecosystem protected; protects a portion of the most arid shrub-steppe ecosystem in Canada (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | Due to outdated inventory, the early detection and rapid response initiatives may be lost for unknown invasive plant species |
| 6. Existing Investment | 3 | 1 | 3 | 10% | Minimal |
| 7. Adjacency issues | 4 | 3 | 12 | 13% | Invasive plants encroaching on ER from adjacent private lands |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | No |
| TOTAL | | | 80 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Inkaneep PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 3 | 15 | 16% | Priority 1 and 2 species present |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | Protects a small portion of riparian habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 1 | 3 | 6% | Ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | Historical control success on hound's-tongue along dyke |
| 6. Existing Investment | 3 | 5 | 15 | 10% | Chemical and mechanical treatments have been ongoing since 2000 |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | Risk of invasive plant spread from adjacent private land as well as potential spread from this PP to other PP/PA |
| 8. Wildfire/Disturbance | 5 | 3 | 15 | 16% | Area to the East of Tuc-el-Nuit Road was burned |
| TOTAL | | | 82 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Conkle Lake PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | To be assessed |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | Representative of the Okanagan highlands with good deer, elk and moose range (Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | Ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | Early detection/rapid response |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | forest land |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | None |
| TOTAL | | | 57 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Gladstone PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Priority 1 and 2 species present at Texas Creek boat launch - high potential of spread to pristing areas of the PP |
| **2. Conservation Values (includes SAR)** | **5** | **3** | **15** | **16%** | Protects: SAR, critical habitat, winter range for deer and elk, old growth (Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | Ecosystem loss: monitoring to prevent invasive plant establishment is critical |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **5** | **20** | **13%** | Infestations at boat launch are small and eradication is an option |
| **6. Existing Investment** | **3** | **0** | | **10%** | none to date |
| **7. Adjacency issues** | **4** | **1** | **4** | **13%** | Unknown |
| **8. Wildfire/Disturbance** | **5** | **0** | | **16%** | None |
| **TOTAL** | | | **77** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Granby PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **1** | **5** | **16%** | Unknown - northern end of the park is vulnerable due to livestock and motorized vehicles |
| **2. Conservation Values (includes SAR)** | **5** | **3** | **15** | **16%** | Protects: SAR, critical habitat (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | Ecosystem loss: sub-alpine accessible by motorized vehicles |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **5** | **20** | **13%** | Ensure that the area is invasive plant free and prevent any future invasions |
| **6. Existing Investment** | **3** | **0** | | **10%** | None to date |
| **7. Adjacency issues** | **4** | **1** | **4** | **13%** | Unknown |
| **8. Wildfire/Disturbance** | **5** | **3** | **15** | **16%** | Grazing and motorized vehicles |
| **TOTAL** | | | **72** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Hayne's Point PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 3 | 15 | 16% | Priority invasive plant species present |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | critical wetland habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | Contain existing invasive plant species |
| 6. Existing Investment | 3 | 3 | 9 | 10% | annual mechanical control, successful biocontrol |
| 7. Adjacency issues | 4 | 3 | 12 | 13% | US Border |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | None |
| TOTAL | | | 86 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Johnstone Creek PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Priority 1 and 2 species present |
| **2. Conservation Values (includes SAR)** | **5** | **1** | **5** | **16%** | Protects habitat for woodpeckers and other cavity nesting birds (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **1** | **2** | **6%** | ecosystem loss |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **3** | **12** | **13%** | moderate |
| **6. Existing Investment** | **3** | **1** | **3** | **10%** | low |
| **7. Adjacency issues** | **4** | **3** | **12** | **13%** | Range land, private property |
| **8. Wildfire/Disturbance** | **5** | **0** | | **16%** | none |
| **TOTAL** | | | **62** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Kettle River PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Priority 1 and 2 species present |
| **2. Conservation Values (includes SAR)** | **5** | **3** | **15** | **16%** | SAR, winter range for deer, critical habitat for cavity nesting birds (Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | ecosystem loss |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **5** | **20** | **13%** | Existing opportunities for sulphur cinquefoil, anchusa and leafy spurge eradication |
| **6. Existing Investment** | **3** | **3** | **9** | **10%** | chemical control program implemented |
| **7. Adjacency issues** | **4** | **3** | **12** | **13%** | MoT, Boundary Weed Committee |
| **8. Wildfire/Disturbance** | **5** | **0** | | **16%** | none |
| **TOTAL** | | | **94** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Campbell Brown ER**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | sulphur cinquefoil |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | ecosystem transition zone (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | current inventory depicts potential for eradication |
| 6. Existing Investment | 3 | 1 | 3 | 10% | biocontrol |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | private land |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 80 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Ellison PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | sulphur cinquefoil |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | SAR (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | Continue spray program for sulphur cinquefoil, containment possible |
| 6. Existing Investment | 3 | 3 | 9 | 10% | moderate - annual spray program in place |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | private land |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 78 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Enderby Cliffs PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | sulphur cinquefoil in adjacent private land |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | Critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 3 | 6 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | Inventory required - early detection/rapid response |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | known infestation of sulphur cinquefoil on adjacent private land |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 73 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Greenbush Lake PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | Unknown |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | SAR, Critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | Early detection, rapid response |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | Unknown |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 57 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Kalamalka Lake PA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | Unknown |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | Critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | Early detection, rapid response |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 3 | 12 | 13% | Kal Lake PP and Cougar Canyon ER |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 65 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Kekuli PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| **1. Priority Invasive Plant Species** | **5** | **5** | **25** | **16%** | Priority 1 and 2 species |
| **2. Conservation Values (includes SAR)** | **5** | **3** | **15** | **16%** | SAR, critical habitat (See Appendix 7) |
| **3. Risk to Ecological Resources** | **2** | **5** | **10** | **6%** | ecosystem loss |
| **4. Able to Leverage Funds** | **3** | **1** | **3** | **10%** | IMIPC |
| **5. Risk of Lost Opportunity** | **4** | **3** | **12** | **13%** | Ensure that no new invasive plants establish (e.g. rush skeletonweed) |
| **6. Existing Investment** | **3** | **3** | **9** | **10%** | moderate |
| **7. Adjacency issues** | **4** | **3** | **12** | **13%** | grasslands, private land |
| **8. Wildfire/Disturbance** | **5** | **1** | **5** | **16%** | historical prescribed fire |
| **TOTAL** | | | **91** | **100%** | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Kingfisher Creek PP and ER**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | Unknown |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | SAR, critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | Early detection, rapid response, prevention |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | Unknown |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 57 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Mara Meadows ER**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | Unknown |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | fragile, rare ecosystem (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | early detection, rapid response, prevention |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | Unknown |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 57 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Monashee PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | Unknown |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | SAR, critical caribou habitat and migratory corridors (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | high - implement prevention, early detection, rapid response |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | Unknown |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 67 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Bear Creek PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 5 | 25 | 16% | Priority 1 and 2 species present |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | containment possible |
| 6. Existing Investment | 3 | 3 | 9 | 10% | moderate |
| 7. Adjacency issues | 4 | 3 | 12 | 13% | range land, forest land |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 86 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Greystokes PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | Unknown |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | Critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | prevention, early detection, rapid response; high recreational use - threat of spread |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 3 | 12 | 13% | forest land, recreation (high use snowmobile area; ATVs and mud bogging) |
| 8. Wildfire/Disturbance | 5 | 3 | 15 | 16% | Motorized vehicles |
| TOTAL | | | 80 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Sun-Oka PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 3 | 15 | 16% | baby's breath |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | cottonwood ecosystem present (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 3 | 6 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | moderate |
| 6. Existing Investment | 3 | 5 | 15 | 10% | Annual mechanical control along dyke |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | Agriculture Canada |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 70 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Cascade RA**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | Unknown |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | Critical habitat, SAR (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 5 | 20 | 13% | Prevention, early detection, rapid response |
| 6. Existing Investment | 3 | 0 | | 10% | none to date |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | forest land, EC Manning PP, US border, ATVs, snowmobiles |
| 8. Wildfire/Disturbance | 5 | 3 | 15 | 16% | Motorized vehicles |
| TOTAL | | | 98 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **South Okanagan Wildlife Management Areas**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 3 | 15 | 16% | Inventory required |
| 2. Conservation Values (includes SAR) | 5 | 5 | 25 | 16% | SAR, critical habitat (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 5 | 10 | 6% | ecosystem loss |
| 4. Able to Leverage Funds | 3 | 3 | 9 | 10% | HSP, HCTF, IMIPC |
| 5. Risk of Lost Opportunity | 4 | 3 | 12 | 13% | moderate |
| 6. Existing Investment | 3 | 1 | 3 | 10% | low |
| 7. Adjacency issues | 4 | 5 | 20 | 13% | Conservation Lands, Parks and Protected Areas, US Border, range land |
| 8. Wildfire/Disturbance | 5 | 1 | 5 | 16% | horses |
| TOTAL | | | 99 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Christie Memorial PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | High-use, landscaped area |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | Endangered plant species present on beach (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 1 | 2 | 6% | Low ecological resource values |
| 4. Able to Leverage Funds | 3 | 1 | | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 0 | | 13% | None |
| 6. Existing Investment | 3 | 0 | | 10% | None |
| 7. Adjacency issues | 4 | 0 | | 13% | None known |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | none |
| TOTAL | | | 22 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Okanagan Falls PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | High-use, landscaped PP |
| 2. Conservation Values (includes SAR) | 5 | 3 | 15 | 16% | Conserves a small portion of riparian habitat (including non-native tree species) (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 1 | 2 | 6% | Low ecological resource values |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 0 | | 13% | None |
| 6. Existing Investment | 3 | 0 | | 10% | None |
| 7. Adjacency issues | 4 | 0 | | 13% | None |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | No |
| TOTAL | | | 25 | 100% | |

