Volume 2, Issue 2

Spring 2008

Unwanted Invaders

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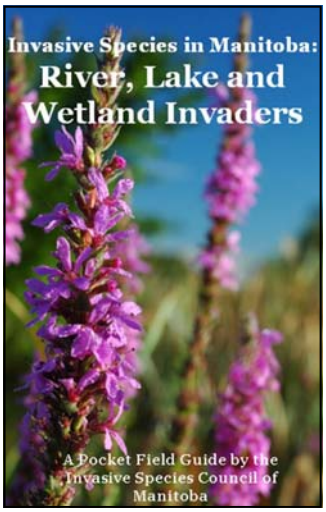

Invasive Species Council of Manitoba
c/o 5006 Roblin Blvd. Winnipeg, MB R3R 0G7
Ph: 204-232-6021 Fax: 204-986-7236 Email: info@invasivespecies.com

What's New with ISCM?

By Julie Pelc,
ISCM Coordinator

It has been a very busy and exciting spring for ISCM. In late April 2008, I replaced Haley Catton as the Coordinator when she moved on to pursue her PhD on the affects of non-target feeding by the bio-control weevil (*Mogulones cruciger*) of houndstongue (*Cynoglossum officinale*), an invasive plant species, at the University of British Columbia Okanagan in Kelowna.

Invasive species do not respect borders and to prevent their spread stakeholders need to work together across jurisdictions. To increase cooperation, communication and collaboration, ISCM attended the Breaking Borders Forum and Weeds Across Borders Conference. For more information on these meetings, see page 3 and below.

Here in Manitoba, ISCM has been actively spreading the word. We have met with the Manitoba Cattle Producers Association, City of Winnipeg's Weed Inspectors and summer students of Conservation Groups working to enhance natural areas in Winnipeg to provide them with an overview of ISCM and ways we can work together. To expand our involvement in natural areas, we will be meeting with the Nature Conservancy of Canada, Manitoba Region later this month.

To prevent the spread of invasive species we need to map their distribution and identify priorities. To help identify Invasive Species in Manitoba's aquatic habitats, ISCM recently produced a pocket field guide. Thank you to all who contributed, especially Jaimée Dupont for compiling the species information. We also produced Early Detection fact sheets for aquatic plant species with help from Kristin Tuchscherer. The fact sheets will soon be available on the new ISCM website.

With provincial and federal funding we hired a GIS Technician, Stephen Gietz, and Assistant, Sheila Herbert-Hosie to survey Winnipeg and nearby RMs. Data collected will be entered into the online Prairie Region Invasive Plant Species (PRIPS) Inventory and Map Display to view at www.crerl.usask.ca/prips/.

For more information please contact me at (204) 232-6021 or at jpelc@winnipeg.ca.

Weeds Across Borders 2008 - An International Conference

By Julie Pelc
ISCM, Coordinator

In late May 2008, I attended the International Weeds Across Borders Conference in Banff, Alberta.

The goal of the conference was to provide a forum for educating, sharing and disseminating knowledge about weed management, regulatory issues and concerns about weed dispersal across and between all jurisdictional boundaries in Mexico, Canada and the United States.

The message that invasive species do not respect boundaries and that it is very important to develop partnerships, share information and coordinate programs nationally and internationally was repeatedly echoed. Examples from all over North America were presented where partnerships were formed among Government agencies, Non-Governmental Organizations (NGOs), First Nations, Universities, Industry and Volunteers. Cooperative Weed Management Areas, local weed committees, single species task forces and working groups that are part of a larger Provincial or State Invasive Species Council was discussed as a method to share resources and provide a large-scale coordinated approach.

Conference attendees agreed that our commitment to combating invasive species at an international level across borders needs to be formalized. As a result , the Banff Accord was conceived and signed by conference attendees. The Banff Accord generally states that invasive species are a continental problem and that we agree to continuing sharing information and working together. A formal MOU between Canada, USA and Mexico was discussed and will be revisited at the next Conference in 2010.

