



Volume 7
Issue 3
May 2014

Unwanted Invaders

In This Issue:

Message from the Chair	1
Message from the Chair (cont'd)	2
Strategic Plan	2
The Evolution of Sub-national Weed Control Laws in Canada	3
Herbicide Resistance Update	4
Zebra Mussel Update	5
2014 Board of Directors	6
Acknowledgements	6
Who We Are and Websites	7
Zebra Mussel Fact Sheet	8

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

Message from the Chair...

The Invasive Species Council of Manitoba has had an interesting 2013/2014 fiscal year of transition and reflection. The Executive and Board of Directors have taken this opportunity to strengthen our communication between Directors, decision making process and transparency of the Board. Thank you to ISCM's Executive and Board of Directors for all the time and effort they have put into the Council.

Without funding secured to maintain an Executive Director, unfortunately ISCM ended the position in November 2013. We thank Cheryl Heming very much for her tremendous contribution to ISCM over the years; first as one of the founding Directors and Chair of ISCM and later as the Executive Director and volunteer. We wish her all the best in her future endeavors and life adventures.

Thanks to the tremendous support from ISCM Board Members, we hosted our AGM with invited guest speakers on April 30, 2014 at the University of Manitoba. About 30 stakeholders came together to learn more about Weed Law in Canada, Zebra Mussels in Manitoba and Herbicide resistance in crop weeds; all of which can be read about in the following pages.

The AGM business meeting included reports from the Co-Chairs and Committees. Highlights included:

- The launch of the Prairie (Manitoba and Saskatchewan) Region EDDMapS (Early Detection and Distribution Mapping System) online portal and reporting to Prairie Improvement Network (P.I.N.), formerly known as Manitoba Rural Adaptation Council (MRAC) the project funder. EDDMapS can be used to report sightings, view distribution maps, access photos and access information on invasive species.
- A reprint of the Invasive Species in Manitoba: Rivers, Lake and Wetland Invaders. A pocket field guide by the ISCM with funding provided by Agriculture and Agri-Food Canada.
- The identification of spotted knapweed in the Winnipeg area generated interest from the media and media reports covering this and other new sightings were made. CBC radio contacted ISCM and an on-air interview with ISCM and it was broadcasted on July 23, 2013.



Spotted Knapweed

Photo: bugwood.org

Would you like to help spread the word about invasive species?



Visit us on Facebook and Follow us on Twitter @ISCM1

Email us at info@invasivespeciesmanitoba.com for pamphlets, pens and more!

(continued on following page)

ISCM is pleased to approve our 5 year Strategic Plan (2014-2019) to guide our future direction at the AGM. We also welcomed new Board Members and reported that we are in good financial standing after struggling this past year to make ends meet.

Thank you to all personal donations received through ISCM's online donation program (www.invasivespeciesmanitoba.com). These unrestricted donations are extremely important to ISCM's long term persistence. This program will be expanded over the next year or so, as ISCM is currently working on obtaining charitable status which will allow tax receipts to be provided in the future.

ISCM welcomes back Rachel Cherka this summer as an Invasive Species Technician. Rachel is in her 4th year of a Bachelor of Science at the University of Manitoba with a focus in ecology. With funding from the Province of Manitoba through the Urban and Hometown Green Team program, Rachel will be working with partners on a variety of Invasive Species Initiatives, including surveying and removing (e.g. hand pulling) priority invasive species. She is also working with the Pembina Valley Invasive Species group to coordinate invasive species events and increase awareness with support from Enbridge through a Community Grant.

ISCM looks forward to continuing to working with partners and stakeholders in Manitoba to coordinate and collaborate on invasive species awareness and control. Now that summer seems to have arrived in Manitoba, take the time to enjoy the outdoors and remember if you spot an invasive species to contact ISCM at [204-232-6021](tel:204-232-6021) or info@invasivespecies.com.

Sincerely,
Julie Pelc
Chair, Invasive Species Council of Manitoba

5 Year Strategic Plan 2014 - 2019

A 5 year plan has been created so that the Invasive Species Council of Manitoba can continue to take action against the numerous invasive species that impact Manitoba. This plan will provide the framework for allocating resources and identifying priorities. It can be summarized by 5 goals:

Goal 1: A Strong Functional Council: In order to be able to fulfill ISCM's mission statement and meet its goals. This includes securing funding in order to maintain a coordinator position.

