NORTHWEST INVASIVE PLANT COUNCIL (NWIPC)

STRATEGIC PLAN

Last updated April 16, 2013

DRAFT 2014 FOR REVIEW

Northwest
INVASIVE PLANT COUNCIL

Acting Chairperson: ~~Claire Watkins~~Erik Swanson ~~Program Manager: Andrea Eastham~~Executive Director: Mike Trepanier
~~City of Prince George, Parks Dept.~~BC Hydro 1595 Fifth Avenue
Prince George, BC Prince George, BC V2L 3L9
Phone: 250-613-6988~~4-7818~~ Phone: 250-564-4115 loc 233
Email: ~~cwatkins@city.pg.bc.ca~~erik.swanson@bchydro.com Email: info@nwipc.org

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THE NORTHWEST INVASIVE PLANT COUNCIL (NWIPC)

NWIPC is a non-profit organization that has many agencies, organizations and private citizens as members. It provides coordinated support, education, inventory tools, assessments and treatments for stakeholders involved in various aspects of invasive plant management. It also uses resources pooled by member organizations to coordinate invasive plant management and conduct education and awareness activities. As well, the NWIPC partners with member organizations to conduct on the ground inventories and treatments. The strategic plan is applicable to northwest and central B.C. NWIPC's target area is roughly west of the Rocky Mountains to the Pacific Ocean, including Haida Gwaii, and north from Hixon to the Yukon border.

NWIPC MISSION STATEMENT

To prevent further damage to the ecosystems of northwest and central BC from invasive alien plants and begin to rehabilitate ecosystems that have been degraded by invasive alien plants.

Long-term Goals,

1. Deliver and demonstrate effective and efficient invasive plant management that integrates awareness, reporting, evaluation, response and adjustment.
2. Have NWIPC supported by agencies, organizations and the public of central and northwest BC
3. Identify, address and find solutions to invasive plant issues.
4. Assist other organizations, agencies and areas with improving the efficiency and effectiveness of their invasive plant management programs.
5. Promote and assist the implementation of provincial-wide EDRR (Early Detection, Rapid Response) systems, up to date Invasive Alien Plant Program (IAPP) inventory and mapping, research, development and extension initiatives.

Short-term Goals (up to 5-years)

1. Implement a Regional EDRR level program to focus on species not yet established in the northwest across all jurisdictions with the goal of complete eradication.
2. Implement a Containment Level Program to prevent the establishment and spread of invasive plant species that: 1. Cause serious problems elsewhere in B.C. but are not known to be in our region; 2. Cause serious problems in southern BC, but are not yet extensive in northern and central B.C. (e.g. knapweeds); and 3. Prevent the spread of species that have established in central and northern B.C. including: marsh thistle, common tansy and field scabious so that they do not spread to other parts of B.C. where suitable habitat is extensive. Consensus agreement has been reached to establish containment polygons.
3. Working with members and partners, continue to develop rehabilitation strategies for those areas infested with species such as hawkweeds, oxeye daisy and Canada thistle. This includes acquiring, releasing and monitoring biological control agents when they are available.
4. Gain additional NWIPC members and partners contributing to the pooled and partnered funds by demonstration and delivery of effective and efficient invasive plant management that integrates awareness, reporting, evaluation, response and adjustment.

