



rare Environmental Education Secondary Opportunities 2014-2015

Situated alongside the Grand River, **rare** is a 900+ acre urban land trust that exists for the purposes of education, research, and conservation. Home to old growth forests, native prairie, limestone cliffs, wetlands, sustainable gardens, habitat gardens and living pond, trail networks and a diverse array of birds, plants, and animals, **rare** is an area of provincial, national, and international environmental significance.



At **rare**, we provide several opportunities for students and teachers to experience curriculum based learning *outside the classroom*. It is becoming increasingly important for students of all ages to be involved in a variety of outdoor education experiences. The programs provided at **rare** are helping to bridge the gap between the classroom and the natural environment through experiential and investigative hands-on learning. Home to over 24 habitat types, **rare** is an ideal location for curriculum based outdoor programming, providing students with the opportunities to develop the knowledge, skills, values, and motivation necessary to become responsible, environmental citizens. The “bigger picture” will be a key underlying theme to **rare’s** programming. Students will understand that the actions of today will greatly affect the outcomes of tomorrow.

Our programs at **rare** are based on two models of education: *Chain of Learning* and *Every Child Outdoors*. The *Chain of Learning* is a concept where knowledge, expertise, and ideas are directly transferred from researchers to high school students, elementary students, families and community members. *Every Child Outdoors* is a model of experiential learning, inspiring youth to adopt a sense of curiosity in the natural world through hands-on environmental learning in the out of doors.

Mirrored Research



The objective of **rare’s Mirrored Research Program** is to engage secondary school students in research and monitoring activities that are consistent with **rare’s** existing research and monitoring framework. . Through class visits from **rare** scientists and field trips to **rare**, students will have the opportunity to take part in hands-on experiential research and monitoring activities as they are performed by **rare** staff and others around the country. The results will be recorded and entered into a student database and the results will be shared with the scientific community, schools, both regionally and provincially.

Our Research and Monitoring team at **rare** monitors salamanders, butterflies, benthic invertebrates and forest health following provincial and national protocols and procedures. This ensures quality research is being performed and results are published and shared in the local community of scientists and researchers at **rare**. Results from this research have been accumulating since 2006, providing important information in predicting future changes in the environment, species composition, and biodiversity.

Grade	Program Title	Dropoff/Pickup Location	Description	Fee	Booking Information
Open	Salamander Mirrored Research	ECO Centre	Students will have the opportunity to monitor salamander populations following EMAN protocol and procedure. Students will work with provided equipment to measure soil moisture, atmospheric parameters, and lifting Artificial Cover Objects (ACO's) to weigh and measure salamanders found underneath.	\$8.00 per student	Program available in Fall 2014 and May/June 2015 dependent on seasonal weather.
Open	Butterfly Mirrored Research	South Gate	Students will have the opportunity to identify and monitor butterflies in the fields, meadows, and wooded areas across the Thompson Tract. Students will work in pairs and be equipped with scientific grade butterfly nets, butterfly field guides, pencils, and clipboards while searching for butterflies along specific transects.	\$8.00 per student	Program available in Fall 2014 and May/June 2015 dependent on seasonal weather.
Open	Forest Health Mirrored Research	ECO Centre	Students will have the opportunity to identify and measure trees within permanent forest plots on <i>rare</i> property. Students will work in groups to measure tree height, diameter at breast height, identifying structure class, assessing crown health, and observing for signs of stress or disease on tree bark.	\$8.00 per student	Program available in Fall 2014 and Spring 2015 dependent on seasonal weather.

