



Photo by T. Beaubien

***rare* Charitable  
Research Reserve**

***Conservation & Connectivity  
Strategy and Plans: 2015–2019  
Executive Summary***

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Turn the Maps Green

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## Director's Letter



Photo by N. Swant

This report is your invitation to participate in the ongoing development of a unique environmental organisation, a charity that is making contributions, not only in our community, but globally.

By explaining *rare*'s mission, vision, values and goals, we are fulfilling a commitment that we take very seriously—a commitment to be transparent and accountable to the public we serve. As a land trust, *rare* protects, intact and in perpetuity, over 900 acres of environmentally significant lands for public benefit. We steward those lands, not only by furthering the science that will result in best practices, but also by training the next generation of conservationists and creating an entire community of support for them and for our conservation goals.

The content of this report is the work of many people, over many years. It began with the development of an extensive Environmental Management Plan for the property, first undertaken in *rare*'s early years and recently updated. The latest step in this report's development took place during 2014 when a number of community stakeholder groups met to provide input and advice on plans presented by the staff at *rare*. As with all good plans, this one will continue to be updated as we learn from our programs and evaluate our progress. We invite you to join in, whether it's to walk the trails, rent a garden plot, volunteer in our education programs or be an active supporter. With your help, we know the plans outlined in this report are just the beginning of our next stage of development.

This report is an abridged version of a much fuller strategy and planning document. The full report is available on our website or by request, as is the Environmental Management Plan.

I look forward to seeing you on the reserve!

A handwritten signature in blue ink, which appears to read "Dr. Stephanie Sobek-Swant". The signature is fluid and stylized.

Dr. Stephanie Sobek-Swant  
*Executive Director*

## Conserving Biodiversity, Strengthening Science, Building Community, Training the Next Generation of Conservationists

### A Brief Introduction to *rare*

Founded in 2001, the *rare* Charitable Research Reserve is a community-driven urban land trust headquartered at the confluence of the Grand and Speed Rivers in the heart of Waterloo Region. The Grand River watershed is the largest watershed in Southern Ontario, feeding into Lake Erie. Within this watershed, *rare* is comprised of 24 different habitat types, including three cold-water streams. Trees more than 240 years old support a rich biodiversity reminiscent of the original biota of southern Ontario prior to extensive human land use. Our original property is home to an incredible array of flora and fauna, with species that are ranked significant or at risk regionally, provincially, nationally, and even globally. Our village hub property is known for its historical significance as the first Stage Coach Inn in Upper Canada.

The vision of *rare* is to preserve our sites and their ecosystems intact and in perpetuity, for the community to enjoy in their natural states. The dedicated staff at *rare* believes that protection and conservation of natural spaces and the benefits they provide is vital to both the population health of local species, as well as the physical, social, and economic health of the community.

The mission of this important charity goes beyond land preservation and restoration by also facilitating research and delivering education, thereby fostering community engagement, encouraging cultural appreciation and training the next generation of conservationists who will perpetuate these values. At *rare*, the community is invited to participate in restoration and research in areas that are free and open to access on trails, or via hands-on education programs.