## Decision Tool to Prioritize Invasive Plant Program, Okanagan Region 2005

**Park/Protected Area:** **Christina Lake PP**

| Criteria | Weighting | Evaluation Points | Total Points | % of total | Justification* |
|---|---|---|---|---|---|
| 1. Priority Invasive Plant Species | 5 | 1 | 5 | 16% | no inventory exists |
| 2. Conservation Values (includes SAR) | 5 | 1 | 5 | 16% | beach area (See Appendix 7) |
| 3. Risk to Ecological Resources | 2 | 1 | 2 | 6% | low |
| 4. Able to Leverage Funds | 3 | 1 | 3 | 10% | IMIPC |
| 5. Risk of Lost Opportunity | 4 | 0 | | 13% | developed park |
| 6. Existing Investment | 3 | 0 | | 10% | none |
| 7. Adjacency issues | 4 | 1 | 4 | 13% | Risk of invasive plant transport from this area |
| 8. Wildfire/Disturbance | 5 | 0 | | 16% | None |
| TOTAL | | | 19 | 100% | |

**Ministry of Water, Land and Air Protection**
**Conservation Values of Okanagan Region**
**Parks, Protected Areas, Ecological Reserves and Conservation Lands**

| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **South** | | | | |
| **Anarchist PA** | **IPPT, Ranger, Area Supervisor, SOSIPS** | 1) Representation of low elevation forest (critical habitat)<br>2) SAR | 1) **Wildfire affected area (IMIPC)**<br>2) Invasive plant inventory completed in 2004 - expand boundaries in 2005 | Hound's-tongue, Canada thistle, St.John's-Wort (outside PA), Dalmatian toadflax, Diffuse knapweed, Bull thistle |
| **Christie Memorial PP** | **Ranger** | 1) Protects a small portion of Skaha Lake foreshore<br>2) SAR (endangered plant species on beach) | 1) High recreation use | Unknown |
| **Field's Lease ER*(20)** | **Ranger** | 1) Protects a small portion of the most arid shrub-steppe ecosystem in Canada (critical habitat)<br>2) SAR | 1) Antelope brush ecosystem represented<br>2) Update invasive plant inventory | Canada thistle, hound's-tongue, Dalmatian toadflax, Diffuse knapweed |
| **Hayne's Lease ER*(18)** | **IPPT, Ranger** | 1) Preserves a representative natural segment of the most arid ecosystem in British Columbia and Canada (critical habitat)<br>2) SAR | 1) Antelope brush ecosystem represented<br>2) Update invasive plant inventory | Puncturevine, Dalmatian toadflax, Canada thistle, Diffuse knapweed, Bull thistle, Russian thistle, Russian knapweed |
| **Inkaneep PP*(19)** | **Ranger** | 1) Protects a small portion of riparian (cottonwood) habitat<br>2) SAR | 1) Historical invasive plant control success along river dyke<br>2) Update invasive plant inventory particularly within the fire affected area | Hound's-tongue, Canada thistle, Diffuse knapweed, Dalmatian toadflax, Burdock |
| **Mahoney Lake ER*(18)** | **Ranger** | 1) Conserves a southern interior saline lake having very unique limnological features (critical habitat) | 1) Historical invasive plant control success | Hound's tongue, Sulphur cinquefoil, blueweed, Dalmatian toadflax, Canada thistle, Russian knapweed |
| **Okanagan Falls PP*(17)** | **Ranger** | 1) Conserves a small portion of riparian habitat (including non-native tree species)<br>2) SAR | 1) High recreation use | Unknown |

