



# Event Program

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## Welcome!

Welcome to the 2012 Manitoba Envirothon Provincial Competition, held this year in Pinawa, Manitoba. The town of Pinawa is located on the edge of Whiteshell Provincial Park, and the Canadian Shield.

Everyone participating at this year's competition will be staying at the Wilderness Edge Retreat and Conference Centre. The building itself is an adaptation of an 80,000 square feet staff house, built in 1963, for Atomic Energy of Canada scientists.

There are a number of recreational opportunities that you may wish to take advantage of during free time (e.g. bike riding) - please do so. However, be aware that the canoes are off limits.

Thank you to those who make this event possible – our volunteers and teams!

## 2012 Provincial Teams

Congratulations to the following schools whose teams have qualified and are attending the provincial competition:

- Carman Collegiate (2)
- Gimli High School
- Grant Park High School
- Lord Selkirk Regional Secondary School (2)
- Nellie McClung Collegiate
- Oak Park High School
- St. Boniface Diocesan High School (2)
- St. James Collegiate Institute
- Shaftesbury High School
- Swan Valley Regional Secondary School (3)
- R.D. Parker Collegiate
- Vincent Massey Collegiate
- Westwood Collegiate



## TEAM REMINDERS:

- ⇒ You will be outside ALL day on Friday, please **dress for the weather**. The training and field test will take place rain or shine.
- ⇒ Absolutely **NO electronic devices** (cell phone, camera, computer, iPod etc.) are allowed during the field test and oral competitions. Please leave these items with your advisor, or locked in your room or car.
- ⇒ You **MUST wear your Manitoba Envirothon 2012 t-shirt on Saturday** to the orals presentation. You were given this t-shirt at the Regional event; if you do not have the t-shirt with you there are shirts to purchase for \$10.00.
- ⇒ It is **your responsibility to attend all events**.
- ⇒ **Lights out each evening is at 11:00 p.m.**, you must be in your room and quiet at this time.

## TEAM SCHEDULE

| Thursday, May 24                               | Event   | Location  |
|--|---|---|
| 4:30 p.m.—5:30 p.m.                            | Registration and check in to rooms                    | Front Lobby—Wilderness Edge                     |
| 5:30 p.m.                                      | Dinner  | Cafeteria—Wilderness Edge                       |
| 7:00 p.m.—9:00 p.m.                            | Welcome, Team Introductions                           | Courtyard (Rain: Manitoba Room)                 |
| 9:00 p.m.                                      | Snack   | Cafeteria—Wilderness Edge                       |
| 10:00—11:00 p.m.                               | LIGHTS OUT  | Everyone in their assigned rooms                |
| Friday, May 25                                 | Event   | Location  |
| 8:45 a.m.                                      | Breakfast   | Cafeteria—Wilderness Edge                       |
| 9:30 a.m.—10:30 a.m.                           | Team Training   | Various Locations Outdoors                      |
| 10:30 a.m.—11:00 a.m.                          | Snack   | Field—beside Wilderness Edge                    |
| 11:00 a.m.—12:00 p.m.<br>11:00 a.m.—12:00 p.m. | TEAMS: Orals Training<br>TEACHERS: Volunteer Training | Courtyard (Rain: Agassiz Room)<br>Manitoba Room |
| 12:10 p.m.                                     | Lunch   | Cafeteria                                       |
| 1:00 p.m.—1:30 p.m.                            | Trail Briefing  | Field—beside Wilderness Edge                    |
| 1:30 p.m.—4:45 p.m.                            | Trail Test  | Top Secret                                      |
| 4:45 p.m.                                      | Snack & Free Time                                     | Wilderness Edge—TBD by you!                     |
| 6:00 p.m.                                      | Dinner  | Cafeteria—Wilderness Edge                       |
| 7:30 p.m.—9:00 p.m.                            | Theme Presentation & Socializing Activities           | Gym—Pinawa High School (see map)                |
| 9:00 p.m.—11:00 p.m.                           | Snack & LIGHTS OUT                                    | Cafeteria—Wilderness Edge                       |
| Saturday, May 26                               | Event   | Location  |
| 7:30 a.m.—8:00a.m.                             | Check out of rooms, return keys                       | Front Lobby—Wilderness Edge                     |
| 7:45 a.m.                                      | Breakfast   | Cafeteria—Wilderness Edge                       |
| 8:30 a.m.—9:00 a.m.                            | STUDENTS: Orals Team Orientation                      | Cafeteria—Wilderness Edge                       |
| 9:00 a.m.—11:45 a.m.                           | STUDENTS: Orals Preparation                           | Sequestration Rooms—Wilderness Edge             |
| 9:30 a.m.—11:30 a.m.                           | ADVISORS: Test Debriefing                             | McCoy Lounge—Wilderness Edge                    |
| 11:45 a.m.—12:30 p.m.                          | Lunch   | Cafeteria—Wilderness Edge                       |
| 12:45 pm.—2:15 p.m.                            | Preliminary Orals                                     | Pinawa High School (various rooms)              |
| 2:15 p.m.—4:15 p.m.                            | Final Orals and Awards                                | Gym—Pinawa High School                          |
| 4:30 p.m.                                      | Bagged Meal, grab and go                              | McCoy Lounge—Wilderness Edge                    |