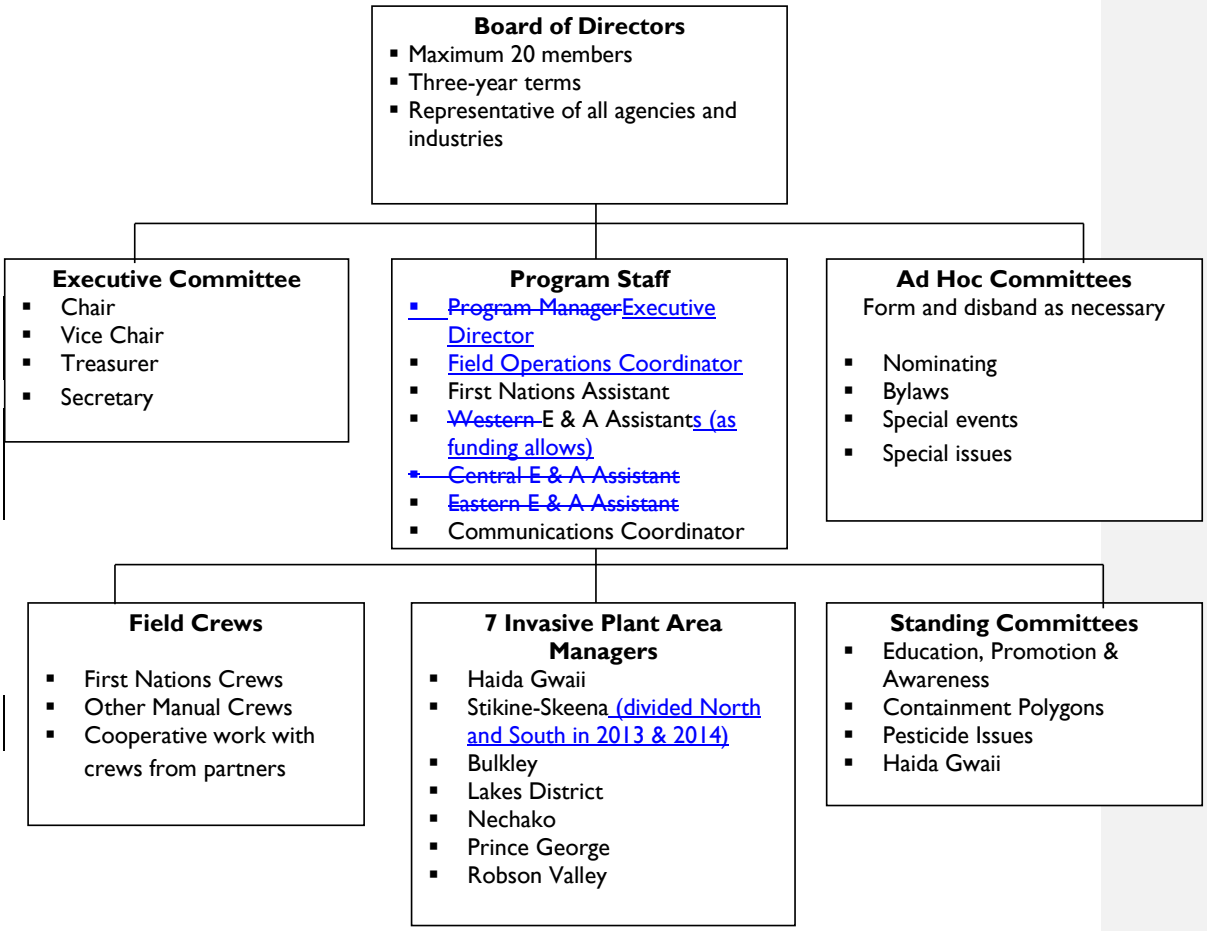
5. Have a high degree of data accuracy in IAPP.
6. Produce an annual Business Plan, in conjunction with the Strategic Plan and Plant Profile, detailing specific tasks and producing budgets aimed at meeting our above stated goals.
7. Develop an educational plan.

NWIPC OPERATING PRINCIPLES

- Encourage the public to report invasive plant sightings. (This requires adequate and prompt feedback to persons who report invasive plants).
- Inform and educate the public about invasive plant programs so they can provide relevant comment.
- Develop and maintain a shared invasive plant inventory.
- Assess problems and threats that various invasive plants present to the environment and economy of the area.
- Classify the invasive plants species according to their threat (invasiveness and susceptible habitat)
- Prioritize sites for control based on practicality. This should consider ease of treatment, cost of treatment, chances of success, as well as the threat posed by the species involved.
- Prevent the establishment of invasive plants not currently in the region.
- Prevent or minimize the spread of the invasive plants already present in the region.
- Conduct invasive plant programs in the northwest and central B.C. using Integrated Pest Management principles as described in the 'Invasive Species Strategy for B.C.'
- Encourage all landowners, agencies and organizations operating in northwest and central B.C. to develop and implement invasive plant management programs.
- Manage and coordinate the activities and responsibilities of the various agencies and private landowners to ensure NWIPC goals are met.