Goal 2: Serve as an IAS Provincial Coordinating Body: ISCM is in a unique position to be able to bring many organizations together through its Board of Directors and therefore should seek new partnerships and agreements to improve education and awareness of invasive species.

Goal 3: Fostering Innovative Education and Awareness: To increase overall awareness on invasive species in Manitoba.

Goal 4: Preventing new introductions through EDRR. Using the **Early Detection and Rapid Response** approach, the spread of invasive plants can be slowed, new invaders can be prevented and harmful impacts of existing invasive species can be reduced.

Goal 5: Maintain a Provincial Invasives Database: developing a database of invasives can assist with monitoring which is crucial in planning effective prevention and control strategies.

For a copy of the complete Strategic Plan, email info@invasivespeciesmanitoba.com

The Evolution of Sub-national Weed Control Laws in Canada

By Glennis Lewis

Early settlers in British North America recognized the importance of strong laws to combat the noxious weeds that devastated their crop yields. Nova Scotia enacted legislation as early as 1758 to prevent the spread of Canada thistle. Since then, weed control law has grown at the provincial and local levels of government in Canada reflecting the emergence of new weeds and changing legal norms.



Canada Thistle

Photo: bugwood.org

Current provincial weed control acts follow the model of the early acts in placing duties on landowners and occupiers to control or destroy designated weeds on their properties. They also provide for the appointment of weed inspectors to ensure compliance with the acts. Most local governments have enacted bylaws requiring

landowners or occupiers to destroy or control weeds. These bylaws may be highly detailed or very general, reflecting the priorities of local authorities and available resources to address weed problems.

Sub-national weed control legislation continues to evolve but it needs more critical analysis to determine its effectiveness. Local government bylaws are often hampered by a lack of enforcement. Many provincial weed acts, such as *The Noxious Weeds Act* of Manitoba, have been updated to provide a stronger legislative basis for controlling weeds. However, these acts could benefit from further revision. For example, the Ministry of Agriculture is often designated the sole administrative agency for the act, ignoring the important role of the Ministries of Environment and Natural Resources in addressing weeds in natural ecosystems. The designation of plant species as weeds via regulations is often a cumbersome process without clear rules for listing (or delisting) plant species. Many acts would also benefit from provisions requiring expert advisory committees as well as weed management plans and monitoring programs for emerging weeds.



Canada Thistle

Photo: bugwood.org

Herbicide Resistance in Weeds

By Rob Gulden

Herbicide resistance in agriculturally important weed species has become more common over the past decades. Use of active ingredients with the same mode of action in successive treatments within a crop or in successive crops appears to have enhanced the identification of resistant biotypes. The extensive and repeated use of glyphosate-resistant crops has been contributing to the selection and identification of glyphosate-resistant weed biotypes in regions where in-crop use of glyphosate is high. In-crop herbicide applications exert a high selection pressure on weeds as these herbicides are applied to the entire cohort of weeds that have recruited for the season. The non-selective nature of glyphosate precluded it from being applied in-crop to manage young seed seedlings in conventional crops.



Giant Ragweed

Photo: bugwood.org

Globally, about 25 different glyphosate-resistant weed species have been identified. In Canada, populations of Canada Fleabane (*Conyza canadensis*), Giant Ragweed (*Ambrosia trifida*), and Kochia (*Kochia scoparia*) are resistant to glyphosate. Glyphosate-resistant Kochia has recently been discovered in Manitoba. The use of alternative herbicides on glyphosate-resistant weeds is also contributing to the development of multiple-resistant weed biotypes making these biotypes even more difficult to manage. Globally, more than 60 species with multiple herbicide-resistance have been documented including weed biotypes with resistance to up to 7 modes of action (WeedScience.org, 2014). The development of multiple herbicide resistance in *Lolium rigidum* necessitated the change in the production system in Australia, where grazing was brought back to help control this weed.