**Ministry of Water, Land and Air Protection**
**Conservation Values of Okanagan Region**
**Parks, Protected Areas, Ecological Reserves and Conservation Lands**

| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **South Okanagan Grasslands PA*(25)** | **IPPT, Ranger, Area Supervisor** | 1) SAR<br>2) Critical habitat | 1) Historical invasive plant control success in some areas<br>2) Invasive plant inventory requires updating and expansion | Sulphur cinquefoil |
| Kilpoola North & South | | 1) Protects three red-listed plants, one blue-listed plant and the Big sagebrush-bluebunch wheatgrass plant community as well as eight red and seventeen blue-listed wildlife species | 1) Represents a mosaic of open forest, burned areas, grassland, deciduous and wetland habitats<br>2) Invasive plant inventory requires updating and expansion | Hound's tongue, Sulphur cinquefoil, Canada thistle, Dalmatian toadflax, Diffuse knapweed, Spotted knapweed |
| Chopaka East | | 1) Protects four red-listed plants, as well as six red and six blue-listed wildlife species | 1) Almost all Canadian observations of the rare Lyall's Mariposa lily occur within the site); One of the best known sites for rare dry ground lichens (cryptogams) with several species new to science<br>2) Invasive plant inventory requires updating and expansion | Sulphur cinquefoil, Hound's-tongue, Diffuse knapweed, Canada thistle, Burdock, Russian knapweed, Spotted knapweed |
| Chopaka West | | 1) Protects 11 red and nine blue-listed wildife species | 1) Historical invasive plant control success<br>2) Chopaka West is the only place in the province that the Sage thrasher regularly breeds | None (monitoring required) |
| Kobau Mountain | | 1) Protects one red and three blue-listed wildlife species | 1) The feature bird is the Brewer's sparrow<br>2) Invasive plant inventory required updating and expansion | Hound's-tongue, Diffuse knapweed, Dalmatian toadflax |
| **Vaseux PP*(20)** | **IPPT, Ranger, Area Supervisor** | 1) The park protects 10 red listed plant ecosystems, which cover the whole spectrum from desert to wetland; seven blue and two red listed mammals known in the park; 11 red listed species and 9 blue listed species present; five blue listed reptiles are found in the park, as well as the red listed Night snake (rarest snake in Canada) | 1) Antelope brush ecosystem represented<br>2) Historical and current invasive plant management initiatives have been coordinated between all land managers and have been proven successful<br>3) **Wildfire affected area (IMIPC**)<br>4) Invasive plant inventory completed in 2004 - monitor and treat in 2005 | Sulphur cinquefoil, puncturevine, purple loosestrife (along boardwalk), Diffuse knapweed, Dalmatian toadflax |
| **Vaseux PA*(29)** | **IPPT, Ranger, Area Supervisor** | 1) Primarily to protect low to mid elevation grasslands that provide critically important winter range for California bighorn sheep<br>2) Critical habitat for SAR | 1) There are two red and seven blue-listed mammals, 11 red and nine blue-listed bird species and one red and five blue-listed reptile species<br>2) Douglas-fir-Ponderosa Pine/Idaho fescue is a blue-listed plant community.<br>3) Historical and current invasive plant management initiatives have been coordinated between all land managers and have been proven successful<br>**4) Wildfire affected area (IMIPC)**<br>5) Invasive plant inventory completed in 2004 - monitor and treat in 2005 | Sulphur cinquefoil, Canada thistle, Bull thistle, St.John's-Wort, Hound's-tongue, Diffuse knapweed, Dalmatian toadflax |

**Ministry of Water, Land and Air Protection**
**Conservation Values of Okanagan Region**
**Parks, Protected Areas, Ecological Reserves and Conservation Lands**

| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **White Lake Grasslands PA*(28)** | **IPPT, Ranger, Area Supervisor** | 1) Protects mid-elevation grasslands with old growth stands of Ponderosa pine as well as important mule deer winter range and Class 1 California Bighorn Sheep winter range and lambing areas<br>2) Critical habitat for SAR | Contains many red and blue-listed species such as two amphibian species, five reptile species, fifteen bird species (including the feature species of the park, the Whiteheaded Woodpecker), eight mammal species (including badger, and three bat species), two insect species and three plant species | Sulphur cinquefoil, blueweed, hound's-tongue, burdock, Canada thistle, puncturevine (to be confirmed), Dalmatian toadflax, Russian knapweed, Spotted knapweed, Diffuse knapweed |
| **East** | | | | |
| **Boundary Creek PP** | **Ranger** | 1) Riparian and streamside vegetation for fish habitat | 1) Recreation and historic values<br>2) High risk of invasive plants spreading from this campsite to other non-infested areas - create an "invasive plant free" buffer | Spotted knapweed, hound's-tongue, Russian knapweed, Diffuse knapweed, Canada thistle, Dalmatian toadflax, Oxeye daisy |
| **Christina Lake PP** | **Ranger** | N/A | 1) Recreation values<br>2) Invasive plant inventory does not exist for this area | Unknown |
| **Conkle Lake PP** | **Ranger** | 1) Representative of the Okanagan Highlands landscape with good deer, elk and moose range | 1) Recreation values<br>2) Invasive plant inventory does not exist for this area | Unknown |
| **Gladstone PP** | **IPPT, Ranger** | 1) Contains the elevational gradient from lakeshore to alpine, capturing a diversity of habitats in the Selkirk Foothills ecosection which are captured nowhere else<br>2) Protects low-elevation dry interior cedar-hemlock forest communities with some old growth, important winter ranges for deer and elk, and high-value spawning areas for kokanee<br>3) Critical habitat for SAR | 1) Invasive plant inventory does not exist for this area<br>2) Protects blue-listed California bighorn sheep and Grizzly bear and the red-listed Northern leopard frog<br>3) Conduct a thorough invasive plant inventory for Texas Creek and treat to reduce the spread to pristine areas | Texas Creek: Spotted knapweed, Dalmatian toadflax, hoary alyssum, blueweed |
| **Granby PP** | **Ranger** | 1) Encompasses the headwaters of the Granby River and several adjacent basins<br>2) Protects some of the best grizzly bear habitat in the southern Monashee Mountains<br>3) Critical habitat for SAR | 1) One red-listed plant (Nettle-leaved giant hyssop) and the red-listed speckled dace (found only in the Kettle and Granby River drainages)<br>2) Invasive plant inventory does not exist for this area | Unknown |
| **Hayne's Point PP*(25)** | **Ranger** | 1) Represents critical wetland habitat for SAR and other wildlife | 1) Protects five red-listed plant species<br>2) Protects blue-listed species (Western small footed myotis bat, Barn owl, Spadefoot toad and Painted turtle) and one red-listed species (Tiger salamander)<br>3) Ongoing invasive plant control in wetland area<br>4) Invasive plant inventory requires updating | Dalmatian toadflax, elm, Russian olive, Russian knapweed, purple loosestrife, diffuse knapweed, Canada thistle, baby's breath |