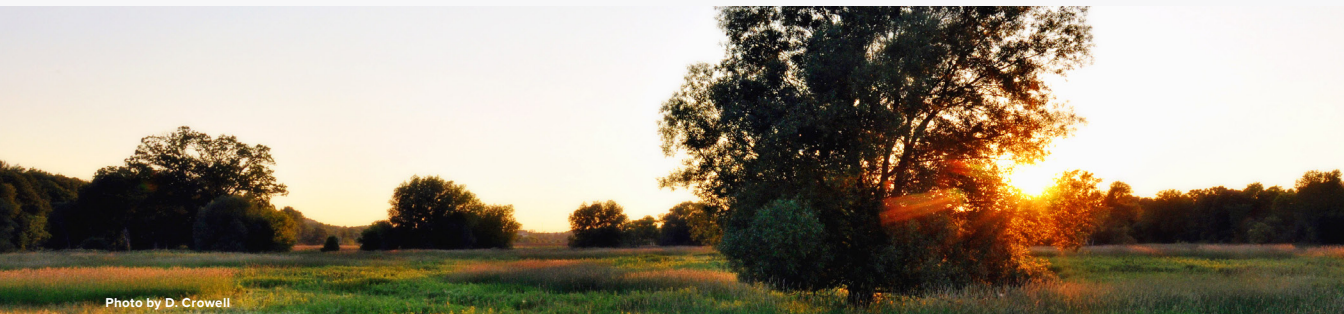


Photo by D. Crowell

*“rare* is a charitable organization with a unique focus in Canada – it owns property and encourages long-term research on ecological restoration and monitoring and integrates this into community education programs. There is no other organization like this in Canada. Some organizations fund research, some own property for conservation and related purposes, some focus on education about the environment. *rare* does all of this and does it in an important context, i.e. an urbanizing region where the threat to ecological structures and functions are greatest, the need for ecological restoration the largest, and the need for urbanites to have a place to go to both enjoy nature and understand the value of ecological research the most important.”

### Stephen D. Murphy, Ph.D.

*Professor and Chair, Department of Environment and Resource Studies, University of Waterloo*

*Editor-In-Chief, Restoration Ecology*

*Director, Centre for Ecosystem Resilience & Adaptation (ERA)*

*Chair, Centre for Applied Science in Ontario Protected Areas (CASIOPA)*





Photo by P. Kelly

The core programs of *rare* are conservation, research and education. As a research organisation, *rare* has attracted more than 45 research project over the years. Located in Waterloo Region and so close to millions of people, engaging students and the community is essential. The organisation's education program, called *Every Child Outdoors* (ECO), is a model of experiential learning, inspiring youth to adopt a sense of curiosity in the natural world through hands-on, inquiry-based environmental learning in the out-of-doors.

Just like *rare*'s conservation efforts, the community offerings and programs of the charity are also science-based and transmitted via a *Chain of Learning*. Beginning with an emphasis on peer-reviewed scientific research as the basis of all educational programs, knowledge passes from the most senior experts, to community members, and extends to the community's youngest learners, starting at kindergarten. Since 2008, over 10,000 students have enjoyed programming at *rare*, now averaging 2500 student visits each year. In all programs, students are encouraged to ask questions and hypothesise about current and future implications of global environmental issues, such as climate change.

Part of the ECO program takes place at *rare*'s Springbank Farms, which is the largest urban agriculture project in the Region with 110 community garden plots, and extensive education, demonstration and Food Bank gardens. Every year, volunteers, many of them seniors, harvest up to 2500 pounds of produce for the Cambridge Self Help Food Bank.

North House, Canada's award-winning entry to the 2009 International Solar Decathlon, and a \$4 million research investment at the University of Waterloo, found a permanent home along Blair Road, at the foot of Springbank Farms. It provides the opportunity to research cutting-edge engineering technology and is a tangible way to let the community experience sustainable design and technology. Along with research by outside organisations, a writer-in-residence brings cross-disciplinary interactions, and is just one of many examples how art, culture and nature are intertwined at *rare*.



Photo by North House Team

With archaeological artefacts more than 10,500 years old, heritage buildings from the mid-19th century—such as the *Every Child Outdoors* (ECO) Centre, a renovated 1840s limestone slit barn and companion farmhouse—the first three properties purchased in trust by *rare* have already become a showcase for our environment. They demonstrate richness in art and culture, and they promote healthy water, soil, air and the diversity of plants and animals that are paramount for human well-being and ongoing economic stability.



Photo by D. Crowell

In the following pages you will learn more about all of these aspects of **rare**, and be invited to participate in their development as we become a premier environmental institute with international academic expertise, which at the same time is true to its grassroots heritage and operated as a financially sustainable not-for-profit charitable organisation.