Wild Oat (*Avena fatua*) resistant to Acetyl-CoA carboxylase inhibiting herbicides is the most prominent herbicide-resistant weed and are found in more than half of all farm fields in Manitoba (Beckie et al. 2013 Weed Technol. 27:171-183). Populations of wild oats resistant to 4 different herbicide modes of action also have been found in Manitoba (WeedScience.org, 2014). The second most important herbicide resistant weed in Manitoba is Green Foxtail (*Setaria viridis*). Herbicide-resistant populations of Wild Oat and Green Foxtail have been present in Manitoba for the past two decades. Current shifts to growing more 'southern' crops in Manitoba are expected to result in changes in weed populations and likely the discovery of new herbicide-resistant weed biotypes that are either new introductions from neighbouring areas or through selection for herbicide-resistance in Manitoba. Unfortunately, by the time the resistant populations are discovered, many are past the point of eradication and these populations become endemic and must be managed using alternative control methods.



Wild Oat

Photo: bugwood.org

Zebra Mussel Treatment in Lake Winnipeg

The arrival of Zebra Mussels to Lake Winnipeg has been a concern of many in the recent months; first discovered back in October of 2013, the removal of this aquatic invasive species has become high priority for the Manitoba Government. In a news release from the Manitoba Government regarding the treatment of Zebra Mussels, it was said that the presence of Zebra Mussels has been confirmed in four harbours on Lake Winnipeg: **Gimli Harbour, Silver Harbour Marine Resort/Arnes Harbour, Boundary Creek Marina/Winnipeg Beach Harbour and Balsam Bay Harbour**. The news release also stated the Government's plan is to treat the Zebra Mussels with liquid potash, which has been proven effective against Zebra Mussels and does not impact fish, discolour water or cause any odour.



Zebra Mussel

Photo: bugwood.org

Further detailed in the news release, the plan of treatment will begin on or shortly after May 20, depending on weather and in order to minimize any disruption to the local fishers, the province will install a gated silt curtain that will keep the liquid potash in the harbour, but can be opened to allow fishers to get in and out of the harbour.

To avoid the spread of Zebra Mussels to other areas in Manitoba, boat owners are asked to implement the following steps before launching and before leaving the Red River and Lake Winnipeg:



Zebra Mussel

Photo: bugwood.org



Zebra Mussel

Photo: bugwood.org

- **Clean and inspect watercraft, trailers and all water-based equipment. Remove all plants, animals or mud. Rinse with hot water, preferably 50C (120F) or hotter, for several minutes.**
- **Drain water from watercraft and all water-based equipment (motors, live wells, bilges, transom wells, nets, ballast tanks and bait buckets).**
- **Dry all equipment, boots and clothing before transporting them to another water body. Dry anything that comes into contact with water such as watercraft and gear for at least five days in the hot sun, 18 days in the spring or fall, or freeze for three days continuously if rinsing is not possible.**
- **Dispose of unwanted bait in the trash and dump all water from bait buckets on land away from any water body. Never release plants, fish or animals unless they came out of that water body and are free of any aquatic invasive species**

Public information sources for Zebra Mussels and aquatic invasive species can be found at: www.manitoba.ca/stopais or call 1-87-STOP AIS-0 (1-877-867-2470) (toll-free).

To view the news release in its entirety, visit: <http://news.gov.mb.ca/news/index.html?archive=&item=30867>

2014 Board of Directors

Julie Pelc (Chair) - Nature Conservancy of Canada (NCC)

Candace Parks (Vice-Chair) - Manitoba Conservation and Water Stewardship, Fisheries

Fiona Ross (Treasurer) - Manitoba Conservation and Water Stewardship, Forestry

Cory Lindgren (Secretary) - Canadian Food Inspection Agency

Michele Ammeter - Manitoba Weed Supervisors Association

Doug Cattani - Faculty of Agricultural and Food Sciences, University of Manitoba

Carol Churchward - Manitoba Infrastructure and Transportation

Beverly Dunlop - Agriculture and Agri-food Canada, Agri-Environment Services Branch, Manitoba

Paul Graveline - Manitoba Infrastructure and Transportation

John Johnston - Leafy Spurge Stakeholders Group

Glennis Lewis - Member at Large

Cameron Meuckon - Manitoba Conservation and Water Stewardship, Wildlife and Ecosystem Protection

Bill Murray - Manitoba Beef Producers

Rodney Penner - City of Winnipeg

Lisette Ross - Ducks Unlimited

Jane Thornton - Manitoba Agriculture, Food and Rural Initiatives (MARFI)

Wybo Vanderschuit - Riding Mountain Biosphere Reserve

Acknowledgements

The Invasive Species Council of Manitoba would like to thank the following departing board members for all of their hard work: Bill Gardiner of Manitoba Ag, Food & Rural Initiatives and Glen Campbell of Manitoba Cattle Producers Association.

