

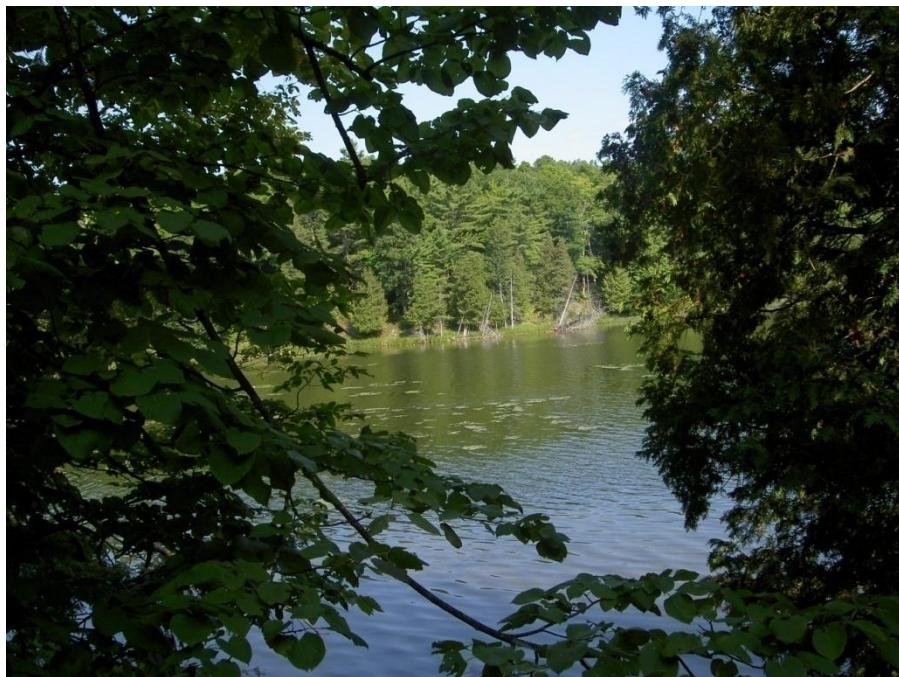


Working toward a Strategic Roadmap for Connectivity

Algonquin to Adirondacks Conservation Association Workshop #1
Proceedings

April 28th 2012

Queens University Biological Station





Working Toward a Strategic Roadmap for Connectivity
Algonquin to Adirondacks Conservation Association Workshop #1, April 28th, 2012
Queen's University Biological Station

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Workshop Executive Summary

The workshop, “Working toward a Strategic Roadmap for Connectivity”, was held on Saturday April 28th at the Queen’s University Biological Station. It was attended by 34 people.

The main goal of this workshop was to initiate the establishment of a Collaborative Network that will develop and implement a strategic roadmap for maintaining and improving connectivity in the A2A Region. In particular, the workshop was tasked with establishing a scientific foundation for the conservation efforts and with investigating a framework for proceeding.¹

Significant progress was made developing terms of reference for an Interim Action Committee for a Collaborative Network. It was resolved that this committee, made up of representatives from organizations across the A2A region, would be established and acting as soon as possible. Its role is to catalyze the process of establishing a Collaborative Network. A Science Advisory Group is to be established once the Interim Action Committee has defined the vision for such a committee.

Functional corridors, the St. Lawrence River, its islands and narrow points, unique landscape features and cultural heritage sites were all identified as priority areas for connectivity and conservation. Further flora and fauna identification and distribution mapping were emphasized as important for effectively prioritizing areas. More effective management of this data across jurisdictions is needed. A review of land use is also necessary, together with cultural heritage mapping and climate studies.

Public opinion and lack of political will, together with funding needs were highlighted as barriers to biodiversity conservation that offered particular opportunities for change.

An interim online data group was established to discuss and develop thoughts and ideas around the definition and structure of databases and data management with a view to making data compatible and available widely. A2A has undertaken to establish a publically available inventory of research, researchers and organizations in the A2A region based on input from the workshop participants.

¹ During the course of the workshop consistent terminology was not used to describe items under discussion. In order to provide consistency in this report the following terminology has been employed:

A2A is Algonquin to Adirondacks Conservation Association;

Collaborative Network (originally termed collaborative) refers to the individuals and organizations that will be working together in the A2A region