**Ministry of Water, Land and Air Protection**
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**Parks, Protected Areas, Ecological Reserves and Conservation Lands**

| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **Jewel Lake PP** | **Ranger** | N/A | 1) Invasive plant inventory does not exist for this area: there may be a high risk of invasive plants spreading from this campsite to other non-infested areas - create an "invasive plant free" buffer | Unknown |
| **Johnstone Creek PP** | **Ranger** | 1) Contains mature Douglas fir, larch and spruce trees that provide habitat for woodpeckers and other cavity nesting bird species | 1) High risk of invasive plants spreading from this campsite to other non-infested areas - create an "invasive plant free" buffer<br>2) Invasive plant inventory requires updating and expansion | Hound's-tongue, knapweed, common tansy, Russian knapweed, Diffuse knapweed, Canada thistle, Bull thistle, Hound's-tongue, St.John's-Wort, Sulphur cinquefoil, Oxeye daisy |
| **Kettle River PP** | **IPPT, Ecosystem Biologist, Ranger** | 1) The park protects two red listed plant communities: old growth cottonwood and Dry Ponderosa Pine Bunchgrass (critical habitat)<br>2) Important winter ranger for deer and there is also a high incidence of cavity nesting birds throughout the park | 1) High risk of invasive plants spreading from this campsite to other non-infested areas - create an "invasive plant free" buffer<br>2) Historical invasive plant control success (must eradicate sulphur cinquefoil, common anchusa and leafy spurge)<br>3) Invasive plant inventory requires updating and expansion | Sulphur cinquefoil, hoary alyssum, leafy spurge, common anchusa, Dalmatian toadflax, hound's-tongue, Bull thistle, Diffuse knapweed, St.John's-Wort, Russian knapweed, burdock |
| **Myra-Bellevue PA*(26)** | **IPPT, Ranger, Area Supervisor, Contractor (Inventory), SOSIPS** | 1) Represents the North Okanagan Basin and North Okanagan Highlands ecosections and provides critical habitat for many SAR<br>2) Conserves and protects unique natural features as well as part of a community watershed | 1) High recreation use (hiking, biking, etc.) - high risk of invasive plant spread and introduction<br>2) **Wildfire affected area (IMIPC)**<br>3) Provides habitat for the Grizzly bear, spotted bat, fisher, elk, deer, moose, cougar, mountain goats, white-throated swifts, Lewis's woodpecker, Flammulated owls and Western screech owls | Tansy ragwort (outside of park currently), sulphur cinquefoil, Canada thistle, knapweed, Spotted knapweed, Diffuse knapweed, Bull thistle, St.John's-Wort, Oxeye daisy, Dalmatian toadflax |
| **Okanagan Mountain PP*(30)** | **IPPT, Ranger, Ecosystem Biologist, Area Supervisor, SOSIPS** | 1) Representative example of the Okanagan Basin and Okanagan Highlands and provides critical habitat for many SAR<br>2) Contains a significant portion of undeveloped lakeshore along Okanagan Lake | 1) **Wildfire affected area (IMIPC)**<br>2) Provides habitat potential for mountain goats, white-tailed deer, moose, elk, lynx, marten, coyote as well as many SAR (blue listed mammals: Western harvest mouse, Nuttall's cottontail and Spotted bat; Blue listed reptiles: Western painted turtle, Rubber boa, Gopher snake, Western blue racer and Western rattlesnake; five blue and two red listed bird species including the Western grebe and Whiteheaded woodpecker)<br>3) Invasive plant management initiatives are coordinated between all land managers and will be annually monitored | Tansy ragwort, leafy spurge (to be confirmed), purple loosestrife (to be confirmed), Canada thistle, St.John's-Wort, sulphur cinquefoil, oxeye daisy, hound's-tongue, Russian knapweed, Diffuse knapweed, bull thistle, Dalmatian toadflax, Common tansy |