The conference was an excellent networking opportunity and I look forward to collaborating with my new invasive species contacts in the future.

Can you identify the "Unwanted Invaders"?

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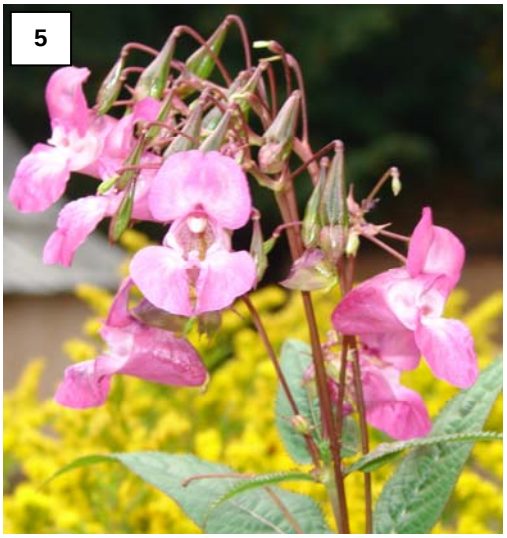

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If you need some help, see page 3.

Did you identify the "Unwanted Invaders"?

Purple loosestrife *(Lythrum salicaria*): is found throughout southern Manitoba. It was introduced as an ornamental and its impact is severe in natural wetlands.
(*Photo by*: Haley Catton)

Yellow Toadflax (*Linaria vulgaris*): is a beautiful plant that is difficult to control because of its well developed root structure that competes well for soil moisture. It contains a toxin that is poisonous to livestock. (*Photo by*: Bob Nowierski, Montana State University, United States)*

Common Tansy *(Tanacetum vulgare*): can form dense stands and is toxic in large quantities to humans and livestock. (*Photo by*: Steve Dewey, Utah State University)*

Nodding thistle (*Cardus nutans*): is avoided by wildlife and livestock because of spiny leaves. Selective grazing can cause it to become a problem and it may release a chemical that prevents other plants from growing.
(*Photo by*: Chris Evans, River to River CWMA, United States)*

Flowering Rush *(Butomus umbellatus*): forms dense stands that can interfere with lake use. It can crowd out native plants, choke waterways and potentially harm fish.
(*Photo by*: Graham Hnatiuk)

Ox-eyed Daisy *(Leucanthemum vulgare*): can form dense monocultures that displace other desirable plants. Livestock tend to avoid it and if eaten by dairy cows the milk can have a disagreeable taste. (*Photo by*: Montana Statewide Noxious Weed Awareness and Education Program Archive, Montana State University)*

Leafy Spurge *(Euphorbia escula*): is very problematic in southern Manitoba. Can dominate habitats and rangeland. All parts of the plant contain sap poisonous to cattle and can cause skin problems in humans and livestock.
(*Photo by*: Norman E. Rees, USDA Agricultural Research Service, United States)*

Himalayan Balsam (*Impatiens glandulifera*): ejects seeds into rivers and streams which quickly spread to new locations. It is tall and can suffocate native vegetation.
(*Photo by*: Tokarska-Guzik, University of Silesia, Poland)*

* Photo from www.invasive.org

See page 6 for the answers.

An Update on the Breaking Down Borders Forum

By Karen Rempel, Rural Development Institute, Brandon University

In February 2008, the Invasive Species Council of Manitoba helped host the Breaking Down Borders Forum in Winnipeg. By design, the forum brought together over 50 key individuals from each of the Western Provinces and Ontario to discuss common issues, establish networks and identify potential opportunities for collaboration. Participants came from government, universities, non-profit organizations, municipal agencies and professional organizations.

A program committee, comprised of representatives from across Western Canada, developed an agenda of presentations and discussions that examined current research efforts, policies and programs, and examples of local practice.