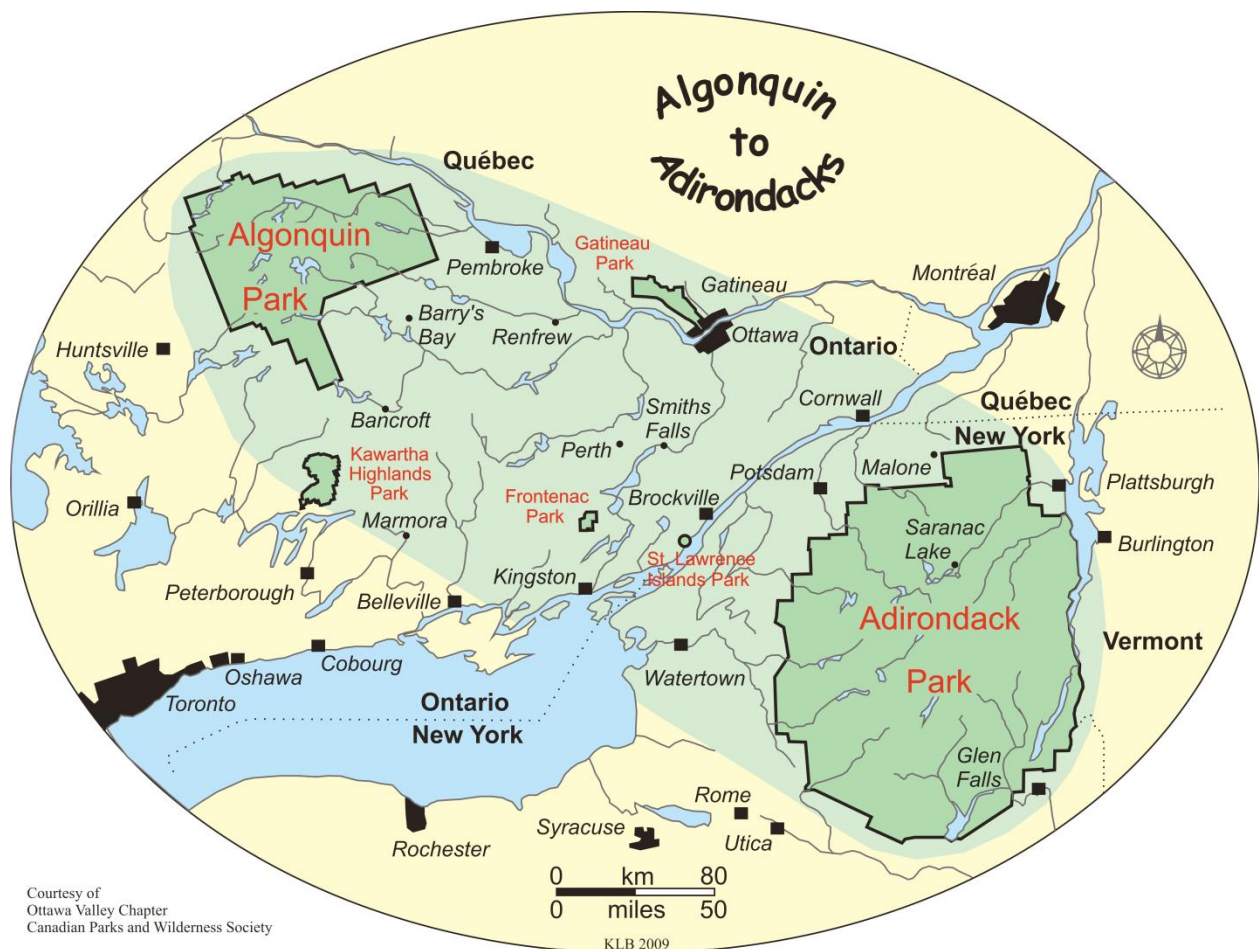
A2A Region is the area to which the strategic plan will apply.



A2A was the motivator for this workshop and needs to continue in this role to ensure progress is made.

Introduction

The A2A region extends from the southern boundary of Adirondack Park in New York State to the northern boundary of Algonquin Provincial Park in Ontario (see map below). This area encompasses various other smaller parks as well as St. Lawrence Islands National Park and two designated UNESCO Biosphere Reserves: The Frontenac Arch Biosphere Reserve, in Ontario, and Champlain-Adirondack Biosphere Reserve, in New York (and Vermont). The Rideau Canal, a UNESCO World Heritage site, is also contained within it. The region has an area of approximately 93 000 sq km (36 000 sq miles), which is roughly the size of Maine in the U.S. and significantly larger than New Brunswick in Canada.



Algonquin to Adirondacks Region



As described in Emily Conger's Welcoming talk, research in the 1980's and 90's, including the Keddy report (Keddy 1995), demonstrated that the A2A region is significant in terms of biodiversity, serves as an important migratory connection for wildlife in eastern North America and should be a high priority for conservation. This led in 2000 to the formation of A2A, which organized this workshop. Currently there are a number of groups studying, conserving, or having a stake in the A2A region. Their efforts and results are largely independent for a variety of reasons, including different motivations, communication problems, and political constraints, particularly the international border. Broadly put, the goal of this workshop was to facilitate the establishment of a Collaborative Network that will develop and implement a strategic roadmap for maintaining and improving connectivity in the A2A Region. In particular, the workshop was tasked with establishing a scientific foundation for these conservation efforts and with investigating a framework for proceeding.

To this end participants (Appendix 1) were asked to address the following aims of the workshop:

- catalogue current knowledge of the area
- identify research required to develop a strategic plan for connectivity
- prioritize wildlife linkages and areas of high conservation value
- catalogue barriers to biodiversity conservation
- identify appropriate methods to organize A2A data
- discuss research funding
- establish a science advisory group
- list priorities for scientific research
- recommend ways a regional collaborative could promote connectivity
- publish these proceedings

The format of the workshop was to split the participants into smaller groups, have them participate in break-out sessions addressing a particular question and then have them report to the participants at large (Agenda: Appendix 2). What follows below is a report on each breakout session, starting with the question and continuing with the results of the discussions. There was considerable agreement among different groups, so rather than reporting the duplicated results from each group, the results from all groups have been summarized.



President's Welcome and Introduction of A2A

Emily Conger, President, Algonquin to Adirondacks Conservation Association

My name is Emily Conger. I am president of the Algonquin to Adirondacks Conservation Association. I want to welcome each of you to today's workshop "Working Toward a Strategic Roadmap for Connectivity", and thank you on behalf of all of the A2A board for taking time out of your busy lives to contribute your knowledge and experience to strategic planning for international biodiversity conservation and connectivity. I hope you all had an easy time getting here, and that those of you who arrived yesterday stayed warm last night!

We are very grateful to Queen's University Biological Station for allowing us to use these wonderful facilities, and making it so easy for us by permitting us to use their food services. A special thanks to Frank Phelan and Mark Conboy who arranged this all for us.

Today's workshop is the first in what we hope will be a series of workshops aimed at establishing a collaborative covering the Algonquin to Adirondacks Region. Probably all of you are aware of the significance of this region in terms of maintaining healthy wildlife populations in Eastern North America, particularly in light of the massive challenges they face from global climate change (or chaos, as we're starting to see). The level of biodiversity in the A2A region is one of the highest in Canada, and it represents one of the only north-south movement areas for most species, owing to the barriers effect of the Great Lakes to the West, and the widening of the St. Lawrence to the East.