## VOLUNTEER SCHEDULE

| <b>Thursday, May 24</b> | <b>Event</b>  | <b>Location</b>   |
|-------------------------|---|---|
| 4:00 p.m.—5:30 p.m.     | Registration and check in to rooms                                    | Front Lobby—Wilderness Edge                                     |
| 5:30 p.m.—6:30 p.m.     | Dinner  | Cafeteria—Wilderness Edge                                       |
| 6:30 p.m.—9:00 p.m.     | Welcome, Team Introduction<br>Material Preparation                    | Courtyard (Rain: Manitoba Room)<br>Command Centre (Pinawa Room) |
| 9:00 p.m.               | Snack   | Cafeteria—Wilderness Edge                                       |
| 10:00—11:00 p.m.        | Quiet Time  | Wilderness Edge   |
| <b>Friday, May 25</b>   | <b>Event</b>  | <b>Location</b>   |
| 8:30 a.m. –9:00 a.m.    | Breakfast   | Cafeteria—Wilderness Edge                                       |
| 9:00 a.m.—11:00 a.m.    | Material Preparation  | Command Centre (Pinawa Room)                                    |
| 10:30 a.m.—11:00 a.m.   | Volunteer Registration  | Front Lobby—Wilderness Edge                                     |
| 11:00 a.m.—12:00 p.m.   | Training  | Manitoba Room—Wilderness Edge                                   |
| 12:00 p.m.—1:00p.m.     | Lunch   | Cafeteria—Wilderness Edge                                       |
| 1:00 p.m.—1:30 p.m.     | Travel to Test Stops  | Field Test Trail—Wilderness Edge                                |
| 1:30 p.m.—4:45 p.m.     | Trail Test  | Top Secret  |
| 4:45 p.m.—5:00 p.m.     | Snack   | Field—beside Wilderness Edge                                    |
| 5:00 p.m.– 6:00 p.m.    | Field Test Clean-up   | Trail Test Site & Command Centre                                |
| 6:10 p.m.               | Dinner  | Cafeteria—Wilderness Edge                                       |
| 7:30 p.m.—9:00 p.m.     | Theme Presentation & Socializing<br>Activities & Free Time            | Gym at Pinawa High School (see map)                             |
| 9:00 p.m.               | Snack   | Cafeteria—Wilderness Edge                                       |
| 11:00 p.m.              | Quiet Time  | Wilderness Edge   |
| <b>Saturday, May 26</b> | <b>Event</b>  | <b>Location</b>   |
| 7:00 a.m.—7:30 a.m.     | Check out of rooms, key return  | Front Lobby—Wilderness Edge                                     |
| 7:30 a.m.—8:00a.m.      | Breakfast   | Cafeteria   |
| 8:00 a.m.—9:00 a.m.     | Check out of rooms, key return<br>Material Preparation & other duties | Front Lobby—Wilderness Edge<br>Command Centre (Pinawa Room)     |
| 9:00 a.m.—9:30 a.m.     | Judge and Facilitator Registration                                    | Front Lobby—Wilderness Edge                                     |
| 9:30 a.m.—11:30 a.m.    | Judge and Facilitator Training  | Manitoba Room   |
| 11:30 a.m.—12:15 p.m.   | Lunch   | Cafeteria   |
| 12:45 pm.—2:15 p.m.     | Preliminary Orals   | Pinawa High School (various rooms)                              |
| 2:15 p.m.—4:15 p.m.     | Final Orals and Awards  | Gym—Pinawa High School  |
| 4:30 p.m.               | Bagged Meal, grab and go  | Pinawa High School  |