After listening to key presentations, the participants were asked to discuss issues and actions in break out and plenary session. The overall conclusion from these sessions was that there was significant merit in and need to collaborate across the Western Region of Canada on several key priorities. Some of these priorities were the development of common messages for education and awareness efforts, sharing data and information, encouraging more research on invasive species, examining regulations, and more training on invasive species management and control.

Following the forum, the program committee met to discuss further actions and ideas for collaboration. Further details on the action plan will be available by late summer.

Funding for the Breaking Down Borders Forum was provided through the Greencover Canada Regional Technical Assistance Program of Agriculture and Agri-Food Canada and by the Invasive Species Council of Manitoba. As well, many agencies and organizations from across Western Canada and Ontario contributed considerable in-kind resources.

The Breaking Down Borders Forum was organized by the Rural Development Institute (RDI), Brandon University, Brandon, Manitoba. RDI staff contributing to the forum Sylvia Henry, Bev Lischka, Karen Rempel and Paige Rushton. Haley Catton, Coordinator of the Invasive Species Council of Manitoba assisted with planning and organization. Sheldon McLeod provided considerable expertise in facilitating the forum discussions.

Red Bartsia: Impacts and Management of a New Invasive

Invaded areas turn purple in late summer Photo by Brad Kennedy

By Brad Kennedy, Masters of Environment Candidate, Department of Environment and Geography, University of Manitoba

Although many Manitobans may not be familiar with it, Red bartsia *(Odontites verna*) has become a serious concern for farmers and weed supervisors in the Interlake area. Infested hay fields, pastures, ditches and residential lawns throughout the region turn purple in late summer as Red bartsia chokes out other vegetation. At the Environmental Conservation Laboratory (ECL) at the University of Manitoba, under the advisement of Dr. Stephane McLachlan and with financial support from Manitoba Conservation and NSERC, we have been engaging in participatory research with local farmers and weed supervisors to gain a better understanding of this invasive plant. More specifically our research aims are to: evaluate impacts of Red bartsia on rural communities and natural environments; gain a better understanding of the spatio-temporal dynamics of its invasion; and to identify effective and practical management strategies.

Native to Europe, Red bartsia was accidentally introduced to Manitoba via the Gimli airport in the 1950s. By the early 1970s Red bartsia had spread throughout the Gimli, Fraserwood and Meleb area. The primary dispersal vectors are the transportation of hay, agricultural equipment, and mowers on road edges. These have facilitated the continued expansion of Red bartsia's range in the province. In recent years populations have been identified further north and west in the Interlake, near Winnipeg and Carman and as far west as Oak Lake.

Although it is an annual plant, Red bartsia is very prolific. One plant is capable of producing 1400 seeds. As a hemi-parasite, Red bartsia can survive by itself, but studies indicate that it benefits from parasitic associations with a wide range of other plants. Connections formed upon the roots, called haustoria, enable Red bartsia to obtain water, minerals and organic compounds from host plants. This parasitic ability may help Red bartsia choke out competing vegetation, and could explain why many farmers have noticed that Red bartsia thrives during dry years.

Once established in an area, Red bartsia spreads rapidly. For decades farmers in the Interlake have attempted to eliminate this invasive plant by mowing, burning, applying fertilizer, rotating in crops for several years and manually plucking, but inevitably it has returned. Because Red bartsia tends to invade marginal lands, chemical control is too expensive for many producers. Because none of the herbicides target Red bartsia specifically, they damage desirable plants as well. Some farmers in the region have discovered that careful nutrient management makes their fields less susceptible to invasion. Furthermore, through on-farm experimentation, some innovative producers have identified that the application of solid compost to infested fields can help revive alfalfa crops and choke out invasive Red bartsia. To further explore this and other potential management techniques, Dr. McLachlan and Dave Vasey of the ECL will be collaborating with local farmers on experiments in the Meleb area in the summer of 2008.