The Algonquin to Adirondacks Conservation Association exists to maintain and enhance this biodiversity through maintaining, enhancing and connecting wildlife habitat. The organization was created based on research in the 80's and 90's that suggested that this region should be of the highest priority for conservation action. There were early workshops in the 1990s. The A2A Conservation Association was founded officially in 2000. We carry out our work with and through private landowners, with support from a host of non-governmental and governmental bodies. Since I joined the Board in 2001 we have done a lot of outreach throughout the area, but in terms of projects, we have worked almost exclusively on the Canadian side of the St. Lawrence within about 75 km of the St. Lawrence. With partners we have been engaged in mapping as well as roadkill studies and more recently we led what is now a 5 year project to improve habitat and species diversity on lakes and streams feeding the Gananoque River. Having gotten our feet wet (so to speak) with project work, and having had some success and recognition for our work, we decided that we had to begin to function on the broader landscape. But how? We decided that maintaining a website for researchers as well as



conservation practitioners to use would be useful. Today is the inauguration of the updated A2A website. I hope you'll visit a2alink.org to see some of the changes. There is still a lot of work to do on it, but to have such an informative and engaging site has been a long-term dream of the A2A board. I want to particularly thank Jacqueline Nunes and James Lolley for their efforts on developing the new website.

We are at this point a purely volunteer group, although with grants, we have been able to hire staff to carry out projects.

On our own, we lack the capacity to do the work across this large landscape that needs to be done for biological conservation and connectivity. We need to collaborate with scientists and conservation practitioners who work in the A2A region. A collaborative such as this will need to know the best science, and promote research where it is needed to inform on-the-ground actions. We decided that holding a workshop with a science/research focus at the beginning would make the most sense.

We hope that with your help, we will begin to take the steps needed to lead to a Strategic Roadmap for the region. We need to know the existing research that pertains to biodiversity conservation and connectivity, which includes knowing the areas of highest priority for conservation and what the barriers and threats are to the region. We also need to have some sense of the priority in which they should be addressed. We need to identify what research is lacking and prioritize what is most essential. And finally we hope to begin the process of establishing a regional collaborative, informed by a science advisory board, and which will have effective means of organizing and managing data. We see the collaborative having representation from on-the ground conservation practitioners as well as scientists. The questions we are presenting in the break-out sessions reflect these goals. Pretty big ambitions for a one-day workshop!

As you'll see from your agenda, the format will feature a presentation of large landscape mapping followed by 2 morning break-out sessions, then lunch, and then 2 afternoon break-out sessions. The morning sessions are, to put it simply, about defining what we know and what needs to be done. In the afternoon we will investigate some foundational steps to undertaking coordinated, collaborative solutions.

So this is a very challenging agenda. We're glad that we didn't scare you away by sending it in advance! There are both demanding questions and short time-lines. We ask you to try to express yourselves as succinctly as possible in the break-out sessions, so that we can hear as many people's ideas as possible. We will be asking for someone in each group to report



back to the plenary at the end of each session, so that we can begin to find out where there is general agreement among the groups.

We have revamped the agenda since we were concerned that we had left too little time for some exercises.

We are extremely fortunate that we have 10 people who have given up their days to volunteer as facilitators and note takers. They will try to keep up with you, but may need repetition from time to time, so please be patient. They will be reporting back to Dr. Mary Jo Sibbald, who has generously agreed to write up the proceedings, which we hope to have to you before the end of May.

One further note: We have with us today Jacqueline Nunes, a graduate student at York University who is working on research focused on environmental collaboration in eastern Ontario and northeastern New York State. This research aims to identify challenges and seek out opportunities for collaboration on shared ecosystem-based goals among Canadian and U.S. environmental non-governmental organizations in eastern Ontario and northeastern New York State, with a focus on the Algonquin to Adirondacks (A2A) landscape vision and the work of A2A. Jacqueline's research will culminate in a Master of Environmental Studies Major Research Paper. She is here as an observer. She would like you to know that any participation in the research is strictly confidential and anonymous. No names or identifying information will be published in the final research report unless explicitly requested.

I would like now to introduce Silvia Strobl who is a Coordinator with the Ontario Ministry of Natural Resources (MNR) Science & Information Branch. The unit she leads is engaged in several collaborative information management and spatial analysis initiatives that aim to enhance data exchange among conservation organizations in southern Ontario. These include implementing standard land cover mapping; using scenario analysis modeling to identify priority conservation areas or natural heritage systems; and developing web-based mapping applications to make ecological monitoring data more discoverable and accessible. Silvia has 26 years of experience working in applied science development and knowledge transfer in southern Ontario. Silvia was member of the Core Science teams for both the Big Picture and Great Lakes Conservation Blueprint projects. She worked with several other agencies to secure the Federal funding for the Sustaining What We Value project.

I represented NGOs at the Scenario Planning Team for the project Sustaining What We Value, and Silvia was on the Steering Committee. At the beginning of the process we were to state our affiliations and tell a bit about their relationship to Natural Heritage planning. When it was Silvia's turn, she referenced the A2A initiative in some detail as an example of what is



necessary on the landscape. I remember leaning over to whisper to the woman next to me, “SHE gets it, she REALLY gets it.” I think you’ll see that she does. Now, may I present Silvia Strobl presenting Sustaining What We Value.

I would like to express A2A’s gratitude to St. Lawrence Islands National Park and specifically Sheldon Lambert and Greg Saunders for producing the maps you’ll be working on this morning. It was a real challenge to find layers that were consistent across the international border. Sheldon is here today, and has the mapping layers on his laptop, and will be available if you need clarification or detail on what you see.

Keynote presentation: “Sustaining What We Value”. Four Rules for Choosing Conservation Science Tools

Silvia Strobl, Coordinator, Southern Science & Information Section, Ontario Ministry of Natural Resources.