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| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **North** | | | | |
| **Campbell-Brown ER*(17)** | **IPPT** | 1) Established for the preservation of ecosystems transitional between Ponderosa Pine and Interior Douglas-fir, and a rattlesnake den | 1) Minimal invasive plant inventory - expand and update | sulphur cinquefoil, Dalmatian toadflax |
| **Cougar Canyon ER*(21)** | **IPPT, Ranger** | 1) Preserve representative Interior Douglas-fir ecosystems, together with a chain of small lakes and associated wetlands | 1) Invasive plant inventory does not exist for this area | Unknown |
| **Echo Lake PP** | **Ranger** | N/A | 1) Recreation<br>2) Invasive plant inventory does not exist for this area | Unknown |
| **Ellison PP*(17)** | **IPPT, Ecosystem Biologist** | 1) Dominated by stands of ponderosa pine and Douglas-fir with grassy open areas typical of the Okanagan Basin landscape.<br>2) One blue-listed plant species, Engelmann's knotweed, is also found in the park | 1) Invasive plant control has been successfully implemented for sulphur cinquefoil - continue treatments and expand inventory | sulphur cinquefoil, hound's-tongue, knapweed, Canada thistle, burdock |
| **Enderby Cliffs PA*(15)** | **IPPT, Ecosystem Biologist** | 1) Represents the transitional biogeoclimatic units in the North Okanagan Highlands and North Thompson Uplands ecosections<br>2) Conserves prominent rock cliffs of the Tertiary age as well as small, scattered stands of old-growth Douglas-fir and larch<br>3) Provides key mule deer winter range | 1) Sagebrush and rabbit brush occur at uncommonly high elevations<br>2) Minimal invasive plant inventory - expand and update<br>3) Provides habitat potential for moose, cougar, bobcat, lynx, marten, grizzly as well as a variety of birds and bats | sulphur cinquefoil |
| **Greenbush Lake PA*(23)** | **Ranger** | 1) Representative of the Central Columbia Mountains Ecosection and contains old-growth Engelmann spruce-subalpine fir and Interior cedar-hemlock forest types with exceptionally large cedar and spruce<br>2) Provides important spring range for grizzly and critical cedar-hemlock habitat for caribou | 1) Invasive plant inventory does not exist for this area<br>2) Caribou, black and grizzly bear, wolverine, marten, lynx, cougar, hoary marmot and pileated woodpecker, yellow-rumped warbler, brown creeper and the blue-listed Townsend's big-eared bat are known to be in this area | Unknown |
| **Kalamalka Lake PP*(28)** | **IPPT, Ecosystem Biologist, Ranger, Area Supervisor** | 1) Grasslands above Cosens Bay a part of an ecosystem that is rapidly disappearing in the Okanagan<br>2) Provides critical habitat for SAR | 1) Restoration projects are being implemented which includes thinning and burning<br>2) Inventories need to be updated<br>3) Provides habitat potential for White-tailed deer, mule deer, mink, bobcat, coyote, red fox, Western harvest mouse, Townsend's big-eared bat; Canada goose, Canyon wren, White-throated swift, Western screech owl and Flammulated owl; pacific rubber boa, western rattlesnake, western yellow-bellied racer, gopher snake, northeastern garter snake, common garter snake, western painted turtle, Great Basin spadefoot toad, and northern alligator lizard | sulphur cinquefoil, St. John's-Wort, Dalmatian toadflax, rush skeletonweed, scotch thistle, spotted knapweed, diffuse knapweed, Canada thistle, bull thistle, burdock |
| **Kalamalka Lake PA** | **Ranger** | 1) Established to conserve and protect examples of interior Douglas fir and interior cedar hemlock, as well as protecting additional lakeshore on Kalamalka Lake | 1) Provides habitat for the Black bear, cougar and western rattlesnake<br>2) Invasive plant inventory does not exist for this area<br>3) High risk of spread for Kal Lake PP | Unknown |

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| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **Kekuli PP*(22)** | **IPPT (biological control)** | 1) Provides critical habitat for field mice and SAR | 1) SAR include the red listed Prairie falcon, the blue listed Western rattlesnake and two red listed plants (Bluebunch wheatgrass and Black cottonwood)<br>2) Invasive plant species have densly established throughout the park<br>3) Maintain an "invasive plant free" buffer around campsites and vectors | Dalmatian toadflax, sulphur cinquefoil, Canada thistle, knapweed |
| **Kingfisher Creek PP*(19)** | **Ranger** | 1) Protects a remnant of the Shuswap Highland Ecosection including the biogeoclimatic zone variants ICHvk1, ESSFwc2 and AT-Ewcp<br>2) Enhances viability associated with adjoining Kingfisher Ecological Reserve by adding lower elevation forest types into the Sicamous drainage. Combined they form an environmental benchmark for subalpine parkland in an area transitional between dry and wet interior climates.<br>3) Provides critical early/late winter caribou habitat | 1) SAR include the blue listed Two edged water-starwort and the red listed Hairy Rockcress.<br>2) Currently no invasive plant inventory exist | Unknown |
| **Kingfisher Creek ER** | **Ranger** | | 1) Currently no invasive plant inventory exist | Unknown |
| **Mabel Lake PP** | **Ranger** | 1) The area's climate and landscapes mark the dramatic transition from the Okanagan Basin to the Quesnel/Shuswap Highlands | 1) Currently no invasive plant inventory exist<br>2) Painted turtles may been seen in Taylor Creek | Unknown |
| **Mara Lake PP** | **Ranger** | 1) Protects salmon habitat | 1) High recreation use<br>2) Currently no invasive plant inventories exist - potential spread due to high public volume? | Unknown |
| **Mara Meadows ER** | **Area Supervisor, Ranger** | 1) Mara Meadows Ecological Reserve was established to protect a unique calcareous fen and its diverse flora, including several rare orchids | 1) Closed to the public due to the fragile ecosystem<br>2) Currently no invasive plant inventories exist | Unknown |
| **Monashee PP*(25)** | **Ranger** | 1) Protects flood plain to alpine as well as critical habitat for caribou and ensures continuance of their migration corridors<br>2) Protects the area around Rainbow Falls and the riparian zone along a section of the upper Shuswap River | 1) Wildlife include: one red-listed bird species (the Northern Goshawk); two red-listed mammals (the wolverine and mountain caribou); moose, mule deer, and black bear, blue-listed grizzly bear and Townsend's big-eared bat, marten and cougar.<br>2) Currently no invasive plant inventories exist | Unknown |
| **Mount Griffin PP** | **Ranger** | 1) Protects critical wetland habitat | 1) Wildlife include: moose, beaver and other animals of the riparian/wetland forest; at higher elevations black and grizzly bears, mountain caribou and pine marten<br>2) Currently no invasive plant inventories exist | Unknown |
| **Mount Griffin ER** | **Ranger** | 1) Preserves the elevational sequence of habitats from valley bottom wetlands to alpine in an area of wet interior climate | 1) Currently no invasive plant inventories exist | Unknown |
| **Shuswap River Islands PP** | **Ranger** | | 1) Currently no invasive plant inventories exist | Unknown |
| **Silver Star PP** | **Ranger** | 1) Provides habitat to a variety of wildlife | 1) Wildlife include: Black Bear, Moose, Mule Deer, Whitetailed Deer, Cougar, Lynx as well as populations of grouse, crossbills, owls and raptors.<br>2) High recreation use area (mountian bike park, ski hill and resort)<br>3) Currently no invasive plant inventories exist | Unknown |