NWIPC ORANIZATIONAL STRATEGY

Annual plans are delivered using the organization chart below:



NWIPC PLANNING PROCESSES

1. **NWIPC Strategic Plan**
   The Strategic Plan is reviewed every three to five years on an as needed basis. The Strategic Plan defines the NWIPC goals, operating principles, organizational structure, planning, auditing, reporting, and review processes~~s~~.

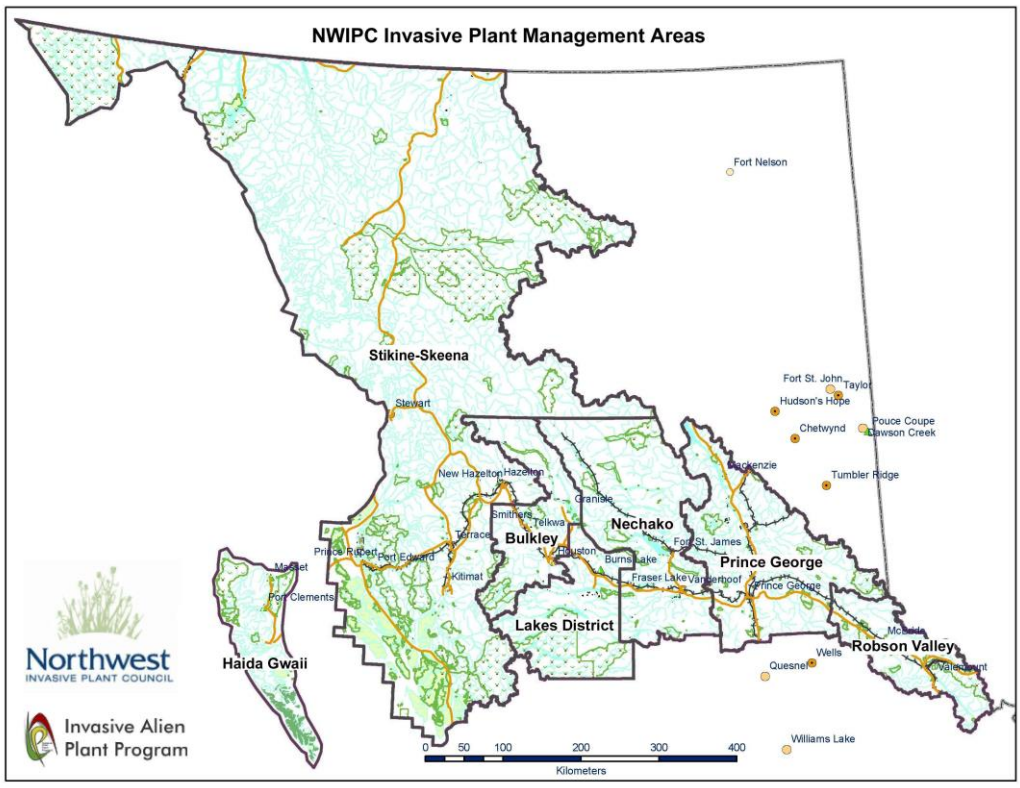
   Plant profiles are no longer included as an appendix in Strategic Plan as of April 16, 2013. NWIPC's target species for management are housed an in Excel file *NWIPCTargetIPsListyyyymmdd.xls.* It tracks and classifies invasive plants and prioritizes sites for control. It also outlines required actions.

   The Plant Profiles describe the date of introduction, distribution and threat of the various invasive plants in, or threatening, central and northwest B.C. It also describes what treatments have been applied in the past and some recommendations for future control or treatment.