The “Sustaining What We Value” (SWWV) Project is a multi-partner initiative that engaged community members, practitioners, and other stakeholders in the communities of South Frontenac, Lanark, and Leeds and Grenville Counties to ensure the protection of the cultural, social, ecological and economic attributes of the area. As a first step, this project focused on identifying the most important ecological values that form the foundation of a healthy economy and community. The project developed a Natural Heritage System (NHS) using the best available science and information and input from a stakeholder engagement process. The NHS was delineated with the assistance of Marxan, a decision-support tool that minimizes the extent of land needed to achieve natural heritage goals. This presentation provided background information to help workshop participants understand that the NHS is a toolkit(s) or data package that has already organized data for the middle portion of the Algonquin to Adirondack (A2A) landscape. The mapped NHS developed by SWWV is now available to provide a sound and strategic focus for conservation groups and community organizations, including the Algonquin to Adirondacks Conservation Association, to help guide the selection of appropriate sites for their stewardship activities, land securement programs and conservation efforts.

The presentation reviewed four rules that were applied by the SWWV project that might be important considerations in choosing an approach for identifying conservation priority areas in other parts of the A2A landscape. These rules include:

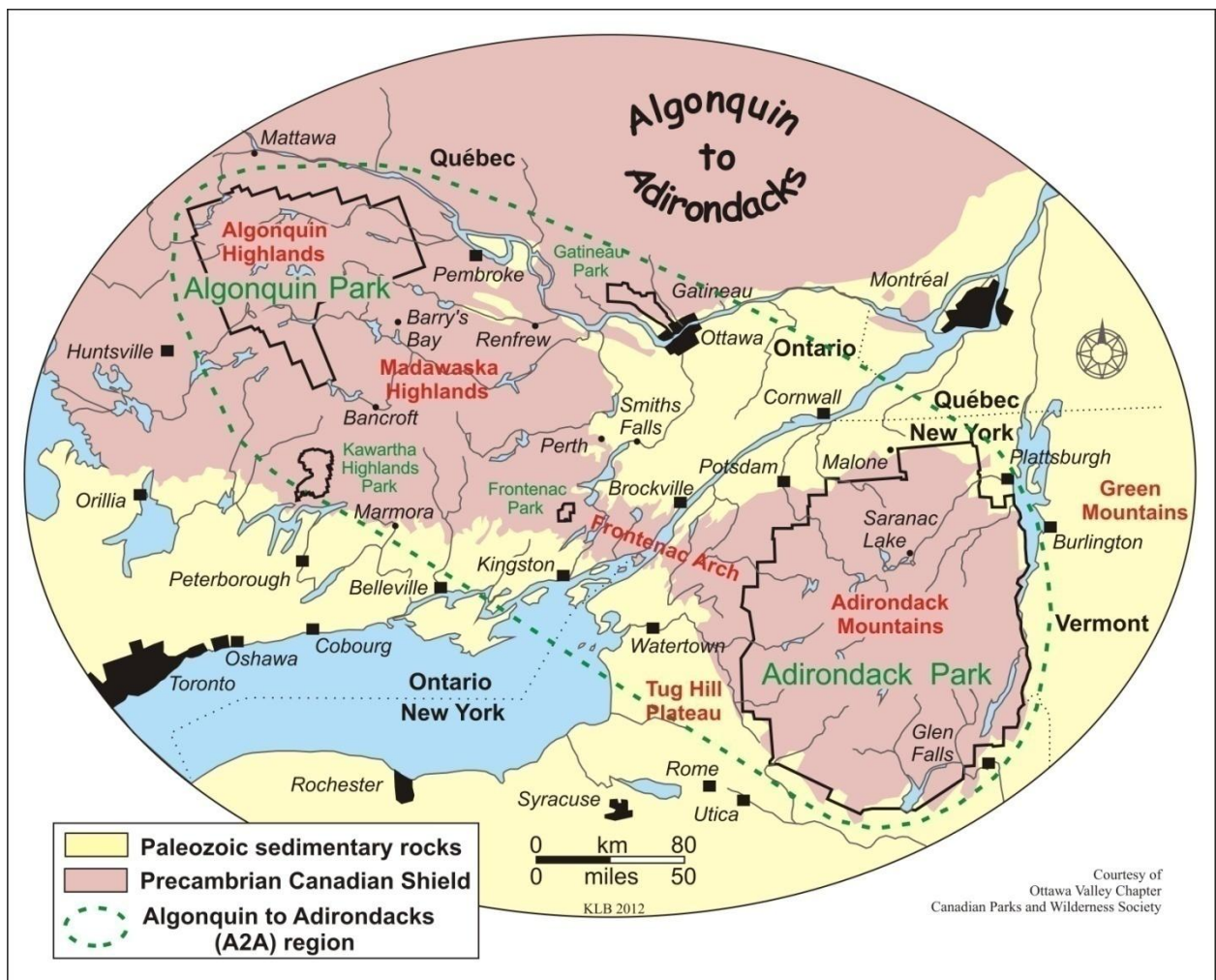
1. Engage stakeholders



2. Use unbiased data
3. Require quantitative inputs based on science
4. Readily generate different scenarios that can be evaluated

In addition, the presentation reflected on existing knowledge and data gaps identified through the SWWV stakeholder engagement process. Finally, the presentation shared a number of science-based priorities for natural heritage protection in southern Ontario that are likely also relevant in the A2A landscape.