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| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **Skookumchuck Rapids PP** | **Ranger** | No Info Available | 1) Currently no invasive plant inventories exist | Unknown |
| **Truman Dagmus Locheed PP** | **Ranger** | No Info Available | 1) Currently no invasive plant inventories exist | Unknown |
| **Upper Shuswap River ER*(11)** | **Ranger** | 1) Established for retention of old-growth western red cedar stands of exceptional growth in the area of wet interior climate | 1) Currently no invasive plant inventories exist | Unknown |
| **Upper Violet Creek PP** | **Ranger** | No Info Available | 1) Currently no invasive plant inventories exist | Unknown |
| **Vance Creek ER*(20)** | **Ranger** | 1) Established to provide a permanent site in the Vernon region for teaching forest ecology and related subjects | 1) Currently no invasive plant inventories exist | Unknown |
| **Central** | | | | |
| **Bear Creek PP*(12)** | **IPPT, Ecosystem Officer** | 1) Protects wildlife habitat | 1) Inventory exists and treatments have been implemented annually on sulphur cinquefoil<br>2) Monitoring is required | sulphur cinquefoil, spotted knapweed, diffuse knapweed, Canada thistle, scotch thistle (to be confirmed) |
| **Big White Mountain ER*(14)** | **Ranger** | 1) Protects ecosystems representative of the Engelmann Spruce-Subalpine Fir and Alpine Tundra Zones in the southern interior | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **Brent Mountain PA*(22)** | **IPPT, Ecosystem Officer** | 1) Only alpine area protected in the Southern Thompson Upland ecosection<br>2) Protects an extensive system of wetlands along stream channels as well as krummholz, subalpine parkland, and subalpine and alpine meadows | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **Browne Lake ER*(18)** | **Ranger** | 1) Protects a wet meadow ecosystem and surrounding forest in the Interior Douglas-fir-Montane Spruce transition | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **Browne Lake PP*(14)** | **Ranger** | No Info Available | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **Buck Hills ER*(18)** | **Ranger** | 1) Conserves a small stand of western larch which includes large, old specimens | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **Darke Lake PP*(23)** | **Ranger** | 1) Provides habitat for SAR and other wildlife | 1) Wildlife include: White-tailed deer; Barn owl and Flammulated owl; red listed Northern goshawk.<br>1) Preliminary invasive plant inventories and control were implemented in 2004 | spotted knapweed, diffuse knapweed, burdock |
| **Eneas Lakes PP*(16)** | **Ranger** | 1) Protects critical fir and pine forest habitat for the red listed Northern goshawk | 1) Invasive plant inventory has not been completed for this area | Unknown |

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| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **Fintry PP & PA*(27)** | **IPPT, Ecosystem Officer, Ranger** | 1) Provides habitat for SAR and other wildlife<br>2) Historic range of California bighorn sheep including escape terrain along the canyon<br>3) Class one deer winter range that is used extensively during severe winter conditions.<br>4) Protects old growth cottonwoods along the beach (red listed plant community) as well as ponderosa pine forest (one of the most threatened forest types because of urban growth and resource development activities and is very sensitive to disturbance)<br>5) Another rare plant found in the park is the blue listed Okanagan Flame Flower | 1) Wildlife include: Blue listed California bighorn sheep; Townsend's Big-eared bats; red listed Western Grebe; black and grizzly bear, lynx, marten, coyote, moose, white-tail and mule deer, ruffed grouse, northern goshawk, great horned owl, pileated woodpecker<br>2) Ongoing invasive plant control and monitoring occurs throughout the area<br>3) Maintain "invasive plant free" corridors along vectors to reduce the risk of spread to pristine areas | sulphur cinquefoil, spotted knapweed, diffuse knapweed, Canada thistle, bull thistle, Dalmatian toadflax |
| **Greystokes PP*(17)** | **Ranger** | 1) Protects extensive old growth Sub-alpine fir and Engelmann spruce as well as an extensive complex of swamps, streams and wetland meadows mixed with forest is unique in the Southern Interior<br>2) Provides mid and late summer range for wildlife when the valley bottom is no longer productive<br>3) Protects the upper reaches of the Mission Creek watershed for the City of Kelowna | 1) Wildlife include: White-tailed deer and mule deer primarily from spring to fall; lynx, wolverine, ptarmigan and grouse; mountain caribou (red); fisher (blue), Townsend's big-eared bat (blue) and grizzly bear (blue)<br>2) Invasive plant inventory has not been completed in this area<br>3) One blue-listed plant species is protected: pink agoseris | Unknown |
| **Kickininee PP** | **Ranger** | N/A | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **Lily Pad Lake ER*(20)** | **Ranger** | 1) Conserves an undisturbed highland lake with associated flora and fauna in the southern interior of BC | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **Nickel Plate PP** | **Ranger** | N/A | 1) High recreation use<br>2) Invasive plant inventory has not been completed for this area | Unknown |
| **Okanagan Lake PP*(14)** | **Ranger** | N/A | 1) High recreation use<br>2) Invasive plant inventory has not been completed for this area<br>3) Recently disturbed due to highway upgrades | Unknown |
| **Pennask Creek PP** | **Ranger** | 1) Protects biologically exceptional trout spawning habitat not to be disturbed by recreational activities<br>2) Protects one blue-listed variety of willow shrub, salix boothii | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **Pennask Lake PP*(12)** | **Ranger** | N/A | 1) High recreation use<br>2) Invasive plant inventory has not been completed for this area | Unknown |
| **Sun-Oka PP*(19)** | **Ranger** | 1) Protects a small portion of rare old growth cottonwood riparian habitat (critical habitat for SAR) | 1) Cottonwoods and associated wetland thickets provide food and shelter for a variety of birds, insects and small mammals<br>2) Ongoing invasive plant control occurs along Trout Creek | baby's breath, Dalmatian toadflax, spotted knapweed, diffuse knapweed |