Open	<p>Ducks Unlimited Project Webfoot: Benthic Invertebrate Mirrored Research</p> 	ECO Centre	Students will hike to Grand River and/or nearby wetlands to extract samples with D-nets using the kick-sweep method. In groups, the students would then sieve and prepare the sample for identification in order to determine the final health rating of the sample site.	FREE of student costs, with a \$75 bus subsidy available through Ducks Unlimited Canada.	Program available in Fall 2014 and May/June 2015 dependent on seasonal weather.
SNC1D SNC1P SBI4U SVN3M SVN3E SPH3U SPH4U SPH4C	North House Tour	South Gate	Students tour North House, a new and innovative pre-fabricated solar-powered green housing model that produces more energy than it consumes. Originally designed as an entry in the 2009 United States Department of Energy Solar Decathlon, North House now permanently resides at rare .	\$8.00 per student	North House tours available from November 24, 2014 to June 26, 2015. **PLEASE NOTE** that this program requires a 25 minute hike to and from the South Gate Location.
SNC1D SBI4U	Local Ecology	ECO Centre	Hike through undisturbed and disturbed natural landscapes, exploring the complexity of feedbacks between the biotic and abiotic environments. Discover how plants and animal interactions create stable ecosystems.	\$8.00 per student	Program available in Fall 2014 and Spring 2015.
SNC2P SBI4U SES4U CGC1D CGC1P CGF3M	Landscapes in Transition	ECO Centre	Explore the sedimentary limestone cliffs for fossils of ancient sea creatures that characterized the shallow equatorial seas that once covered southern Ontario. Discover evidence of local glaciation and current fluvial processes of the Grand River.	\$8.00 per student	Program available in Fall 2014 and Spring 2015.

SNC2P SVN3M SVN3E CGR4M CGR4E	Sustaining Healthy Ecosystems	South Gate	Trek through old growth and managed forests and meadows. Students will explore how plants change the physical environment through the process of succession. Observe the results of human impact and land use management.	\$8.00 per student	Program available year-round.
SBI3C SBI3U SBI4U	Biodiversity	South Gate	A hike through Indian Woods takes students through a variety of local habitats. Students will examine forest composition, tree age, and the physical environment to investigate forest restoration, regeneration, and human impacts on the diversity of our natural spaces.	\$8.00 per student	Program available year-round.
SBI3U SBI3C	Naturally Organic	South Gate	Learn about the different agricultural practices and their impact on biodiversity and human health. Students explore different composting practices and the effects of soil types and plant growth.	\$8.00 per student	Program available in Fall 2014 and Spring 2015. **PLEASE NOTE** that this program requires a 25 minute hike to and from the South Gate Location.
SVN3M CGC1D CGC1P	Becoming a Locavore	South Gate	What are the impacts of our choices on local, regional, and global resources? Students will engage in organic farming activities to learn first-hand about local food operations.	\$8.00 per student	Program available in Fall 2014 and Spring 2015. **PLEASE NOTE** that this program requires a 25 minute hike to and from the South Gate Location.

Open	Winter World	ECO Centre	Snowshoe through forest and meadow habitats to investigate the physical environment in winter. Students measure air and snow temperatures, look at snow crystals, and investigate how the landscape and plants affect the distribution of snow.	\$8.00 per student	Program available in Winter 2014/2015, dependent on seasonal weather. In the event of minimal snow accumulation, program can be delivered without snowshoes.
Open	Migration, Hibernation, and Dormancy	ECO Centre	Students will visit forest and meadow habitats to investigate animal hibernation, signs of winter animal activity, and plant dormancy. Observe the links between physiological, behavioural, and morphological adaptations of the biota that allow survival.	\$8.00 per student	Program available in Winter 2014/2015, dependent on seasonal weather. In the event of minimal snow accumulation, program can be delivered without snowshoes.

Program Locations

**Lamb's Inn
1679 Blair Road**



**rare ECO Centre
768 Blair Road,
N3H 4R8**



**South Gate
L-Bend on Whistle Bare Road**



Booking Information



- Programs will be offered from September 15, 2014 to June 26, 2015
- All programs are offered as half day (2.0-2.5 hours in length)
- Limited number of spaces available, please book well ahead of time
- For groups of less than 15, there is a minimum fee of \$120.00
- Programs are weather permitting; trips may be cancelled with impending inclement weather
- **Full day programs are available upon request

The programs are not limited to the outlines listed above; programs can be tailored for specific course requirements and student needs. We also offer exciting opportunities for school environmental clubs.



Explore, Learn, Be Curious, Be Inspired, Be Active!

For more information, please contact:

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For more information, visit us at
www.raresites.org



rare Charitable Research Reserve: Take 401 west to Exit # 275 Fountain St./Homer Watson. Turn left on to Fountain St. Turn right on to Blair Rd. Lamb's Inn Main Office at 1679 Blair Road, in the village of Blair (yellow building with second story balcony).

