Restoration Notes by Rachel Hull

Ecological restoration has been progessing nicley along Bauman and Cruickston Creeks this past season.

Beginning in April, members of the Environmental Advisory Committee and *rare* staff staked and flagged designated lands to be taken out of agricultural production, adjacent to the lower Bauman Creek and east of Cruickston Creek (in both areas to create larger hedgerows) and west of Cruickston Creek (to increase the natural habitat). The lower Bauman Creek hedgerow will eventually have a trail and wetland boardwalk system that will lead hikers to the river's edge.

Bauman Creek 2006

In early May, student volunteers assisted with installing 8 Tree Swallow/Eastern Bluebird nesting boxes on T-bars within the newly set aside natural area at lower Bauman Creek. These boxes were occupied within days of being installed.

And in May, volunteers planted a tree and shrub hedgerow in the new natural area, which will create additional wildlife habitat improvements. Species planted included white pine (Pinus strobus), sugar maple (Acer saccharum), choke cherry

(Prunus virginiana), nannyberry (Viburnum lentago), gray dogwood (Cornus racemosa), ninebark (Physocarpus opulifolius), staghorn sumac (Rhus trypina) and many others!

Cruickston Creek 2006

In late April, students from the Environmental Magnet Program at Southwood Secondary School, led by their teacher Jason Bracey, cleaned and replaced bird boxes, salvaged cedar posts, maintained tree tubes from

continued on page 5

Ken Dance rare Land Steward

Ken Dance has been a field naturalist for nearly 40 years. He is trained as a biologist (Master of Science from the University of Waterloo) and has been working as an Environmental Consultant for nearly 30 years. He is owner of Dance Environmental.



Since January 2001, Ken has been a member of the environmental advisory team at *rare* and assisted with the original, one-year bioinventory of the property and the production of the first *Environmental Management Plan: Cruickston Into the Future* (February 2002).

Ken routinely volunteers his time to environmental projects and also supports social justice causes.

Along with his wife, Janet, Ken owns and manages 120 acres of Carolinian forest, old fields and wetland for conservation. Ken's sons, Mathew and Kevin, also donate time and energy to these conservation causes.







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Reducing our Footprint

- a model in the making

With 2 universities, a community college, 2 world-class think tanks, and rare - one of the most significant environmental efforts in the Region, with potential to have global impact - Waterloo Region is ready to support key thinkers from around the world. The Region is quickly becoming a force for change - known worldwide - for its ability to bring together some of the best minds and strategic partners. Numerous new ventures have spun off and the surrounding communities are flourishing in the midst of a major economic boom.

All the while, the effort to preserve and restore 913 acres of environmentally sensitive land in Waterloo Region - one of the fastest growing areas of the country and the 4th largest centre of immigration in Canada - has been a central impetus to the Region's leadership in establishing an Environmentally Sensitive Landscape (ESL) designation. Extensive environmental studies done at rare and the organization of a Smart Growth Conference helped the Region to change its plans for roads and bridges through the area. Instead, it created an ESL designation which is the only one of its kind in the country and a key component of the Region's own Growth Management Strategy.

The *rare* lands provide a permanent home and living laboratory for scientific study and research, research-based education programs, archaeology and trails. These encourage public and academic exploration and understanding of the community - ecologically, culturally and historically.

This year, the Intelligent Communities Forum chose Waterloo as one of the Top Seven Intelligent Communities in the world. Although Taipei was eventually chosen the winner, Waterloo's nomination was significant recognition. Only one other city in all of North America was on the list.

Zerofootprint is an innovative and first-of-its kind program that "provides information, products and services to the global network of consumers and businesses that want to reduce their environmental impact." http://zerofootprint.net/

Their focus is finding creative ways to offset and leverage our consumption of natural resources.

Our Regional government has shown the kind of leadership that would suggest it would be open to assisting with a Zerofootprint effort. Adopted in 2003, the Regional Growth Management Strategy has six main goals: Enhancing Our Natural Environment; Building Vibrant Urban Places; Providing Greater Transportation Choice; Protecting Our Countryside; Fostering a Strong Economy; and Ensuring Overall Communication and Coordination.

An embedded goal within the Regional Strategy is a healthy food system, one that recognizes that healthy food choices

affect public health, that the countryside needs protection and that an infrastructure which reduces reliance on fossil fuels is necessary. For example, imports of only 31 foods that could be grown in the Region are responsible for 5% of the greenhouse gases emitted by households in the Region.