## Sponsors of the 2012 Manitoba Envirothon

### HOST ORGANIZATION

THINK TREES—Manitoba Forestry Association

### REGIONAL HOSTS

Scouts Canada

Oak Hammock Marsh

Manitoba Model Forest Inc.

University College of the North

Assiniboine Hills Conservation District

Assiniboine Community College

Duck Mountain Forest Centre

### LEGACY SPONSORS

Manitoba Hydro

Wilderness Edge Retreat and Conference Centre

Government of Manitoba

*Education • Conservation and Water Stewardship •*

*Innovation and Mines • Aboriginal and Northern*

*Affairs • Agriculture, Food and Rural Initiatives*

### SUSTAINING SPONSORS

Jiffy Canada Incorporated

McKenzie Seeds

Manitoba Model Forest Inc.

### FRIENDS OF ENVIROTHON

Jim and Myrna Potton

*The Manitoba Forestry Association would like to thank the following organization for their team sponsorship and in-kind support:*

*Team Sponsorship*

East Interlake Conservation District  
 La Salle Redboine Conservation District  
 North-West Soil Management Association  
 Pembina Valley Conservation  
 Prairie Rose School Division  
 Sexton Building Group  
 Swan Lake Watershed Conservation District

*In-Kind Support*

A Rocha Prairie Canada  
 AECL Whiteshell Labs  
 Agriculture and Agri-Food Canada  
 Byers Environmental Studies  
 ECOMatters Inc.  
 Environment Canada  
 Fort Whyte Alive  
 LaSalle Redboine Conservation District  
 Manitoba Conservation and Water Stewardship  
*Fisheries*  
*Forestry*  
*Parks*  
*Water Science and Management*  
*Wildlife*  
*Strategic Policy and Intergovernmental Affairs*  
 Manitoba Education  
 Manitoba Hydro

Manitoba Model Forest  
 Manitoba Museum  
 Maskwa Ecological Consulting Inc.  
 Natural Resource Institute-University of  
 Manitoba  
 Oak Hammock Marsh Interpretive Centre  
 Parks Canada  
 Pem Brand Corporate Promotions  
 Pinawa Secondary School  
 Pineland Nursery  
 Prairie Architects Ltd.  
 SLMcLeod Consulting  
 Spectra-Productions Ltd.  
 TNM Promotions  
 Tyrchniewicz Consulting  
 University of Manitoba  
 University of Winnipeg  
 Wolfstone Pottery

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# 2012 THEME

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## Nonpoint Source Pollution and Low Impact Development

**Nonpoint source pollution**, unlike pollution from industrial and sewage treatment plants, can come from many different sources. Stormwater runoff carries pollutants into our streams, rivers, reservoirs and other bodies of water. These pollutants include: Excess fertilizers, herbicides, and insecticides from residential areas; Oil, grease, and toxic chemicals from urban runoff; Sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks; Bacteria and nutrients from pet wastes and faulty septic systems

An estimated 60 percent of current water pollution is attributed to stormwater runoff. Nonpoint source pollution can contaminate drinking water, destroy wildlife habitat, close beaches, kill fish and cause many other serious environmental and public health problems. Every year, millions of dollars are spent to restore and protect areas damaged by nonpoint source pollutants. Stormwater has been identified as one of the leading sources of pollution for all waterbody types in the United States. Furthermore, the impacts of stormwater pollution are not static; they usually increase with more development and urbanization.