Although Red bartsia is primarily found in human-altered environments, in recent years it has been identified in tall grass prairie remnants. Little is known about impacts Red bartsia will have upon this endangered ecosystem, which now covers less than 1% of its original range. In 2007, we began sampling invaded natural areas to assess its impacts upon the diversity of native species in the area. Preliminary results show that there is an inverse relationship between the Red bartsia cover and native species cover. To test the effectiveness of the compost treatment on prairie remnants, a replicated experiment is underway in the Narcisse wildlife management area. We hope that this research will help identify ways of controlling this invasive without harming native prairies.

Most serious Red bartsia infestations have thus far occurred within the Interlake region, but with the transportation of hay, it threatens to invade other parts of the province. Landowners and weed supervisors should be aware of the risk and act quickly if Red bartsia is identified in their area. The use of solid compost, as well as tillage and herbicides such as 2,4-D show promise as control methods, but measures should be taken to prevent establishment in new areas.

Tiny purple flowers appear, making Red bartsia easy to identify from mid-July to September Photo by Brad Kennedy

If you are interested in further information on our research and/or Red bartsia, please contact me by email umkenn01@cc.umanitoba.ca or phone at (204) 474-7949.

Shady Alien in Nova Scotia

Flowering garlic mustard (*Alliaria petiolata*) colonizing a shady riparian habitat. Photo By Marika Godwin, Clean Annapolis River Project, NS

By Marika Godwin
Clean Annapolis River Project, Nova Scotia

In 2002, an observant naturalist reported an occurrence of garlic mustard (*Alliaria petiolata*) in the town of Grand Pré, NS. A well-known invasive alien plant in several other Canadian provinces, including nearby NB and PEI, this was the first sighting in NS. Unfortunately, without a body (and associated management framework) in place to guide a rapid response to biological invasions, no action was taken. Subsequently, the garlic mustard has been spreading for 5 years, and now occurs on private, provincial, and federal properties. This biennial plant reproduces solely by seed, and accordingly, one individual can produce thousands of seeds. To complicate matters of control, the seeds can remain viable in soil for up to 5 years. Garlic mustard can grow in a wide variety of habitats, but is most aggressive in rich, moist, shady locations. These are the same types of places where our tolerant hardwood tree species grow. Given the chance, garlic mustard could pose a severe threat to Nova Scotia's unique Acadian Forest Ecosystem type. Once established, it aggressively outcompetes native plants for light, moisture, nutrients, soil, and space. In addition, it has been noted that grazing animals tend to avoid garlic mustard, further enhancing its potential for spread.

Some research indicates that garlic mustard may be allelopathic. This term is used to describe plants that emit toxins into the soil around them. In turn, these toxins inhibit the growth of other plants. Garlic mustard is thought to harm a type of soil fungi, know as mychorrizae, that many native tree species require for proper growth. So, not only will it outcompete native plant seedlings for resources, it may actually alter the soil conditions, making them unsuitable for native trees.

While there is currently not one provincial agency in Nova Scotia charged with the responsibility of invasive alien plants, many individuals and organizations are concerned about the threats they may pose. In an effort to prevent further spread of garlic mustard and initiate control of this highly invasive plant, several groups are working cooperatively to develop and implement a practical set of best management practices (BMP). Clean Annapolis River Project, an environmental non-government organization, the NS Department of Transportation and Infrastructure Renewal (NSTIR), Parks Canada staff at the Grand Pré National Historic Site, and the local community will work together to develop a long-term management plan.

Things will get underway in the spring of 2008, with NSTIR operations staff being trained to recognize garlic mustard in all of its life history stages, and community outreach activities being conducted in and around the Grand Pré area. Plants will be removed mechanically, with a combination of mowing and hand pulling. Control efforts will be timed to coincide with peak flowering, but prior to seed formation. Although incineration of the invasive plant material is the ideal process for disposal, a provincial ban on the burning of organics requires project partners to investigate all possibilities. Given that this project is a first for the province, follow-up will be critical to evaluating its success. Monitoring of infested/treated areas will continue until the end of the growing season, and will be ongoing in subsequent years.