We, at *rare*, are keenly aware of our potential to assist in making Waterloo Region a "Zerofootprint Community." As a potential model of sustainability and user/creator of renewable energy we aim to reduce significantly our footprint while developing key partnerships region-wide that will help push this initiative forward.

In addition, and perhaps of most importance, rare can provide the research and scientific basis for additional understanding of the environment, an understanding that could help drive the Zerofootprint effort world-wide.

A quick review of our strategic plan shows existing activities at rare that could promote the Zerofootprint philosophy:

- restoration of historic Lamb's Inn and other key buildings that make up our interpretive facilities into green buildings where we are not only consumers but also producers of green energy
- restoration of the land, particularly of the traditionally farmed fields (400 acres), and efforts to become a sustainable model of reforestation
- sustainable agriculture programs involving the community in food security - assisting with the supply of healthy, affordable food to all citizens despite income level
- extensive Citizen Science programs (water quality monitoring, butterfly and lepidopterists monitoring, etc.)
- the development of a "Zerofootprint curriculum" for education programs and support for new educational activities rolled out by our partners, including the Grand River Conservation Authority and the Waterloo Regional Children's Museum, so that together we develop an "every child gets an outdoor education" program for the Region. ■

Research Lectures

Monday, September 25th

7:00 - 8:30 pm

rare Research Lecture Series: Archaeology of the Mississauga Indians

Please join us for an informative lecture by DR. GARY WARRICK, professor of Archaeology at Wilfrid Laurier University,



Brantford Campus. His lecture will focus on the Mississaugas, who in the late 1700s, lived by hunting, gathering and fishing in southern Ontario. The westernmost group of Mississaugas lived in the Grand River valley, occupying the river floodplains in the spring and summer. Come and learn why they are an invisible people in Ontario's historical landscape. No cost, though donations are welcome. Numbers are limited so please call Rachel 650-9336 ext 122 to register by Friday, September 22nd. Event held at rare Administration Building, 1679 Blair Rd. Cambridge



Nature Notes by Bill Wilson

TREE SWALLOWS migrated in number through the reaches of the Grand River during the first days of April. In the early evening of 3 April, 500+ tree swallows perched in trees and on ground cover along the banks of the river before flying to roost for the night.

On 16 April, Geoff Ditner observed an OSPREY eating a fish atop a hydro pole along the Preston Flats boundary of *rare*. Over the next 3+ months, observations of osprey activity about



the Fountain Street bridge by several observers included courtship behaviour between a pair, nest construction on the crossbar between two poles near the bridge and interaction between three adult Osprey. In response to an OMNR request, North Dumfries Hydro erected a platform on top of the crossbar and lowered their

power lines about 1 metre to eliminate the risk of power failure.

New Zealander, Rod Orange, joined Bill Wilson for a day (18 April) of hiking rare trails and birding the Provincially Significant Wetlands within and south of *rare* to Barrie's Lake. Birding highlights included WOOD DUCK, AMERICAN WIGEON, a pair of TRUMPETER SWANS, SORA RAIL and PIED-BILLED GREBE.

Four GREATER YELLOWLEGS on migration were observed feeding in wet areas of the recently designated Bauman Creek restoration site on Blair Flats on 26 April.

COMMON MERGANSER overwinter annually on the Grand River through rare. A pair remained in a backwater section of the river upstream of the confluence on 29 April and 3 drakes and 1 hen rested on the shoreline of one of the islands adjacent to the cliffs as late as 1 June. To date, breeding has not been confirmed.

Monday, November 20th

7:00 - 8:30 pm

rare Research Lecture Series: Wild Crabs and Feral Apples: Research on Hybridization at rare

Please join us for an informative lecture by PAUL KRON, Research Associate at the University of Guelph.



Mr. Kron will present his research conducted with Dr. Brian Husband on pollen-mediated gene flow between Sweet Crab Apples and feral domestic apples here on the reserve. No cost, though donations are welcome. Numbers are limited so please call Rachel 650-9336 x 122 to register by Friday, November 17th. Event held at *rare* Administration Building, 1679 Blair Rd. Cambridge

Photographers Roy and Janine Barkhouse, Kitchener, joined Bill Wilson on 10 May to photograph birds along the Cliffs and Alvars trails. Ten+ BALTIMORE ORIOLES and 8+ GRAY CATBIRDS were "on display" for the cameras.