One of the most exciting new trends in managing stormwater runoff is the increased use of **Low Impact Development (LID)** to help protect and restore water quality. LID comprises a set of approaches and practices that are designed to reduce runoff of water and pollutants from the site at which they are generated. By means of infiltration, evapotranspiration, and reuse of rainwater, LID techniques manage water and water pollutants at the source and thereby prevent or reduce the impact of development on rivers, streams, lakes, coastal waters, and ground water.

LID is an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. There are many practices that have been used to adhere to these principles such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions. LID has been characterized as a sustainable stormwater practice by the Water Environment Research Foundation and others.

Although the increase in application of these practices is growing rapidly, data regarding both the effectiveness of these practices and their costs remain limited. In the vast majority of cases, the U.S. Environmental Protection Agency (EPA) has found that implementing well-chosen LID practices saves money for developers, property owners, and communities while protecting and restoring water quality.

As water becomes an ever-increasing issue nationwide, managing our stormwater properly is not only a green technology, it becomes a necessity. And through the use of Low Impact Development strategies, properly managing stormwater is something all of us can do.



## Canon Envirothon 2012

- This year's winners from the Manitoba Envirothon will advance to the Canon Envirothon
- 2012 will be the 25th Anniversary of the Envirothon program
- It will be hosted in Pennsylvania where it all began—in 1979, the Pennsylvania Soil and Water Conservation Districts created an “Environmental Olympics” as a way to encourage high school students to become interested in natural resource conservation and environmental issues and careers
- The host site for the event will be Susquehanna University, in Selinsgrove, Pennsylvania

## 2013 Theme Topic: Sustainable Rangeland Management

Rangeland contributes immensely to a sustainable agricultural economy. Rangeland provides forage and habitat for domestic livestock and wildlife. Recently there has been increasing demands on the rangeland for a multi use concept. Multi use includes hunting, precious metals, fuel (gas, coal) exploration and recreational uses such as; access to fishing, bird-watching, hiking, snowmobiling, cross-country skiing, trail bike/ATV riding. Today, management methodologies vary greatly while attempting to balance rangeland uses that result in maximized benefits to all.

Rangeland has seen major changes from the large bison herds on the prairies during the 1800's, to the homesteading days during the early 1900's, to the multi uses and management of today's rangeland. Native prairie once covered nearly a quarter of the continental United States, providing a home for specially adapted, diverse plant and animal life. Prairie ecosystems thrive on the intermittent disturbance brought by frequent fire and the irregular mosaic of vegetation carved out by the periodic passage of native grazers (bison, elk, mule deer, white-tailed deer, and antelope). These disturbance and subsequent renewal have shaped the life cycle of every native prairie organism.

As our knowledge of Rangeland has increased, it became evident that what helps the rancher is often good for wildlife. In this grazing-dependent ecosystem, many species of both plants and animals rely on the presence of large grazing animals. Properly managed rangeland can provide a sustainable agriculture economy and healthy rangelands for future generations.

# THINK TREES—MANITOBA FORESTRY ASSOCIATION

The Manitoba Envirothon is a program of the Manitoba Forestry Association



As Manitoba's oldest environmental education organization, the Manitoba Forestry Association (MFA) is a leader in the field of forest education. Our mission is to educate all Manitobans about wise management of trees and forests, to ensure they will remain healthy and productive for today, and for future generations.

In 1996, MFA explored the idea of Envirothon. Four teams participated in the first Manitoba Envirothon in 1997 at Birds Hill Provincial Park. In 2006, the MFA hosted the North American Canon Envirothon and made Envirothon one of its core programs. Due to the popularity of the Manitoba Envirothon evolved into a regional and provincial format in 2010. In 2011 Manitoba won the Canon Envirothon—the first Canadian team ever. Today, the Manitoba Envirothon is still going strong with over 2000 students participating to date.

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## MAP: Walking directions from Wilderness Edge to Pinawa Secondary School