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| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **Trout Creek ER** | **IPPT, Ranger** | 1) Conserves representative semi-arid vegetation dominated by ponderosa pine and Douglas-fir in the southern interior of BC | 1) Successful invasive plant control has been accomplished - monitor and treat as necessary! | sulphur cinquefoil, Dalmatian toadflax, diffuse knapweed, Canada thistle |
| **Trepanier Crk PA*(23)** | **Ranger** | 1) Protects important water, biodiversity and recreation values, including Trepanier Creek drainage | 1) Newly discovered patch of sulphur cinquefoil to be controlled and monitored | sulphur cinquefoil |
| **Wrinkly Face PP** | **IPPT, Ecosystem Biologist** | No Info Available | 1) Invasive plant inventory has not been completed for this area | Unknown |
| **West** | | | | |
| **Allison Lake PP** | **Ranger** | N/A | 1) High recreation use<br>2) Currently no invasive plant inventory exists - ensure that vectors are "invasive plant free" to reduce spread | Unknown |
| **Bromley Rock PP** | **Ranger** | N/A | 1) High recreation use<br>2) Currently no invasive plant inventory exists - ensure that vectors are "invasive plant free" to reduce spread | spotted knapweed, diffuse knapweed, Dalmatian toadflax |
| **Kentucky Alleyne PP*(17)** | **IPPT** | 1) Protects natural features including several kettle lakes, eskers and fluvial outwash deposits as well as rolling grasslands and dry open forest | 1) Wildlife include: waterfowl such as goldeneye, mallards, teal, and grebe; a variety of hawks and falcons; the blue-listed sharptail grouse; jack rabbits and ground squirrels<br>2) Monitor knapweed infestations<br>3) Maintain "invasive plant free" buffers along vectors<br>4) PFOs actively participate in invasive plant control | spotted knapweed, diffuse knapweed |
| **Keremeos Columns PP** | **Ranger** | N/A | Currently no invasive plant inventory exists | Unknown |
| **Cascade RA*(29)** | **Ranger** | 1) Preserves a representative portion of the Leeward Pacific Ranges Ecosection and a large portion of the Hozameen Range ecosection<br>2) Key in protecting the headwaters of the Similkameen, Skagit and Tulameen river systems<br>3) Protects old growth ecosystems and wetlands which provides Rocky Mountain elk seasonal habitat<br>4) Protects critical habitat for many species found in the transition between Coastal and Interior biogeoclimatic zones (e.g. Woody-branched rockcress, a blue listed plant) | 1) The area is part of the North Cascade Grizzly Bear Recovery Plan<br>2) Wildlife include: four blue listed mammals: Fisher, Wolverine, Golden Mantled ground squirrel and Grizzly bear; three red listed species: Mountain beaver, Pika, and Spotted owl.<br>3) Currently no invasive plant inventory exists | Unknown |

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| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **Cathedral PP & PA*(33)** | **IPPT, Ranger** | 1) Encompasses the variety of terrain and flora and fauna that is typical of the transition zone between the rain forest of the Cascade Mountains and the more arid Okanagan Valley<br>2) Conserves habitat for 14 red/blue-listed plant species, 3 red/blue-listed mammals and 2 red-listed bird species (Sandhill crane and Prairie falcon). | 1) Invasive plant inventory exists for lower elevations in the Ashnola valley and trailheads/campgrounds<br>2) Implement a effective control program along all vectors to maintain pristine higher elevation ecosystems which are currently invasive plant free | burdock, diffuse knapweed, hound's-tongue, bull thistle, Dalmatian toadflax (along Ashnola Road) |
| **Manning PP*(29)** | **IPPT, Ranger** | 1) Protects a diversity of critical habitat for rare and endangered species<br>2) Part of a significant continuous Protected Area unit in the southern interior of British Columbia: bordered to the south by the North Cascades National Park in Washington, U.S.A., Manning is at the centre of a major tract of protected lands that are of international significance | 1) Extensive inventory and control was completed in 2004<br>2) Expand inventory boundaries and continue implementing control program | St.John's-wort, yellow toadflax, oxeye daisy, hound's tongue, canada/bull thistle, common tansy, spotted knapweed, Dalmatian toadflax |
| **Otter Lake PP** | **Ranger** | N/A | 1) Currently, no inventory exists for the area | Unknown |
| **Snowy PA*(31)** | **IPPT, Ecosystem Biologist, Ranger, ESD Team (?)** | 1) Provides increased representation of the Okanagan Ranges ecosection and protects a wide range of vegetation and wildlife from dry grassland valleys to extensive alpine meadows and supports a provincially significant herd of California bighorn sheep. | 1) Currently, no inventory exists for the area | Unknown |
| **Stemwinder PP** | **Ranger** | N/A | 1) Inventory requires reassessment | diffuse knapweed, spotted knapweed |
| **Whipsaw ER*(17)** | **Ranger** | 1) Established to maintain representative stands of ponderosa pine and Douglas-fir in the Interior Douglas-fir Zone. | 1) Currently, no inventory exists for the area | Unknown |

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| PP/PA/ER/Conservation Land | Involvement (ES Staff) | Conservation Values | Comments | Priority Invasive Plant Species |
|---|---|---|---|---|
| **Lease-Back Lands (Nature Trust) and WMAS** | | | | |
| **Brock (Upper Restoration Area)** | **IPPT, Carl MacNaughton** | 1) SAR<br>2) Critical habitat | 1) **Wildfire Affected Area**<br>2) Restoration projects in progress<br>3) Inventory requires updating | sulphur cinquefoil, diffuse knapweed, Dalmatian toadflax |
| **Emery/Sublot 15** | | 1) SAR<br>2) Critical habitat | 1) **Wildfire Affected Area**<br>2) California big horn sheep habitat<br>3) Inventory requires updating | sulphur cinquefoil |
| **Franmar** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | Unknown |
| **Kilpoola** | | 1) SAR (badger, birds, plants)<br>2) Critical habitat | 1) Inventory requires updating | Unknown |
| **Long** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | Unknown |
| **McIntyre** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | sulphur cinquefoil |
| **Murdock** | | 1) Habitat | 1) **Wildfire Affected Area**<br>2) Inventory requires updating | leafy spurge (to be confirmed) |
| **O'Neill** | | Unknown | Unknown | Unknown |
| **Skaha Eastside** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | Dalmatian toadflax, sulphur cinquefoil, diffuse knapweed |
| **Schneider** | | 1) SAR | 1) Ongoing chemical control program | sulphur cinquefoil |
| **Sublot 3 & 35** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | Unknown |
| **Thomas** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | Unknown |
| **Trust Creek** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | Unknown |
| **Vaseux Farms** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | Unknown |
| **Vaseux Westside** | | 1) SAR<br>2) Critical habitat | 1) Inventory requires updating | Unknown |
| **Wainwright** | | 1) SAR<br>2) Critical habitat | 1) Expand inventory boundaries<br>2) Implement control program - follow-up 2003 treatments | Dalmatian toadflax, diffuse knapweed, Russian knapweed, burdock |
| **South Okanagan Wildlife Management Area (SOWMA)** | **IPPT, Area Supervisor** | 1) SAR<br>2) Critical habitat | 1) Inventory required | Unknown |