The three early morning Wednesday Warbler Walks led by Bill Wilson listed 11 species of warbler including NORTHERN PARULA, well below the expected number of spring migrants (27 species have been recorded within a 2-km radius of the confluence since 1971). The weather was too nice and migrants kept on flying!

Wynn Watson reports that JAPANESE BEETLE is common throughout the summer, especially on wild grape. Wynn identifies the unsightly webbing on BLACK WALNUT locally and other tree species that is very common in summer as the webbing spun by the furry, yellow larvae of the FALL WEBWORM. Often confused with webbing spun by larvae of the TENT CATERPILLAR in spring, the fall webworm's webbing is first observed from late July onwards.

Andy Kelly and Kim Ruddy, members of the bald eagle monitoring team, report BLACK-CROWNED NIGHT-HERONS along the reach of the river adjacent to the Cliffs and Alvars section of the reserve.

The 1st Annual Butterfly Count at rare, 16 July, tallied 38

species including GIANT SWALLOWTAIL, the largest butterfly in Canada and rare north of extreme southwestern Ontario. This season, this species has also been reported in a number of butterfly gardens in Waterloo Region and Wellington County.



Glenn Richardson, president of the Toronto Entomology Society found a colony of BLACK DASH - a highly localized and uncommon species of skipper in Ontario - in the sedge meadow wetlands on rare during the count.

Many observers have reported sightings of GREAT EGRETS on the Grand River through *rare*. On the evening of 30 July, Marilyn Armstrong, Dave Stafford and others observed at least 13 just above the confluence. The previous high tally of egrets documented on this reach of the river was 11 observed in August, 1972, by Bill Wilson.

Wynn Watson spotted GIANT SWALLOWTAIL between the rare organics field and the Hogsback in late July. During an EMAN survey Jessica Grealey tallied four Giant Swallowtails.

Throughout this summer as many as four CASPIAN TERNS have hunted and fed in the reach of the Grand River about the confluence. In summer 2005, both adult and fledged young were observed. The reaches of the river are excellent feeding habitat; however, nesting requirements - undisturbed pebble or sandy shorelines of lake or river - appear lacking in this area. As recently as 1994, Caspian Tern was designated rare in Ontario.

On 18 August, Jessica Grealey observed a BRONZE COPPER butterfly, the first recorded within the reserve.



Young Scientists at ar



Often, our efforts to understand the environment are hampered for lack of reliable data that can be easily compared to previous data or to data collected in other places. Without such information, attempts to improve the environment can be ineffective.

Now, Environment Canada has mounted a robust program to help solve this problem and *rare* is fortunate to have been chosen as a key site for monitoring both aquatic and terrestrial ecosystems.

Thanks to generous funding from Environment Canada, two young scientists - Shannon Holton and Jessica Grealey - have joined the team working on the rare property, monitoring aspects of the environment that will provide baseline data for future comparisons and drawing immediate conclusions about such things as climate change, habitat loss, upstream agricultural and industrial effects, and biodiversity.



Thanks to generous funding from Environment Canada's Science Horizons Internship Program, a voung scientist -Shannon Holton, and recent graduate Jessica Grealey - have joined the team working on the *rare* property, monitoring aspects of the environment that will provide baseline data for future comparisons and drawing immediate conclusions about such things as climate change, habitat loss, upstream agricultural and industrial effects, and biodiversity.

The *rare* site is especially critical to the program since it offers a wide variety of habitats - including meadow, woodland, riparian, wetland, agricultural fields, hedgerows, and shrub lands - and its protected status allows for long term projects to be established. The involvement of the public who volunteer to help collect data is also a key factor in the decision to set

Shannon Holton is a recent graduate of the University of Waterloo's honours Environment and Resource Studies program, with a minor in Biology. She also has a diploma from Sir Sandford Fleming College's Ecosystem Management Technician program. Jessica Grealey is also a recent graduate of the University of Waterloo's Environment and Resource

Studies Honours Co-op Program. Throughout her academic career she completed two co-op work terms at a butterfly and insect educational facility in Monteverde, Costa Rica. Jessica

was nominated for a Co-op Student of the Year award for one of the two Costa Rican work terms. Jessica has been contracted by rare through EMAN to develop a citizen science butterfly



monitoring protocol as well as a more in depth butterfly monitoring protocol that examines butterfly communities on rare's property.