Drawing on the experience of other provinces and the literature, we hope to develop a successful management plan for garlic mustard. By forming partnerships and engaging local communities, the project partners have the collective opportunity to set an example in invasive species management in Nova Scotia.

For more information, please contact Marika Godwin, Clean Annapolis River Project, at 151 Victoria St., PO Box 395, Annapolis Royal, NS B0S 1A0, (902) 532-7533 or (888) 547-4344
marikagodwin@annapolisriver.ca

Close-up of garlic mustard (*Alliaria petiolata*) siliques containing seed

Photo By Marika Godwin, Clean Annapolis River Project, NS

Invasive Species Council of Manitoba

For more information Contact:
Julie Pelc, ISCM Coordinator
c/o 5006 Roblin Blvd.
Winnipeg, Manitoba R3R 0G7
Phone: (204) 232-6021
Fax: (204) 986-7236
E-mail: jpelc@winnipeg.ca

Promoting Awareness, Education, Cooperation and Action regarding invasive species in Manitoba.

ISCM Website Coming Soon:
www.invasivespeciesmanitoba.com

Sign up to receive our electronic newsletters by emailing us at:
info@invasivespeciesmanitoba.com

Who we are...

The Invasive Species Council of Manitoba (ISCM) is a non-profit organization providing a centralized and coordinated province-wide leadership body adopting a collaborative approach to the prevention, early detection, management and potential eradication of invasive species in Manitoba. The ISCM was formed out the demand for collaboration among stakeholders in December of 2006, and continues to grow and gain momentum.

The ISCM executive has members representing Manitoba Conservation, the City of Winnipeg, Leafy Spurge Stakeholders Group, Manitoba Purple Loosestrife Project, Manitoba Weed Supervisors Association, Prairie Farm Rehabilitation Administration, Manitoba Water Stewardship, Rural Development Institute (Brandon University), Ducks Unlimited Canada, Manitoba Agriculture, Food & Rural Initiatives, and currently has approximately 260 stakeholders.

The ISCM would like to thank our funding sources, for we would not exist without the support of:

- Agriculture and Agri-Food Canada - Prairie Farm Rehabilitation Administration
- City of Winnipeg, Ducks Unlimited Canada, Manitoba Agriculture, Food & Rural Initiatives, and Manitoba Water Stewardship (in-kind support)
- Dow AgroSciences Canada
- ECO Canada
- Invasive Alien Species Partnership Program, a Government of Canada initiative
- Leafy Spurge Stakeholders Group
- Manitoba Purple Loosestrife Project
- Manitoba Urban Green Team, Province of Manitoba
- Manitoba Weed Supervisors Association
- Rural Development Institute, Brandon University
- Service Canada Summer Jobs, Government of Canada
- Sustainable Development Innovations Fund, Manitoba Conservation
- Young Canada Works Summer Job Program through Heritage Canada Foundation

Answers for "Unwanted Invaders" on Page 2

[1] Flowering Rush	[3] Ox-eyed Daisy	[5] Himalayan Balsam	[7] Nodding Thistle
[2] Common Tansy	[4] Purple Loosestrife	[6] Leafy Spurge	[8] Yellow Toadflax

Upcoming Events

GPS Training Workshop for Manitoba Weed Supervisors: Western Region on June 26, 2008 in Brandon, Manitoba. Eastern Region on July 9, 2008 in Winnipeg, Manitoba.

July 24, 2008: Biological and Mechanical Control of Invasive Species Workshop and Field Tour at 5006 Roblin Blvd, Winnipeg, Manitoba.

September 15-18, 2008: 16th Annual North American Weed Management Association (NAWMA) Conference in Billings, Montana, USA.

November 17, 2008: ISCM is presenting at the Manitoba Naturalist Society (MNS) indoor program at the Franco-Manitoban Cultural Centre, 340 Provencher Blvd., Winnipeg, Manitoba, 7:30 pm.

December 2008: ISCM's first AGM. Location TBA.