We would also like to welcome the following new board members: Carol Churchward of Manitoba Infrastructure and Transportation, Paul Graveline of Manitoba Infrastructure and Transportation, Glennis Lewis, Bill Murray of Manitoba Beef Producers, and Rodney Penner of the City of Winnipeg.

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 invasive species in Manitoba.

Vision...

Maintain a healthy, bio-diverse landscape through the prevention, early detection, and education and awareness of invasive alien species management practices in order to eradicate or limit further spread.

Websites

Invasive Species Council of Manitoba: <http://www.invasivespeciesmanitoba.com>

EDDMapS: <http://eddmappings.org/prairieregion/>

Leafy Spurge Stakeholders Group: <http://leafyspurge.ca/>

Manitoba Purple Loosestrife Project: <http://www.purpleloosestrife.org/>

EDDMapS
Early Detection & Distribution Mapping System



LSSG

Thank you!

To all of our partner, funders and stakeholders without you we would not exist!



The Invasive Species Council of Manitoba is now on **Twitter**, follow us **@ISCM1**



For more information contact:
Invasive Species Council of Manitoba
 c/o 5006 Roblin Blvd. Winnipeg, Manitoba R3R 0G7
 Ph: (204) 232-6021 Fax: (204) 986-7236
 E-mail: info@invasivespeciesmanitoba.com

STOP THE INVASION



Once Zebra Mussels establish in Manitoba, they are here to stay!

UNWANTED INVADERS

Origin

Zebra Mussels are small, fingernail-sized, clam-like aquatic animals native to the Black, Caspian and Azov Seas of Eurasia.

Status

Zebra Mussels were first introduced to Lake St. Clair in 1986 through discharge of fresh-water ballast from an ocean-going ship. They have quickly spread throughout the Great Lakes and southeastern North America. Recently, Zebra Mussels were found in the United States portion of the Red River watershed in Pelican Lake, Minnesota.

Impacts

- Aggressively invade almost any hard surface including boat hulls, motors or anything immersed in the water and can interfere with cooling systems.
- Females can produce between 40,000 and one-million eggs a season.
- Negatively impact water-based infrastructures such as public drinking water supplies.
- Reduce habitat and food availability for fish and native aquatic species.
- Costly nuisance to boaters, commercial fishers, anglers.
- Reduce recreation potential of beaches by and the accumulation of sharp shells.



Look For:

Adults:

- 1-3 cm (0.4 – 1.2") long
- Most have dark and light bands on shell
- Triangular or D-shaped shell
- Hinge side is flattened with very strong hair-like filaments, called byssal threads
- Usually grow in dense clusters
- Zebra mussels are the ONLY freshwater mussel that firmly attach to solid objects.

Young:

Called veligers, are free-swimming, and microscopic

PREVENT THE SPREAD INTO MANITOBA. IT IS OUR BEST DEFENSE!

CLEAN and inspect watercraft, trailer and gear. Remove all plants, animals and mud. Rinse using high pressure, hot tap water.

DRAIN all water from watercraft including the motor, livewell, bilge and bait bucket.

DRY watercraft for at least 5 days in the hot sun (if rinsing is not available). Young Zebra Mussels die quickly out of water; adults survive for several days in damp conditions.

DISPOSE of unwanted live bait and worms in trash and dump bait bucket water on land. Never release live bait into any waterbody!

To report a sighting,

Call: **1-87-STOP AIS-0** or 1(877) 867-2470

Visit: **Manitoba.ca/StopAIS**



**Invasive Species Council of
Manitoba**

5006 Roblin Boulevard Winnipeg, Manitoba, R3R 0G7
ph: (204) 232-6021 fax: (204) 986-7236
info@invasivespeciesmanitoba.com
www.invasivespeciesmanitoba.com

Canada

Funding for this project was provided in part by the Invasive Alien Species Partnership Program, a Government of Canada initiative.

EDD MapS Prairie Region
Early Detection & Distribution Mapping System Manitoba & Saskatchewan

<http://www.eddmaps.org/prairieregion/>

Photo Credits: Banner Photo and flower closeup: Steve Dewey, Utah State University, www.forestryimages.org (from www.invasive.org).