   The target list is reviewed by the membership annually and approved at the annual general meeting. The Excel file is updated and the species reported out in the annual business plan.

2. **NWIPC Annual Business Plan**
   Following the NWIPC Strategic Plan, annual target plant list, IPMA plans, the NWIPC Board of Directors develops an annual budget and business plan during a 2-day planning and board development meeting that provides itemized details in order to meet the annual and shared goals. The business plan provides activities aimed at achieving short-term goals, with budgets, targets and output measures. The work plan is available for discussion and amendment at the spring meetings and is reviewed at the fall meetings.

3. **Invasive Plant Management Area (IPMA) Work Plans**
   NWIPC is divided into seven Invasive Plant Management Areas, IPMAs as illustrated in map below:



In 2013 the Stikine-Skeena IPMA was divided into North and South as a trial when new contractors were hired. This split will continue in 2014 and the NWIPC Board will decide if this will be a permanent change.

In each IPMA a contractor provides inventory, and treatment services and information on NWIPC programs (e.g. the 50:50 rebate program) to partners and the public). Each area manager, with assistance from NWIPC funding partners, develops an IPMA work plan, ~~with assistance from NWIPC members,~~ that details how and when work will be done to achieve the goals defined for the IPMA, (e.g. containment of a species). Drafting of these plans occurs late winter in preparation for review at the spring meeting, although they may be adjusted through the course of the year depending on resources, weather, growth patterns of invasive plants and other factors.

4. Monitoring and Biocontrol

Annual plans for field monitoring of work completed by IPMA contractors is drafted between the funding partners and the NWIPC Program Manager. A biocontrol plan is developed in cooperation between the FLNRO Invasive Plant Specialist and the IPMA contractors.

5. Education & Awareness

The NWIPC's Education & Awareness committee and contract staff complete a draft plan that is reviewed and discussed by the board at the annual planning meeting in February. The final plan is incorporated into the budget and annual plan for events and advertising that will be undertaken, materials to be produced (signs, brochures), and items to be purchased (T-shirts, keychains, etc.).

NWIPC INVASIVE PLANT MANAGEMENT STRATEGY FOR CENTRAL AND NORTHWEST B.C.

Weed legislation, mandates and priorities can appear complicated and confusing. Different weed species have been labeled in various ways by local, provincial and federal laws, and the mandate to control weeds may be interpreted in different ways for lands with various types of tenure in private, local government, provincial crown land and federal jurisdiction situations.

To reduce the confusion and inefficiencies that might result from this, the wide range of stakeholders within the Northwest Invasive Plant Council have taken a co-operative approach to try to reach more effective and accepted focuses for the management of invasive plants.

The approach we use is twofold:

1. Prioritize an infested site for management based on the opportunity for control and eradication.
2. Classify species by their invasiveness based on: their biology and ecology from the scientific literature, reports from surrounding regions, and local observations.

The decision making process we use for how to manage an infestation is:

⇒ How invasive is this species?

⇒ How big is this infestation?

⇒ Is the infestation in an area where this species is widespread and established?

⇒ Is there an adjacent ecosystem, or industry, we must protect?

~~The approach we use is twofold:~~

3. ~~Prioritize an infested site for management based on the opportunity for control and eradication.~~
4. ~~Classify species by their invasiveness based on: their biology and ecology from the scientific literature, reports from surrounding regions, and local observations.~~

PRIORITIZING SITES

The speed at which invasive plants spread depends~~,~~ not only on the invasiveness of the species, but also on the suitability of the site and the state of health of the habitats. Habitats in poor condition, with weak or degraded plant communities and /or disturbed ground (e.g. construction sites, roadside ditches etc.) allow invasive species to establish and spread rapidly. Prevention of invasive plant problems requires management of susceptible sites. Keeping habitats in healthy condition,

minimizing soil disturbances, and quick re-seeding are required if the goals of this plan are to be accomplished.