We are confident that **rare** fills a gap, not only across Waterloo Region, but also nationally and internationally, by providing a platform where academic excellence is part of the community, and stakeholders of different backgrounds can meet and learn from each other in a truly collaborative, multidisciplinary organisation where resources are used most sustainably to tackle big questions as comprehensively as possible, and where ideas can soar in an environment that fosters cross-pollination of (but not limited to) internationally renowned experts, aspiring early-career researchers, artists and the larger community.

Everything **rare** does will be driven by research, with a strong (but not sole) focus on applied environmental questions. We define the term “environmental” broadly, including not only the ecological research **rare** has facilitated over the past decade, but also inviting other disciplines to collaborate, including but not limited to the social sciences, humanities, archaeology, psychology and the arts.



Photo by J. Roberts

“I thoroughly enjoyed my time at **rare** and appreciated meeting so many volunteers. This organization has a very important role to play on the world stage and I intend to do my part to help it achieve its vision.”

**Severn Cullis-Suzuki,**  
*Environmental Activist, rare Ambassador*





Photo by P. Kelly

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## Vision and Mission

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### Our Mission

The reserve's network of natural landscapes are held in trust as a common possession, set aside for their natural and heritage value and to provide unprecedented engagement opportunities in ecological and cultural research, education, community engagement and recreation. Through the combined efforts of the community and *rare*'s team of staff and advisors we will discover best practices and answers to environmental problems, stewarding these diverse lands for ecological integrity and future generations.

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### Our Vision

To offer the community, including the international community and future generations, a diverse network of connected natural areas, protected intact and in perpetuity. As an international leader in conservation, research, restoration, and education, *rare* will show leadership and serve as a model system to demonstrate the link between ecological integrity and economic sustainability that is critical to enhanced quality of life for the planet.

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### Our Values

Conserving Biodiversity, Strengthening Science, Building Community, Training the Next Generation of Conservationists

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### Our Goals

Over the next five years we will accomplish the following:

- Continue to establish *rare* as a collaborative, multi-disciplinary environmental institute with local, national and international recognition.
- Ensure *rare sites* becomes a model of science-based conservation with diverse ecosystems protected and connected throughout the Grand River Watershed, and beyond.
- Advance ecological integrity and economic stability in Waterloo Region by protecting these ecosystems and their goods and services.
- Engage the entire watershed community through education, stewardship, and research, while fostering an understanding of how to protect all ecosystems and their goods and services.
- Grow our protected natural heritage, while improving financial stability and operational excellence.

## Rooted In Our Communities

### Our Vision for Fundraising & Communications at *rare*: Sharing hope

Recent research conducted by Parks Canada indicates that Canadians spend 90% of their time indoors. This, combined with a sedentary lifestyle, elevated stress levels and the hectic pace of urban lives, has produced an increasingly ailing population, disconnected from nature. Located in one of Canada's fastest growing regions, *rare* offers many ways to reconnect with the environment, thereby providing a remedy for both species and people, and leading to an overall healthier community.

With academic excellence in mind, and wanting to attract the brightest minds and tackling the big questions in pure, peer-reviewed, environmental research, we must not forget that we are first and foremost firmly rooted in our local communities. By asking applied research questions, we ultimately act on behalf of the community, since ecological integrity and human well-being are closely intertwined and dependent on each other. However, often this crucial link is not apparent, and our role will be to address this gap and to communicate science to the community in a meaningful, accessible way.

People will protect and appreciate what they know and understand. As we develop *rare sites*, we take the foresight of those who realise the importance and potential of sensitive lands, and we use our considerable experience with grass-roots communications to develop a community of concern around these sites. We have to make sure that we take guidance from and disseminate the most reliable information that makes environmental research and protection relevant to a broad audience of different backgrounds, starting with the youngest students. We have to continue to develop and strengthen our successful *Chain of Learning* model with its *Every Child Outdoors* program.

We are fostering inclusiveness and zero tolerance for elitism; at *rare* researchers are part of the community and engage on a peer-to-peer level with old and young alike. We provide hands-on experiences, and our learning is

active, problem-based, and driven by inquiry. At *rare*, everything is a research opportunity, and every research opportunity is also a learning opportunity for the community as a whole—including for the researchers themselves. In fact, we believe that everyone is born as a researcher, and the way children appreciate the world with a sense of wonder, and ask inquisitive questions, demonstrates this every day.