Grealey's work at rare focuses on monitoring butterfly abundance and diversity in a variety of habitats located on the property. So far, 43 species of butterfly have been identified on rare's property - including the rather uncommon Tawny Emperor (Asterocampa clyton) and the Giant Swallowtail (Papilio cresphontes) - and several more species are thought to be present. The Black Dash (Euphyes conspicua), a very rare and local species in Ontario, was spotted several times during the community butterfly count held on July 16th. Butterflies are effective indicators of environmental health because they are sensitive to a variety of environmental conditions including climate and weather patterns and depend on specific habitat requirements for their survival. If you are interested in getting involved in butterfly monitoring at *rare* contact Jessica at jggrealey@thisisraretome.ca.

Holton is setting up permanent aquatic monitoring stations on two of rare's coldwater streams. By taking samples of the



aquatic insects, she can determine the quality of habitat and the overall ecological health of the streams. This season's baseline data will form the basis of a long term monitoring program that will ultimately determine trends occurring on the creeks, including the effects of riparian

restoration efforts at rare, climate change and upstream agricultural and industrial impacts.

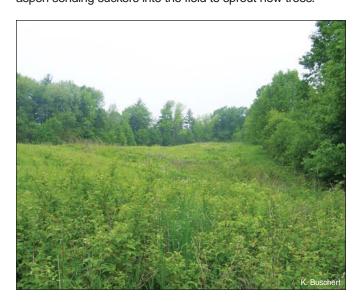
In September, Holton and her colleagues will also be implementing a long-term salamander monitoring protocol in Indian Woods, an old-growth and relatively pristine forest at rare. Salamanders are great indicators of environmental health, as they are extremely vulnerable to human impacts, air, soil, and water pollution. The results will determine the health and habitat quality of Indian Woods, assist in the detection of long-term ecological trends, and document the salamander populations at *rare*.



up this program at rare.

Old Field Study By Karen Buschert

How long does it take to grow a forest? When do the trees establish and where do they come from? These questions and more are what is driving my research for a Master's degree in Geography from the University of Waterloo. I am studying the assembly of a forest ecosystem right here at rare where I am doing my field work. The research site is quite literally a field- one that was abandoned from agriculture about 10 years ago (see picture) and has since been left alone. Take a close look at the picture and try to spot the trees (in the field, not on the edges!). My first estimate when I visited the site was that there were maybe 10 or 20 in the whole field and I thought, 'Great! This'll be quick!. Well after a summer of vegetation sampling and recording all trees over 1 metre, I'm up to 70, and still have some more to go. This embryonic forest will take another decade or two to convince the rest of us that it's really there, and much longer before the battle for botanical dominance favours a true forest ecosystem. None of the trees were deliberately planted by humans, but established naturally, either through wind-blown seeds (maple, ash), berries (buckthorn) or nuts (hickory, oak). There is also evidence of 'clonal advance' from trembling aspen sending suckers into the field to sprout new trees.



The other intention of my research is to determine where the trees establish. There seems to be a 'ring' around the field about 5-10 metres from the forest edge where most of the new trees are, but virtually none in the centre. To confirm this pattern, tree location is recorded using a Global Positioning System (GPS) and will be mapped for later analysis. The other observation that I and my overalls have made is that most new trees are found in patches of bramble, never in the easy-to-walk-through, clothing-friendly grass. This is probably because grass impedes germination of seeds and competes heavily with young saplings for nutrients. Trees may also be somewhat protected from deer browsing in the bramble.

The ultimate goals of all this research are to contribute to the scientific body of knowledge on ecological restoration and to provide baseline data for future use at rare. Oh yeah, and to get me that M.E.S.

Restoration Notes continued from cover

previous plantings, removed chicken wire tree guards and removed alien shrubs (Common Buckthorn). Many of the Tree Swallow nesting boxes that were installed at Cruickston Creek were visited by Tree Swallows within minutes of their placement.



In early May, volunteers from the community helped to plant vines, shrubs and trees along the valley of Cruickston Creek near Blair Road (see above species list). These new plantings have had a significant response from wildlife (see Nature Notes).

In mid-May, grade 5 students from Manchester Elementary, led by their teacher Judy Mendocino, assisted the Southwood students with trail maintenance along Cruickston Creek. This was a beautiful example of the 'Chain of Learning' in action. As the older students worked alongside the younger students, they shared their experience of previous work done at the sight over the last 2 years. It was a very inspiring afternoon.