NWIPC has divided Site conditions into four groups based on expected potential for control (see Table 1), with ’1’ being the highest opportunity for control and ‘4’ being sites that have a much lower potential or opportunity (e.g., riparian sites where herbicide use is restricted or sites where costs of treatments will not be offset by significant benefits).

TABLE 1. INVASIVE SITE PRIORITY

PRIORITY	PURPOSE OR INTENT
1 Extremely High Opportunity for Control	To stop the spread of invasive plants threatening currently un-infested, highly susceptible areas. These sites are less than or equal to 0.25 ha and there is a good expectation of control. This priority also includes sites that are threatening a large neighbouring economic base, for example, seed and other high value crops.
2 High Opportunity for Control	To stop the enlargement of sites in highly susceptible areas. These sites are less than or equal to 0.5 ha. Must have a reasonably good expectation of control.
3 Moderate Opportunity for Control	To stop the enlargement of sites greater than or equal to 0.5 ha in highly susceptible areas, or less than or equal to 0.5 ha in moderately susceptible areas.
4 Low Opportunity for Control	To stop the enlargement/contain sites greater than 0.5 ha in moderately susceptible areas.

CLASSIFICATION OF SPECIES INVASIVENESS

NWIPC uses four **invasiveness classifications** that have decreasing expected potential for these species to invade and cause serious problems should they become established with "Extremely Invasive" being the most aggressive and invasive.

TABLE 2. INVASIVENESS CLASSIFICATIONS

EXTREMELY INVASIVE
Invade even undisturbed habitats and dominate them. Domination implies the invasive plant becomes the most abundant species across the entire site or area of the plant community being invaded. The invasion can progress slowly or rapidly.
VERY INVASIVE
Invade even undisturbed habitats. They become very prevalent and may form dense patches but usually do not dominate the entire site or area of the plant community
INVASIVE
Can invade undisturbed habitats but they usually require some disturbance to gain entry. Once in a habitat they usually do not dominate the site unless there are management problems.
AGGRESSIVE
Can invade even undisturbed habitats but they do so at a slow pace and rarely dominate the site. These plants may go through large population fluctuations. This may be the result of the fluctuation in biocontrol agent populations or cyclic patterns the plant displays.
BIOCONTROL AGENTS AVAILABLE
Biocontrol agents are available in BC; not necessarily effective in the northwest.

This approach results in four levels of site management: Provincial EDRR, Regional EDRR, Containment, and Rehabilitation. Funding is managed to support the four levels of management in this order.

EDRR - CONTAINMENT - REHABILITATION

1. Provincial EDRR

Following provincial directions, the focus of this system will be on preventing new species from entering and establishing in BC. A provincial Early Detection Rapid Response, EDRR, program has been developed for species not present, or with extremely limited establishment in BC. NWIPC will participate and assist with Provincial EDRR following the provincial program. See Appendix 1.

2. Regional EDRR

This is new for NWIPC in 2013. NWIPC directors met to discuss and select species that could be considered for NWIPC Regional EDRR across the entire northwest. There were discussions on having EDRR species by IPMAs, or other boundaries, but it was agreed that more boundaries would not be efficient. The list of proposed regional EDRR species was reviewed and revised by the members present at the Annual General Meeting held in Burns Lake, BC, on April 16, 2013. Review of this list will occur yearly. These species will be managed first ~~given limited funding, plus~~ as well, all partners have been asked to contribute to an REDRR pool to treat these species on all jurisdictions. ~~provincial government dollars tagged for operations may be used on all jurisdictions.~~

Suggestion from the Strategic Plan Committee to create REDRR lists by IPMA. This would make it more clear to readers and managers on the ground to know which plants are the very highest priority in the area. This would also allow species like Marsh Plume Thistle to be treated as REDRR in some IPMAs but not others ie. REDRR in Lakes but not in Robson Valley (where the containment line exists).