In their book *The Big Picture* David Suzuki and Dave Robert Taylor make an important claim: "We must never lose sight of why we are conducting experiments in the first place: hope. Science is hope—the hope of new discoveries, the hope of making a better tomorrow, of improved health and long life, of understanding our past, our present, our future."

At *rare*, hope is what we want to share with our community: hope for a future where 50 or 100 years from now our grandchildren and great-grandchildren can still experience the ecological integrity of our remaining natural habitats the same way we can, with all the ecosystem goods and services we cherish and so heavily rely upon. We firmly believe that our vision will make us a strong stakeholder in maintaining and enhancing Ontario's ecological integrity while providing for sustainable economic growth.

As a model incubator for environmental research with strong community roots, protected intact and in perpetuity, *rare* will be central in Waterloo Region and beyond—both with regard to its persistence in protecting green spaces, set aside for conservation in a developed world, but also with regard to its impact on many levels, both in the academic and lay worlds.



Photo by P. Kelly

With the addition of new sites, we will provide critical research results to ensure that every action taken and every dollar spent on critical environmental questions have the best chance of achieving the desired results. Our leadership will encourage citizens to value and protect lands they may not ever personally see.



Photo by H. Wilson

### A Selection of Key Fundraising & Communications Goals and Strategies

- 1 Create long-term financial sustainability of operations by increasing the donor base to ensure ongoing, broad-ranging support for the charity.
- 2 Become a well-understood household name in Waterloo Region and the Grand River watershed.
- 3 Increase web and social media engagement to reach at least 10,000 followers and a global audience, making use of web design experts, perhaps by asking professors of well-known programs to recommend their best students for work placements.
- 4 Become known as an environmental research institute and as a leader in conservation of ecologically significant lands in both the academic and lay world.
- 5 Develop two inter-related strategies that build on one another, one for grassroots engagement and support and one for emphasis on national and international contributions.
- 6 As an organisation, capture and communicate the stories of *rare* and its users, identifying more faces of *rare* from many sectors, including community members, volunteers, students, teachers, researchers, donors, ambassadors, advisors or partners. Develop more successful partnerships with those closely aligned to *rare*'s goals.
- 7 Expand the International Ambassador program and Campaign and Community Cabinet to ensure the recruitment of members who can help further the organisation's key goals.
- 8 Continue to grow the grassroots Walk/Run for *rare* by recruiting new team leaders and enhancing current offerings.
- 8 Develop a government relations strategy to increase political will for *rare* and to forge strong links with provincial and federal politicians and programs.
- 10 Create a story-telling team that takes this input and generates vibrant media stories and work closely with journalists and film makers to be featured in national environmental communications.



# Programs at *rare*: A Continued Commitment to Build on Conservation, Research, and Education

## Our Conservation & Land Management Vision for *rare*

Preserving land intact and in perpetuity has been the central goal of *rare* since its inception in 2001. Through wise management and since the time of European settlement, much of the original *rare* property is in excellent ecological condition, and there are some features that are representatives of old-growth Ontario forests. A second purchase of 93 acres in 2010 added an important buffer to the remnant old-growth Carolinian site and secured the headwaters of an important cold water creek, Bauman Creek. The *rare* offices are on a separate 3-acre parcel in the historic village of Blair in the first stage coach building in Upper Canada. This village hub property was purchased in 2005, allowing more public involvement without disturbing sensitive lands.

## A selection of Key Conservation & Land Management Goals and Strategies

- 1 Maintain, restore, enhance and expand habitat and connectivity, creating *rare sites* with land securement and conservation easements strategies and attempting, as far as is possible, to restore examples of pre-settlement habitats with the full complement of species and biodiversity.
- 2 Use science-based methods, prioritized according to the Environmental Management Plan, and make land management projects into research opportunities when possible.
- 3 Encourage sustainable farming methods while developing new research tools, and providing educational and outreach methods that will connect people to the land and their food supply, and also to *rare* itself.