Thanks to the following donors who provided funds to carry out restoration activities here at rare: Wetland Habitat Fund. Home Depot, Evergreen, and TD Friends of the Environment's Cambridge and Kitchener chapters.

Citizen Science Volunteer Monitors Needed

ButterflyWatch is a citizen science butterfly monitoring program designed to track the distribution of Canadian butterflies. The program is web-based and is designed to complement existing NatureWatch programs such as FrogWatch, PlantWatch, IceWatch, and WormWatch (www.naturewatch.ca) coordinated by Environment Canada's Ecological Monitoring and Assessment Network Coordinating Office.

Jessica Grealey has designed the ButterflyWatch program for citizen scientists of all ages. She is currently looking for enthusiastic volunteers to test the ButterflyWatch protocols on rare'es property. This would involve selecting a site on the property and visiting it as often as possible to record the butterflies found there. An online geographically specific identification guide has been designed to assist volunteers with recording butterflies they see.

Please call Rachel at (519) 650-9336 x 122 for more information on ButterflyWatch and other Citizen Science opportunities here at rare.



Where Have All the Milksnakes Gone? by Ken Dance

In days gone by, many of us remember glimpsing blotched, medium-sized snakes that frequented the grounds of old buildings and farmsteads. These beautiful snakes seem to be less abundant than in the past and consequently the milksnake is a species of "Special Concern" under the federal Species at Risk Act.

At rare, milksnakes of various sizes have been observed during the past five years. The presence of adult and young snakes is a positive sign, indicating ongoing reproduction. At rare, as is the case elsewhere in Ontario, little is known about the size or health of the



milksnake population, other than the anecdotal information that milksnakes occur in small numbers.

Milksnakes are found in a wide variety of habitats from prairies. pastures and hayfields, to rocky hillsides and a wide variety of forest types. Proximity to water and suitable locations for basking and egg-laying are important. Females lay 8 to 11 eggs. Hatchlings emerge from eggs after 50 to 70 days.

Milksnakes are constrictors and they consume large numbers of rodents. During the summer milksnakes are primarily active at night. They are frequently killed on roadways.

If you spot a tan, brown or grey snake with numerous blackbordered brown or copper saddles along the back, alternating with smaller blotches on the sides, you are observing a milksnake. This snake is considered to be a significant species in the Region of Waterloo, so please report any sightings to the rare administrative offices.



Purchase a rare discount card and receive discounted and free admission to workshops and outings with advanced registration. Cost of the card is \$30 and is valid from September 1, 2006 to August 31, 2007.

> For more information, please contact Rachel Hull at 519-650-9336 x 122



re organics Update

We're enjoying a very successful season at rare organics! The produce varieties we're harvesting are superb. Now, it's mid-season. We continue to welcome new members every week to our Community Supported Agriculture (CSA) Produce Box Program. We trust that existing members are enjoying the produce in their Boxes, and we're happy that they're passing on the word to friends and family.

A great big THANK YOU to the local community for supporting our CSA and for coming out to buy produce at our beautiful new Slit Barn Market! We appreciate your support of our new venture and your support of rare. The Market's open Thursdays and Fridays from 4-7 pm, and Saturdays 10 am - 2 pm. We're overwhelmed by the positive response we receive from everyone who stops by.

Another great big THANK YOU to all of our fabulous volunteers who've been helping in the fields and at the Market.

With several years of farming using organic methods, rare is now in a position to update its long-term farm plan in a way that will better integrate sustainable agriculture with rare's vision of conservation and of creating a world-class research facility.



Slit Barn Market

768 Blair Road, Cambridge

Thursday

ra re organics

Friday 4-7 10 - 2 Saturday

www.raretome.ca www.raresites.org



Lamb's Inn **Demonstration Garden**

In November 2005, 30 second year students from the Landscape Architecture Program at the University of Guelph came to rare for a site visit. Students of Associate Professors Karen Landman and Larry Harder were here to lay the ground work for their term projects - to come up with a master plan for the *rare* administration building landscape at the historic Lamb's Inn. This major project for their term helped them reach specific academic goals for the term while the selected best will become the blue print for future work in the Demonstration Garden.

The overall objective of the project is to be a "gateway" to the larger 913-acre land holding of the charity providing an accessible view of the entire Reserve. Students were to focus on the technical, functional, social and community aspects of the space, reflective of the goals of *rare* and were to provide examples of sustainability, education, practicality and vision.