~~Secondly, invasive plants that have limited establishment in B.C. and have not yet spread or have limited distribution in central and northern B.C. will be prevented from spreading further, e.g., marsh thistle, field scabious, common tansy and knapweeds. Containment Lines (polygons) are used as a management tool for some species. Protocols for establishing containment polygons are described in Appendix 2.~~

3. Containment

There are about 70 plant species that are, or could become, established in the NWIPC area. It would be impossible to eliminate all occurrences of each of these species with the resources available. Consequently, a system has been developed to guide and prioritize management efforts. NWIPC may choose to actively treat and/or ~~kill~~ eradicate invasive species when practical to do so in order to prevent or minimize impacts to natural ecosystems and industries such as Agriculture. If the infestation is small and isolated, and active treatment and ~~killing~~ eradication is practical, it will be carried out.

The direction given to IPMA contractors is:

Treat Priority 1 Sites (Table 1) of ALL IPs listed in the Target IP List provided the site is not located in an area where the IP is already widespread and rampant. However, a site or IP will also be managed if it is located where the IP threatens a critical habitat or private land that is being

actively managed for that IP. In addition, contractors shall actively look for and manage P~~p~~rovincial and Regional EDRR species as well as other new invaders to a habitat.

Examples of some species that fit a NWIPC containment approach since there are few, or no, sites present, include: ~~leafy and~~ cypress spurge, ~~hoary alyssum~~, hound's-tongue, ~~sulphur cinquefoi~~l, scotch thistle, rush skeleton weed, crupina, teasel, etc. NEED BETTER EXAMPLES HERE. MOST OF THESE ARE EDRR SPECIES. For example: hawkweeds in the Cassiar area, burdock except in some areas of Haida Gwaii.

~~Secondly, invasive plants that have limited establishment in B.C. and have not yet spread or have limited distribution in central and northern B.C. will be prevented from spreading further, e.g., marsh thistle, field scabious, common tansy and knapweeds. Containment Lines (polygons) are used as a management tool for some species. Protocols for establishing containment polygons are described in Appendix 2.~~

Suggestion to create priority lists by IPMA. The current strategy, though noble, leaves too much open to interpretation and requires people/agencies using our strategy to research and make decisions on what species to target that may not be correct.

4. Rehabilitation

It is usually impractical to try to completely remove a species that has become well established, spread over large areas, and have substantial presence in north and central B.C., (e.g., Canada thistle, hawkweed species and oxeye daisy) based on cost, time taken, chances of success etc.. Instead, work will focus on rehabilitating infested areas, **not** on treatment or removal. Rehabilitation will involve, when available, the release, monitoring and distribution of biological control agents. Rehabilitation may also involve other treatments such as tree and shrub plantings to restore sites, particularly when they can be coordinated with work on containment.

OUT-PUT MEASURES & REPORTING:

- There are errors in IAPP resulting from transfer of historic data and issues around training and data input accuracy. Work on cleaning and improving data input accuracy continues. The numbers of sites provided in these output measures are with current data and accuracy.

OUTPUT MEASURES FOR PROVINCIAL AND REGIONAL EDRR:

- All EDRR incidents will follow the Provincial EDRR plan. NWIPC will provide assistance and support as required. Until the Provincial system is fully functional NWIPC may need to take the lead.
- EDRR activities will be reported in the NWIPC annual report including the number of incidence, a tracking of how the incident was managed and time lines.
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OUTPUT MEASURES FOR CONTAINMENT:

~~The following table lists some of the species for containment that will be measured for 2010.~~ For all these species the goal is to manage* all sites in remote areas outside of ~~the contained area~~where the species is widespread and, if possible, prevent reproduction and spread out of ~~contained areas~~heavily infested areas. Requirements to do this are species &~~–~~ location specific.

*(Management does not necessarily mean treatment but may include things like increased awareness and progress towards permission to treat).