“Indian Woods is one of the finest examples of remnant old-growth Carolinian forest remaining in Canada. The escarpment, cliffs and alvars along the Grand River are also of great national and provincial significance and offer an excellent opportunity for parallel monitoring and research activities with universities and agencies along the Niagara Escarpment.”

**Brian Craig**, *Senior Science Advisor*,  
Environment Canada

- 4 Create a Master Plan for lands and facilities, including strategies to educate and manage access to sensitive areas so as to control negative effects and mitigating damage to our properties in the face of growing urbanization and other threats to biodiversity.
- 5 Recruit new volunteers and gardeners and strengthen operations of the Springbank Farm community gardens, including the Food Bank Gardens, while making new connections to other communities.
- 6 Develop financial strategies for paying for the original land base (the 2nd and 3rd properties are fully paid for), and for future acquisition and stewardship.

## Our Research & Monitoring Vision for *rare*; Research Opportunities In All We Do

Every land management action on our properties should be designed to protect the lands intact and in perpetuity and should be looked at for their potential to be research opportunities. This means we need to ensure that all steps we take are geared towards ecological integrity and increased habitat size and connectivity, while decreasing fragmentation of the landscape.

These basic principles of conservation ecology are relevant far beyond the original *rare* property: on a landscape scale we should continue to create “*rare sites*” and to connect these sites. This will include land acquisition or other forms of securement, as well as collaboration with other organisations to connect properties across the map—ideally physically via corridors. However, realising that there may be limitations, research can form a network across organisations and properties, allowing us to have a meaningful number of field sites for large-scale projects and statistically sound experiments. We actively seek opportunities to secure other lands, including opportunities to phase out intensive agriculture in favour of more sustainable methods and restoring areas from production entirely to enhance connectivity.

Using *rare sites* as living laboratories, we can inspire and conduct “just-in-time” environmental research. Rather than just facilitating research as we have in the past, we want to start driving our own research, mainly focused on applied questions—the questions that are relevant not only for ourselves, but also transferable to inform the work of other organisations nationally and internationally.

All forms of peer-reviewed research, both applied and fundamental, are encouraged at *rare*. Over the next five years, we will concentrate on four broad themes in our outreach to attract new research and in our *rare*-driven research projects, themes closely linked to our organisational goal to **advance ecological integrity and economic stability by protecting ecosystems and their goods and services and to promote**



Photo by R. Moore



Photo by J. Quinn

### *rare sites* as a model for science-based conservation:

- 1 Ecosystem processes and global change;
- 2 Conserving, restoring and enhancing natural areas in a developed world;
- 3 Biodiversity and human wellbeing; and
- 4 Science-based governance and policy development.

### A Selection of Key Research & Monitoring Goals and Strategies

- 1 Increase the amount of applied research and multi-disciplinary research conducted at *rare sites*, including our own *rare*-driven projects, while expanding field sites by acquiring land or collaborating with others.
- 2 Broaden our impact by sharing data with international, national, provincial and regional initiatives, including citizen science programs and removing barriers between research and the application of new ideas and methods by practitioners, policy makers, and the general public. Make our work available in plain language.
- 3 Establish a sustainable, fully financed training program as part of the *Chain of Learning* to foster technical and field skills for young graduates in the environmental sciences, and continue to secure funding to hire interns and offer fellowships and stipends to research associates, e.g. via corporate sponsorships.
- 4 Optimise our monitoring program to include a full suite of biological indicators and make best use of *rare* resources.

- 5 Advertise North House as a research opportunity to facilitate the development of green building technology. Universities will be made aware of their ability to use the space as a “real world” lab that would be hard to come by otherwise.
- 6 Strengthen the relations between *rare* and academic institutions, in part by staff accepting thesis committee roles, attaining adjunct positions for *rare* staff, providing associate positions to university professors doing extended research at *rare*, and providing fellowship opportunities.