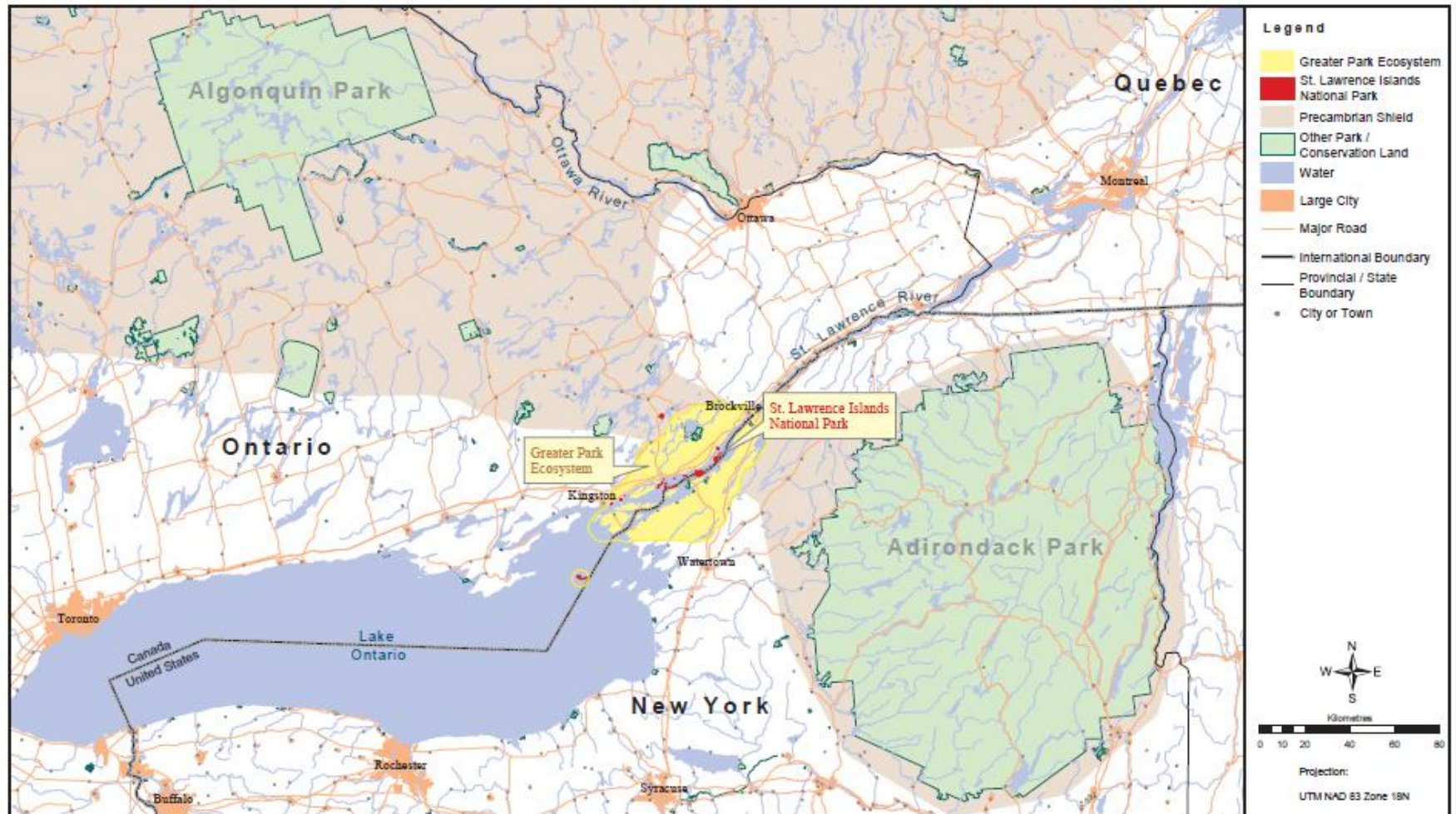
Silvia's slides will be published on the A2A website.



Simplified Geology of the A2A region

Map 1.2

Ecological Connections: The A2A Link



Map produced by the Canadian Parks and Wilderness Society – Ottawa Valley Chapter

Data Sources: St. Lawrence Islands National Park, GeoGratis, Ontario Ministry of Natural Resources, National Atlas of the United States of America, New York State Parks





1st Break-out Session

Purpose: To familiarize ourselves with the A2A region and prioritize key areas for connectivity and biodiversity conservation, focusing on core areas, wildlife linkages, and areas of high conservation value.

Participants were divided into 4 groups, provided with large maps and asked to focus on the area between the 2 anchoring parks.

1. Prioritizing core areas, wildlife linkages, and areas of high conservation value.

a. Using the maps provided, outline the most important ecological areas between Algonquin and Adirondack Parks. Focus on core areas, potential wildlife linkages, and areas of high conservation value.

The maps provided were prepared by Parks Canada. It was noted there was little data concerning protected areas other than parks on the maps because United States and Canadian agencies are documenting very little in common. For example, conservation reserves, NY water protection easements, wetland areas, and land trust properties are not included. Participants suggested that a map showing all the protected/conserved areas in both Canada and the US would be useful.

The Frontenac Arch is considered an important feature because it and the area surrounding it form a geological connection between Algonquin and Adirondack Parks. The area from Bob's Lake to Algonquin Park lies on the Canadian Shield and is intact forest where there is relatively little human impact. South of this area, on Paleozoic sedimentary bedrock, there is mixed land-use with farming and residential development. Although much of this area is rich habitat, it is fragmented.

Areas of scientific interest identified by the participants included:

- the Canadian Shield
- island chains in the St. Lawrence River and St. Lawrence Islands National Park of Canada (SLINP)
- the Rideau Canal system
- forests in general and in particular forest areas along the international border



- lakes e.g. Desert Lake
- forests with significant core areas e.g. Crown Land, municipal plantation
- core areas in the Kawarthas
- alvars in Ontario e.g. near Fitzroy Harbour, Almonte and Arnprior
- alvars in Quebec e.g. near Quyon and Aylmer
- deep lakes with trout e.g. Charleston Lake
- watershed areas, and wetlands.

The need to maintain ‘hopping over points’ such as the St. Lawrence Islands, particularly Hill Island, was emphasized. Also the need for wildlife passages at ‘hot points’, such as the 401 was mentioned, as these are critical to improving connectivity.

Human well-being and its relationship to a healthy environment in the A2A region were identified as of highest importance, including cultural heritage areas such as the maple syrup bushes in Canada and the US and related forests. Similarly First Nation Cultural sites were highlighted e.g. Bon Echo Provincial Park (Ardoch First Nation) and Akwasasne

Of the 6 million acres in the Adirondacks only 3 million are protected, and there exists a need to protect a buffer zone along the park’s perimeter. The Tug Hill Plateau, although not as protected as the Adirondacks to the east, is intact. The Black River valley, between these two areas, offers great potential for wildlife migration. Also the US alvar barrens provide potential for connectivity. The contributions of the Staying Connected Initiative (a partnership between The Nature Conservancy, state wildlife and transportation agencies, and 11 other organizations in the United States, the goal of which is ‘restoring, maintaining and enhancing large blocks of wildlife habitat and the connections between them’) with respect to the Green Mountains and the Black River Valley were noted.