Students heard abstract visions of what the gardens could achieve as told by then, rare Executive Director Moragh Lippert; Larry Lamb, University of Waterloo Ecology Lab Manager and native plant specialist; and rare organics Assistant Farmer, Heather Cain. The concept gardens will surround Eleanor, rare's eagle sculpture generously donated by local artist John De Boer. The demonstration gardens will include xeric and native plants, featuring those that produce berries, attract butterflies, and are naturally pest and drought resistant.



In February, students made a presentation of their work to rare staff and projects will be on display at rare in future where we will ask for your comments.

Education will be a large component of the gardens. Financial and in-kind assistance is needed to complete the project over the next few years. Questions can be directed to Rachel Hull, Community Outreach Coordinator at (519) 650-9336 x122 or rahull@thisisraretome.ca

Many, many thanks to Larry Harder, Karen Landman and the University of Guelph School of Landscape Architecture class for their efforts!

Doors Open Ontario



Once again this year, rare will be a participant in the **Doors Open** Waterloo Region, on Saturday, September 16, 2006 from 10 am to 4 pm. We will feature our administration building, the Historic Lamb's Inn at 1679 Blair Road, in the village of Blair.

Discover additional significant architectural and historical sites across Waterloo Region. Pick up a map & guide at libraries, museums and tourism offices across Waterloo Region in July & August or in the Record on Saturday, September 9. www.doorsopenontario.on.ca

For more information please call (519) 747-5139.

Admission is free.



What is rare to you?

Butterfly Monitoring Volunteer Training offered at rare

Transect Monitoring

Two transects have been set up on rare's property to monitor butterflies. Each transect is approximately three and a half kilometres long and takes about two hours to walk, covering a variety of different habitats. Each transect is walked at least one time per week.

Jessica Grealey, the butterfly monitoring program coordinator, is currently looking for volunteers to walk the transects with her. Knowledge of local butterflies and identification skills would be beneficial but are not required to volunteer. A lot of the terrain covered by the transects is rough and is not recommended for persons who find this type of hiking challenging. Volunteers must be at least 18 years of age.

Training Session Sunday, September 10, 2006 at 9 a.m. Please call Rachel at (519) 650-9336 x 122 to register by Thursday September 7th.



Best of Luck Moragh!

Moragh Lippert is a lover of the outdoors, an avid volunteer and a committed environmentalist, and has been the Executive Director at *rare* since March 2005. Moragh has, "truly enjoyed discovering the magic of the *rare* lands and working with such a wonderful staff and so many committed volunteers."

Moragh is also a newlywed and a new grandmother. Although it has been a tough decision, she has decided to leave *rare* in search of greater life balance, new opportunities and more time with her grandson, Jamieson.

Despite her recent announcement, we know that Moragh remains committed to *rare's* vision and will support the collective effort. We wish her every future success and plenty of restful time to do and be with what she loves.

Patti Leather, *rare's* Community Relations Manager, has been appointed Acting Executive Director. Many of you will know Patti already, but even if you don't, please don't hesitate to be in touch with her, 519-650-9366 ext. 118. ■



Contact Us

rare Charitable Research Reserve1679 Blair Road, CambridgeON N3H 4R8

Phone: (519) 650-9336 Fax: (519) 650-5923 Fmail: rare@raresites.or

Email: rare@raresites.org

Website: www.raretome.ca and www.raresites.org





Leadership

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Alan Morgan, Ph.D., Faculty Member, Earth Sciences, University of Waterloo

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Chris Dalton, Avocational Archaeologist, Licensed by the Province of Ontario

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 Environment and Resource Studies, University of Waterloo

Education Committee

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Joy Roberts, Ph.D., Owner, jrob consultants, President, Eramosa Institute

Sue Trotter, M.A., Teacher, New Dundee Public School

Staff

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Catherine Beck, M.A., Market Developer (HRSDC funded)

Heather Cain, B.E.S., Farm Worker

Ken Dance, M.Sc., Land Steward

Marcia Dawson, B.A., Rural Development Officer (HRSDC funded)

Sandy Evans, B. Com., Business Manager

Zara Fischer-Harrison, B.A., Jr. Intern

Jessica Grealey, B.E.S., Environment Canada Funded

Shannon Holton, B.E.S., Science Horizons Intern

Rachel Hull, B.E.S., Community Outreach Coordinator

Martha Gay Scroggins, B.L.A., Farm Manager, rare organics