Photo by J. Quinn

### Our Vision for Education at *rare*

In an increasingly urbanized and virtual world, time spent in nature is decreasing, and opportunities to do so have become scarce. People will only protect what they know; but in the school system, while frameworks for environmental education exist from JK to Grade 12, their implementation is spotty, and little is done to raise a new generation of conservationists.

Opportunities to experience nature and scientific inquiry hands-on are lacking, and often the focus is on mere interpretation rather than on providing learning opportunities to foster critical thinking and long-lasting engagement with the environment and sustainability.

The *rare* Charitable Research Reserve, with its growing network of sites, will be a place where everyone is a researcher and where asking hard

questions is encouraged. The seeds for creating environmentally responsible citizens who drive sustainable economic development in all fields need to be planted early, and they need solid ground and ongoing engagement to grow strong roots. At *rare* we offer research-linked educational opportunities that promote experience and connection with our natural ecosystems, protected intact and in perpetuity. The education program at *rare* is called *Every Child Outdoors* (ECO), because we want all children to have a chance to experience nature, whether they come to *rare* or get outdoors in their own communities. The ECO program is part of our *Chain of Learning* model in which information flows, in both directions, between researchers and students of all ages.

### A Selection of Key Education Goals and Strategies

- 1 Spread the *Every Child Outdoors* (ECO) movement across Waterloo Region and the Grand River watershed, thereby fostering environmentally responsible citizens through ongoing, repeated engagement of students as they progress through the school system.
- 2 Use “Train the Trainer” and peer-to-peer approaches to increase teacher engagement that will encourage them to be positive role models for the next generation of budding environmentalists and conservationists.
- 3 Liaise at provincial level to promote outdoor environmental education with the ministry.
- 4 Expand programs to include specialised learning opportunities for underserved groups and adults, including the expansion of Mirrored Research programs to grades 6, 7, and 8.
- 5 Use new research projects to keep educational modules current and relevant while translating results into easily understandable information for the general public



Photo by *rare*



# Management for a Sustainable Future — in Perpetuity

## Our Vision for Operational Excellence at *rare*

Mindful of our excellence mandate, we need to ensure that we attract, engage, motivate, develop and retain talented individuals on all levels. As well, we need to provide functional and cost effective work areas and safe experiences for all stakeholders, a particular challenge posed by the charity’s extensive properties and facilities that range from historic to technologically advanced.

As with any leading information management practice organisation, data inconsistency is a threat to success. Policies and procedures as well as relevant, efficient and effective data management practices will allow stakeholders easy access to records to make informed, strategically-aligned decisions for the organisation as a whole.

- 1 Create facilities master plans for all sites and implement recommendations to improve current status and use of facilities, particularly Lamb’s Inn and Springbank.
- 2 Create effective data management practices that will allow staff easy access to records and reports to make the best-informed and strategically-aligned decisions for the charity, whether dealing with the results of monitoring and research or the development of relationships with those who use or support the programs.
- 3 Recruit new volunteers with improved job descriptions to alleviate pressure on the existing base and to avoid burning out current volunteers. Including more grassroots-driven committees with a particular focus on key areas of development, such as research, land securement, marketing, etc.
- 4 Continue to hire the right people in the right jobs. Nonetheless, recognizing that talent turnover is likely to occur, especially since *rare* plays a role in training young experts at the beginning of their careers, develop continuity and succession plans in all areas to ensure uninterrupted excellence to all of our stakeholders

## *rare* Contacts

The staff team at *rare* are always interested in your comments and encourage your participation.

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Photo by J. Quinn

To view the Environmental Management Plan that guides all actions on the *rare* properties, or to read the full Strategy and Planning Report, please see our website at [raresites.org](http://raresites.org).

 [facebook.com/raresites](https://facebook.com/raresites)

 [twitter/raresites](https://twitter.com/raresites)

 [youtube.com/user/raresites](https://youtube.com/user/raresites)

 [raresites.wordpress.com/](https://raresites.wordpress.com/)

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