There is a need to identify specific corridors and connections and to concentrate conservation efforts on the Frontenac Arch and the area of Paleozoic sedimentary rocks to the east and west because they are under the most immediate threat of development. More effective communication with stakeholders was generally thought to be critical, especially since the majority of the A2A region is under private ownership. The boundaries of the region need to be considered fluid both because animals do not recognize them and also because there are opportunities to interact with conservation organizations in adjacent areas e.g. from Pembroke to Alfred Bog (Carrion), the Ontario/Quebec border, e.g. the Ottawa Valley Natural Area Conservation Plan.



The rapid development in the Thousand Islands region was identified as a particular concern.

b. What research has been done that would help a regional collaborative prioritize key areas for connectivity/biodiversity conservation in the region?

Participants were encouraged to write their names on a piece of paper along with research topics or locales about which they had information. This information is presented in Appendix 3. A2A intends to follow up and get more specifics from individuals and put together a database to be made available through their website (<http://www.a2alink.org/>). Clearly an extensive bibliography of published and publically available work needs to be assembled.

Studies exist or are being done to describe the Rideau Corridor from Kingston to Ottawa; the Mississippi River and the Ganaraska River, since various levels of government have been acquiring land here.

Research is needed to locate where maple syrup producers are located and identify other landowners whose livelihoods depend on conserving their lands.

c. What research needs to be done in order to effectively prioritize areas?

Participants brainstormed ideas and recorded them on flip charts. The research ideas fall loosely into the following 6 areas:

1. Flora and fauna identification, distribution, mapping and connectivity studies for both parks and private land

The needs below should be addressed for both public and private land. Because relatively small gaps can prevent the free movement of animals, and because the types of habitat, terrain and vegetation dictate the nature of the gaps, the groups identified the need for finely detailed (small scale) maps indicating the distributions of flora and fauna with the ability to superimpose such a map on the geographical, ecological and manmade features of the area. It would be helpful to have at hand the ecological classifications found in the area and to locate biodiversity hot spots. This could then lead to better prediction of species at risk and the location of existing corridors. It was felt that research on the appropriateness of assisted migration (repopulating some areas with new or previously present species) would be useful. The groups noted that the location of animals is not static, and information about seasonal movement would be helpful. There is a need to understand what modeled connectivity corridors actually mean for the species – what are the species' needs, what are species-specific habitat and dispersal requirements? In essence this is the quality control of the modeling results. What might be a corridor for one species might be a core area for



another. Finally, it was recognized that aquatic connectivity is also important and the impact of dams (for example) should be better understood.

2. Investigation of most effective strategies to achieve public and stakeholder engagement

- We need to conduct research on public perception. For example, polling the public to better understand their perceptions and attitudes.
- We need data on land ownership. For example, we need to know the interests of landowners, to know how to approach them and to tap into their knowledge.
- We need to involve groups that have historically been opposed to government engagement on the land.

3. How to effectively manage, collect, store, and make available data and research

- We need to better identify where observations are published– data needs to be consolidated. There is a need for a universal reporting system/central repository (such as NHIC, NatureServe Explorer), available to everyone for submission and research use. Data needs to be collated and shared using common language and methods.
- We need data that we can share across the international border.
- We need to agree on best practices for protocols and methods.

4. Review of Land Use

- Review of land use and municipal and provincial or state regulations is required to support consistent development both in Canada and the US. What conservation language is being used? How can it be changed to provide consistent development guidelines? (Need model language). Different jurisdictions need to use common language.
- How to link all research findings to municipal planning?
- Investigate how quickly land-use planning is changing and how development is increasing pressure on conservation.

5. Cultural heritage mapping

- Cultural heritage values mappings in Ontario and in New York State – what's available and is the information from the two countries compatible?

6. Climate



There is a need to:

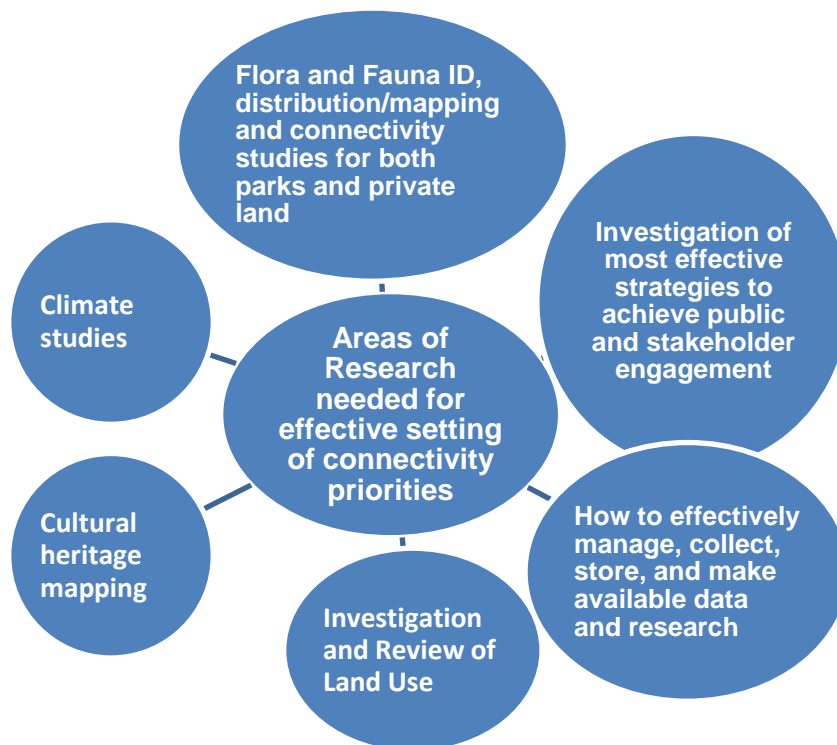
- investigate microclimates on the Canadian Shield and elsewhere
- investigate climate sensitivity of the entire region, fire history etc.
- use models to predict regional impact from climate change. Sugar maples and ash trees could be candidates for studying this.