- A preferred practice for most species if herbicides and manual treatment are used is a three or more pass system:
  - A first monitoring/~~—~~treatment pass to occur on known sites when the plants are at the rosette stage, May – June.
  - A second monitoring~~–~~/~~—~~treatment pass when plants have bolted and a few individuals are about to come into bloom, June – July.
  - A third monitoring/~~—~~treatment pass to prevent any missed plants from producing viable seed, (may involve bagging seed heads), August – September.
- If resources are limited the minimal practice is a two pass system:
  - A first monitoring/~~—~~treatment pass delayed until plants have started to bolt and a few individuals are about to come into bloom, June – July.
  - A second monitoring/~~—~~treatment pass to prevent any missed plants from producing viable seed, (may involve bagging seed heads), August – September.

REPORTING FOR REHABILITATION:

Rehabilitation work is, work done on established species like oxeye daisy, hawkweeds and Canada thistle. For these species the annual report will include tables indicating the number of sites, method and areas treated by species and jurisdiction. Additional information such as progress in regards to specific restoration such as restoration of hawkweed infested community pastures may also be included.

OUTPUT MEASURES AND REPORTING FOR PROGRAM PLANNING, DEVELOPMENT, ADMINISTRATION AND COORDINATION.

- Increase NWIPC membership and partners contributing to pooled funds for coordination, education and awareness.
- Increase NWIPC membership and partners contributing to on-ground partnership funds.
- Update and report on the Communications and Promotions Plan developed in 2005-06 identifying needs and actions planned.
    - Acquire, develop and adapt extension and awareness materials. List materials available and new materials developed including web pages, etc.
    - Report on the number and locations of awareness extension events supported.
- The NWIPC Program will continue to improve on:
    - Financial reporting to partners with clearly defined costs and benefits of all aspects of the NWIPC program and assessments of what costs are for base and augmented programs. This information will be included in the 2013~~2~~ annual report.
    - Continuation and augmentation of IPMA contractor training. NWIPC will plan on conducting training for contractors and others every spring. ~~NWIPC will also offer support and solicit ideas on provincial level training.~~
    - Do additional inventory and ensure that the needs of partners, e.g., forest industry, are met. (*Identification of required inventories by species can occur in the NWIPC Plan & Profile. What is needed is an identification of areas and consideration of partners needs).*
    - Develop and implement a planned, systematic field monitoring program with indications of roles and responsibilities, standards, etc.

APPENDIX 1: EARLY DETECTION RAPID RESPONSE, EDRR

(A new provincial plan has been developed by the Inter-Ministry Invasive Species Council; see http://www.for.gov.bc.ca/hra/invasive-species/index.htm for more information.

The IMISWG is excited to announce that an Invasive Plant Early Detection Rapid Response Plan for British Columbia (BC EDRR Plan) has now been developed, guided by the Invasive Species Council of BC's *Invasive Plant Early Detection and Rapid Response in British Columbia: An Initial Framework* (IPCBC 2006).

The newly developed BC EDRR Plan is an **action, communication and decision-making plan to prevent the establishment of new invasive plants into British Columbia**. It is designed to complement both existing regional programs operating in British Columbia as well as the national EDRR framework being developed at the federal level. There are six steps to the BC EDRR plan: Early Detection, Identification, Alert Screening, Risk Assessment, Response Planning, and Rapid Response (Figure 1). Each step is comprised of specific step-by-step actions, decisions, communications and associated responsibilities. Implementation of this plan will increase the likelihood that new incursions will be discovered, assessed and eradicated before they become widely established in British Columbia.

The provincial government, through the Inter-Ministry Invasive Species Working Group will lead implementation of the Invasive Plant Early Detection Rapid Response Plan for British Columbia. However, successful eradication of plant species identified for early detection and rapid response can only be achieved with the cooperation and participation of Regional Weed Committees, the Invasive Plant Council of British Columbia, federal agencies, local governments, First Nations, academia and technical experts. The BC EDRR Plan will be regularly reviewed and updated or revised as deemed necessary.