**** Conservation Risk Assessment completed in 2002 (Score)***

| Area | PP/PA/ER | Priority | Priority Invasive Plant Species & Management Strategy (if known) |
|---|---|---|---|
| South | Anarchist PA | 1 | hound's tongue, Canada thistle, bull thistle - contain<br>St.John's-wort - eradicate (currently outside PA)<br>Dalmatian toadflax - eradicate (one patch)<br>Diffuse knapweed - biological control |
| | Hayne's Lease ER | | puncturevine - control/contain<br>Dalmatian toadflax, Canada thistle, diffuse knapweed, bull thistle, Russian thistle, Russian knapweed - control |
| | Mahoney Lake ER | | hound's tongue, sulphur cinquefoil, blueweed, Dalmatian toadflax, Canada thistle, Russian knapweed - control (mechanical) |
| | South Okanagan Grasslands PA | | sulphur cinquefoil, hound's tongue, Canada thistle, Dalmatian toadflax, diffuse knapweed, spotted knapweed<br>**management strategy to be determined* |
| | Vaseux PP and PA | | puncturevine (one patch in PP) - eradicate<br>purple loosestrife - biological control<br>diffuse knapweed, Dalmatian toadflax, bull thistle, Canada thistle, hound's tongue, St.John's-wort - control |
| | White Lake Grasslands PA | | blueweed, puncturevine (to be confirmed) - eradicate/contain<br>sulphur cinquefoil, hound's tongue, burdock, Canada thistle, Dalmatian toadflax, Russian knapweed, spotted knapweed, diffuse knapweed - control |
| | Nature Trust of BC Lease-Backs | | sulphur cinquefoil, diffuse knapweed, Dalmatian toadflax, Russian knapweed, burdock - control |
| | Field's Lease ER | 2 | Canada thistle, hound's tongue, Dalmatian toadflax, diffuse knapweed - control |
| | Inkaneep PP | | hound's tongue, Canada thistle, diffuse knapweed, Dalmatian toadflax, burdock - control |
| | South Okanagan Wildlife Management Area (SOWMA) | | Unknown - inventory required |
| | | | |
| East | Myra-Bellevue PP | 1 | tansy ragwort (currently outside PP) - eradicate<br>sulphur cinquefoil, Canada thistle, spotted knapweed, diffuse knapweed, bull thistle, St.John's-wort, oxeye daisy, Dalmatian toadflax - control |
| | Okanagan Mountain PP | | tansy ragwort - eradicate/contain<br>leafy spurge (to be confirmed) - eradicate<br>purple loosestrife (to be confirmed) - eradicate<br>rush skeletonweed (to be confirmed) - eradicate<br>Canada thistle, St.John's-wort, sulphur cinquefoil, oxeye daisy, hound's tongue, Russian knapweed, diffuse knapweed, bull thistle, Dalmatian toadflax, common tansy - control |
| | Conkle Lake PP | 2 | Unknown - inventory required |
| | Gladstone PP | | Texas Creek: spotted knapweed, Dalmatian toadflax, hoary alyssum, blueweed - control/contain |
| | Granby PP | | Unknown - inventory required |
| | Hayne's Point PP | | Dalmatian toadflax, elm, Russian olive, Russian knapweed, diffuse knapweed, Canada thistle, baby's breath - control<br>purple loosestrife - biological control |
| | Johnstone Creek PP | | hound's tongue, diffuse knapweed, common tansy, Russian knapweed, Canada thistle, bull thistle, St.John's-wort, sulphur cinquefoil, oxeye daisy - control |
| | Kettle River PP | | sulphur cinquefoil, leafy spurge, common anchusa, hoary alyssum - eradicate<br>Dalmatian toadflax - biological control<br>hound's tongue, bull thistle, diffuse knapweed, St.John's-wort, Russian knapweed, burdock - control |

| Area | PP/PA/ER | Priority | Priority Invasive Plant Species & Management Strategy (if known) |
|---|---|---|---|
| North | Kalamalka Lake PP | 1 | scotch thistle, rush skeletonweed (currently outside park) - eradicate<br>sulphur cinquefoil, St.John's-wort, Dalmatian toadflax, spotted knapweed, diffuse knapweed, Canada thistle, bull thistle, burdock - control |
| | Campbell-Brown ER | 2 | sulphur cinquefoil, Dalmatian toadflax - inventory and control |
| | Ellison PP | | sulphur cinquefoil, hound's tongue, knapweed, Canada thistle, burdock - control |
| | Enderby Cliffs PA | | sulphur cinquefoil - inventory and control/contain |
| | Greenbush Lake PA | | Unknown - inventory required |
| | Kalamalka Lake PA | | Unknown - inventory required |
| | Kekuli PP | | rush skeletonweed (currently outside park) - eradicate<br>Dalmatian toadflax, sulphur cinquefoil, Canada thistle, knapweed - control |
| | Kingfisher Creek PP and ER | | Unknown - inventory required |
| | Mara Meadows ER | | Unknown - inventory required |
| | Monashee PP | | Unknown - inventory required |
| | | | |
| Central | Trout Creek ER | 1 | sulphur cinquefoil - eradicate/contain<br>Dalmatian toadflax, diffuse knapweed, Canada thistle - control |
| | Fintry PP and PA | | sulphur cinquefoil, spotted knapweed, diffuse knapweed, Canada thistle, bull thistle, Dalmatian toadflax - control/contain |
| | Bear Creek PP | 2 | scotch thistle (to be confirmed) - eradicate<br>sulphur cinquefoil, spotted knapweed, diffuse knapweed, Canada thistle - control |
| | Greystokes PP | | Unknown - inventory required |
| | Sun-Oka PP | | baby's breath, Dalmatian toadflax, spotted knapweed, diffuse knapweed - control |
| | | | |
| West | Cathedral PP and PA | 1 | Dalmatian toadflax (1 plant found on Ashnola Rd outside park) - eradicate<br>burdock, diffuse knapweed, hound's tongue, bull thistle - control/contain |
| | Snowy PA | | Unknown - inventory required |
| | EC Manning PP | | St.John's-wort, yellow toadflax, oxeye daisy, hound's tongue, Canada thistle, bull thistle, common tansy, spotted knapweed, Dalmatian toadflax - control/contain/eradicate outside main infestations |
| | Cascade Recreation Area | 2 | Unknown - inventory required |