Summary

The following priorities for connectivity and conservation were emphasized:

1. Functional corridors where animals are moving.
2. The St. Lawrence River particularly the islands and narrow points which are key to connectivity.
3. Unique landscape features e.g. alvars, moraines, deep-water lakes and unique geological features.
4. Cultural heritage including traditional native cultural areas, and current cultural aspects e.g. maple syrup producers who have deep local knowledge and understanding of their forests.

Summary of Areas of Research Needed for Effective Setting of Connectivity Priorities





2nd Break-out Session

Purpose: To identify the most significant barriers/threats to biodiversity conservation and connectivity in the A2A region.

2. Identifying barriers/threats to biodiversity conservation and connectivity

a. What are the most significant barriers to biodiversity conservation and connectivity in the A2A region?

Each group brainstormed barriers and threats to biodiversity conservation and connectivity in the A2A region. These threats fell into several general groups that are presented in Table 1.

The workshop participants attempted to identify how urgent the threats and barriers were and whether it is feasible to change them. While all groups identified climate change as a significant threat, they thought it was not feasible to change in a timely fashion. Physical barriers causing habitat degradation and fragmentation were considered to be less urgent but feasible to change. Public attitude and opinion were identified as critical and also feasible to change. Likewise funding issues, which are loosely tied with political will, were viewed as another opportunity for change.



Table1 : Summary of brainstorming concerning threats and barriers to connectivity and biodiversity conservation			
Group 1	Group 2	Group 3	Group 4
All groups mentioned Climate change			
			Shorter/ Fewer Freeze-ups
Physical Barriers			
<p>Transportation corridors (i.e.: 417, 407), St. Lawrence Seaway</p> <p>Development along Seaway (reduces corridors), hardening of the landscape/waterfront (i.e.: low-head dams, shoreline development).</p> <p>Green energy initiative developments pose major connectivity barriers (i.e.: solar panel farms, wind factories in Lake Ontario) – summarized as “green energy”</p>	<p>Wind turbines</p>	<p>Transportation corridors e.g. trains, primary roads</p> <p>Wider roads-increased traffic</p> <p>Road construction</p> <p>Great Lakes/St. Lawrence</p> <p>Dams and Locks</p> <p>Changing water levels</p> <p>Transmission of power</p> <p>Agriculture</p> <p>Energy production e.g. turbines</p>	<p>Jersey Barriers on highways</p> <p>Highway engineer awareness</p> <p>Solar / Wind/ Hydro Energy Developments</p>
Changing land use/development			
<p>Land use change with respect to development</p> <p>Increased land use</p> <p>Economic barriers – people don’t want anything in the way of “development”</p>	<p>Urban and rural residential development</p>	<p>Urban sprawl</p> <p>Population increase</p>	<p>Small Incremental Development (the sum has a large impact)</p> <p>Year round cottages</p> <p>Changes in area services</p> <p>ATV use increasing</p> <p>Trails becoming roads</p>
Public attitudes and opinion			
<p>Environmentalists seeing things through only one filter – can be their own worst enemies, are approaching public in ineffective ways</p>	<p>Public opinion: “ Why is biodiversity important?”</p> <p>“ Why should we care?”</p>		<p>Landowner/ Stake holder awareness</p> <p>“Back off my land” attitudes</p>



Landowner hostility/fear/resistance			Not in my backyard
Education and research			
Still need to understand research gaps, path forward, networking between various conservation organizations, need unified communications	Lack of commitment to research and ongoing data collection	Lack of nature education	Data (consistency and accessibility across boundaries)
Lack of scientific information, specifically on private lands	Cuts to educational programs	Lack of access to nature-people cannot get from city to parks	
Public needs to understand scientific language (i.e.: define biodiversity, EI, sustainability)			
Lack of obvious focus for public to be drawn to the A2A region, we need to be able to communicate well to public about why it is important.			
Invasive species			
	Invasive species	Invasive species	Invasive species, forest pests, aquatic pests
Funding			
Money (major funding restrictions to provincial and federal governments)	Model forests have only two more years of funding.	Gov. slashing research funds	Federal/Provincial Cross border Erosion of Parks funding
Need to boost philanthropy, get donors on land	Land Stewardship Councils are facing changes and cuts.		-Fewer biologists
	Lack of money /fundraising		Tax Laws-Incentive for conservation
Resource extraction			
	Mining of aggregates and uranium	Aggregate and mineral extraction	Unsustainable forestry
		Energy extraction	
Political			
Get politicians involved. -need 5 – 10 year plans. Need ONE vision and ONE plan. Planning – most planning done on 5 year	Increasing radicalization of the right wing, and an increase in funding	Secrecy of government	Unresolved Land Claims
		“Commodifying” Parks e.g.	



time-frame	<p>behind the right wing. Especially in the States.</p> <p>A shift right at the federal level of Canada's government.</p> <p>Politics and political will – a hard turn to the right, and the abandonment of the environment</p>	selling items to make \$\$	
Other			
<p>Environmental groups have to think/act like a business – need to think strategically and communicate that to the public.</p> <p>Conservation organizations need to turn analysis into action plans</p>		Pollution	



b. What research has been done about these barriers/threats?

See 1b.

c. What research needs to be done in order for the Collaborative Network to effectively address each of these barriers/threats? (i.e. What are the critical knowledge gaps?)

The areas of research and questions identified by participants as necessary to overcome barriers and threats and fill in critical knowledge gaps fell into 3 broad areas:

1. Investigation of effective methods of engagement

- Specific polling to explore public attitudes. Queen's University surveys done by studying polling and Statistics Canada information found that basically people are uninformed and Sustaining What We Value, a natural heritage system planning project (<http://sustainingwhatwevalue.ca/>) collected community information concerning what is valued.
- How do we best reach out to communities to engage them e.g. work with hunting and trapping groups, snowmobile groups, bring kids to nature
- How to increase outreach to politicians and engage them?
- How to effectively educate the public about connectivity and ecosystems?