APPENDIX 2: CONTAINMENT POLYGONS

Protocol to Establish Invasive Plant Containment Lines in the IAPP Application

Approved by IMIPWG May 26, 2009

DEFINITION:

The objective of containment in invasive plant management is to prevent large infestations from spreading to un-infested areas. Establishing containment lines around targeted invasive plant species' infestations defines the areas that require treatment and assists in management planning. Inside the containment line the infestation of the invasive plant species is extensive and it is not possible to eradicate the target species. Outside the line the infestation is limited and preventing spread and achieving a long term goal of eradication is possible.

The establishment and location of containment lines is determined through stakeholder consensus and are set within geographic areas such as Regional Invasive Plant Committee boundaries or cross-regional areas of the Province. The location of the containment line is based on considerations of the following: a) target invasive plant species' current distribution and abundance; b) known vectors and projected rate of spread; c) natural barriers to movement (e.g. height of land, lakes or rivers), d) ecological factors, and d) other management objectives within the area. Containment lines are housed in the Invasive Alien Plant Program (IAPP) Application, so that their locations are communicated and clear to all stakeholders and their invasive plant management crews.

Outside the containment polygon or area all sites of the species being contained need to be managed including enhanced awareness work, inventory, treatment, and monitoring. Management objectives inside a containment line may include rehabilitation of sites, or specific inventory and control actions on areas deemed to be critical from an economic or conservation perspective.

PROCEDURES:

As the support and action of all stakeholders and partners is required for successful containment of invasive plants, the following steps are required to establish containment lines:

1) Members of regional Invasive Plant Committees can propose and discuss containment lines. If lines are wholly within the regional invasive plant committee's area and consensus agreement on the location of the line can be reached, the request is forwarded to the Inter-Ministry Invasive Plant Working Group (IMIPWG) for review.

2) If proposed lines cross the boundaries of two or more regional invasive plant committees, all committees affected must agree to the lines and locations before they are forwarded to the IMIPWG.
3) An agency or organization can propose containment lines to the IMIPWG, the Invasive Plant Council of BC (IPCBC), as well as to regional invasive plant committees. Proposals received by the IMIPWG or IPCBC will be referred to the affected regional committee(s) for consideration and support, and the committee will ensure final submission to the IMIPWG.
4) The IMIPWG will review proposed containment lines and either approve their inclusion in IAPP or discuss with those making the proposal why inclusion is not approved at that time or at that location.
5) If lines are approved for inclusion in IAPP, those making the proposal will work with the IAPP Technician to have the lines uploaded into IAPP.
6) Regular review and adjustment of containment lines is the responsibility of the sponsoring regional committees, agencies and organizations, and the IMIPWG.

NWIPC currently has containment lines for common tansy, marsh plume thistle, and field scabious. There are numerous other species that have unofficial or containment lines under negotiation by NWIPC. The membership formed a new Containment Line Committee at the 2009 Fall Meeting; currently chaired by Marc Schuffert, P.Ag., Ministry of Forests and Range. The status of the various species is noted in the Excel file: *NWIPCTargetIPsListyyyymmdd.xls*

~~APPENDIX 3: Glossary~~

~~Bagging seed heads –~~

~~Biological control agents –~~

~~Bolted –~~

~~Containment Level Program –~~

~~Containment polygons –~~

~~Early Detection, Rapid Response program –~~

~~Integrated Pest Management –~~

~~Inter-Ministry Invasive Plant Working Group –~~

~~Invasive plant – The terms "invasive plant" and "noxious weed" mean the same thing and can be used interchangeably. The terms invasive plant, or invasive alien plant, are defined as non-native species introduced without the biological control agents that keep them in check in their native habitats. This lack of natural predators provides the plants with the ability to invade both disturbed and undisturbed habitats to the exclusion of native plants or planted crops. The use of the term invasive plant is increasing as seen in the literature, provincial committee names and in educational mater.~~

~~Invasive alien plants –~~

~~Invasive Alien Plant Program –~~

~~Invasive Species Strategy for B.C. –~~

~~Rehabilitate ecosystems –~~

~~Priority 1 Site –~~

~~Restoration –~~

~~Rosette stage –~~

~~50:50 rebate program –~~