2. Biological Research Needs

- Quantify ecosystems and effects on them e.g. positive and negative effects of water level changes
- How to prevent invasive species?
- Habitat degradation studies
- How systems work so climate change impacts can be better understood
- How to provide access to natural spaces in a sustainable manner?
- What are the effects on agriculture of sustaining nature, maintaining our natural heritage?
- How can we incorporate/use distributed and diverse data sources effectively?
 - Can data collected by motion sensor cameras located at borders be used?
 - Can information on bird migration be consolidated? e.g. Kingston Field Naturalist data, Doppler radar information.
- To model potential scenarios for future land use, we need to know the rates of land use change.



- Understand energy infrastructure potential- where are structures to be located? What impacts will they have?
- What road expansions are planned and where? There is a need to identify proposed road works, so that mitigations can be planned
- What steps can be taken to flag conservation sensitive land that is for sale for conservation minded buyers?

3. Collaboration and management of data

It was also emphasized by more than one group that

- Data needs to be communicated in a way that stakeholders understand and value
- More collaboration between US and Canadian research efforts is needed
- More coordinating/pooling of resources is necessary
- Duplication of studies needs to be avoided through coordinating research and disseminating findings
- Specialization should be encouraged based on what groups are good at, and then coordinate to have one large project
- Research should strive to be proactive rather than reactive
- A simple way to communicate information/data is required
- Should start small then get bigger, go after some quick and easy wins, and then develop a long term plan to tackle the larger more difficult problems.

Summary

Physical barriers such as transportation corridors and energy infrastructure, development and changing land use, public attitudes, lack of education and research, invasive species, funding, resource extraction, lack of political will and pollution were all viewed as threats to biodiversity conservation and connectivity. Public opinion and political will were identified as areas particularly feasible to change. A focused, targeted approach is needed at the community level to encourage public involvement. If communities or individuals were made aware of simple, alternative conservation-supporting solutions to their issues, perhaps there would be more engagement. It is important to use the momentum of small-scale successes to get public engagement on a larger scale. Funding (or lack of) which is loosely linked to political will could be addressed somewhat, in this time of fiscal restraint, by increased collaboration, co-ordination



and sharing of data. This would result in greater efficiency and more effective use of funds. Active involvement of politicians on both sides of the border was also suggested.

The research needed to address these barriers includes biological, e.g. ecosystem studies of flora and fauna, the sociological, e.g. how do we effectively engage the public and politicians, and questions concerning how diverse data from distributed resources can be used effectively.

3rd Break-out session

Purpose: To identify how a regional collaborative could work together to improve and promote connectivity in the A2A region.

3. How can a regional collaborative function?

More than one group noted there was confusion concerning the definition of the collaborative. Questions were asked concerning whether the collaborative was A2A, or some new collaborative organization.

a. What do we want a regional collaborative to be able to do?

It was generally agreed by all groups that the fundamental goal of any collaborative was to **co-ordinate** and **facilitate** the following:

1. Establishing a shared Vision and developing a Strategic Plan

Determining a single united message that can be shared with the public, developers, and the science community was thought to be important by all groups. What the name of this message was to be was a source of debate. Terms of reference, vision, and common goals were among the terms considered. The participants thought that the united message should be considered a work in progress and the collaborative should be open to its modification.

Participants considered the collaborative should be working towards development of a Strategic Plan (through workshops, etc). Various questions arose concerning the Strategic Plan – who is developing it? Does A2A make it happen, or does A2A own it? Is the overall view pragmatic or is it visionary?

Several different organizations were mentioned as potential models or learning opportunities e.g. Y2Y (<http://y2y.net>), which established a vision but has others implementing it, LTR Everglades (<http://fce.lternet.edu/>) which gathered many small groups together and successfully raised funds.



2. Information management.

Functioning as a communication nexus was considered by all groups to be a critical component of the collaborative. Through the use of websites and databases, the collaborative was seen to have potential to be a repository for data and research, to facilitate data access and data standardization, and to assist in the development of common protocols throughout the A2A region.

3. Ecological land management

The collaborative should co-ordinate and facilitate land management based on sound ecological principles.

More than one group suggested the collaborative could influence legislation (either directly or through its members or member organizations) to protect areas within A2A region and pressure municipalities to implement policies. The limited potential of the A2A to do this due to its charitable status in Canada was explained by E. Conger.

The collaborative was thought to be a good vehicle to work towards designation of the A2A wildlife corridor as an area of international and national importance and to develop strategies for its protection.

There is an important role for the collaborative developing and enhancing connectivity and identifying priority lands for protection.

4. Partnerships and interdisciplinary thinking

All groups thought coordination of partnership building and identification of any missing representation was a crucial contribution of the collaborative. In particular the collaborative should facilitate and promote cross border collaboration. It should also be able to promote and co-ordinate interdisciplinary studies.

5. Fund raising

Helping to identify sources of funding was mentioned by all groups as an important role for the collaborative. Identifying and assisting in potential cross border opportunities to access funding, e.g. NAFTA, were particularly highlighted.

6. Providing scientific and technical expertise



Coordinate and facilitate the development of a Science Advisory Group that can provide scientific and technical expertise. One group thought that the collaborative should be commissioning research.

7. Engaging the public: outreach/education/PR

More than one group thought that the collaborative had a critical role to play engaging people - not just focusing on science, but creating a brand that the public supports and engages with. The collaborative would thus facilitate communication of goals and concepts, and increase awareness of the A2A program (among the public and government). One group suggested the collaborative should raise the profile of the A2A region perhaps by promoting “A Working Landscape”.

The collaborative could co-ordinate and facilitate outreach programs to educate the public about the unique quality and needs of the A2A landscape and build a constituency for A2A issues.

8. Provision of a paid coordinator position

In order to co-ordinate and facilitate the above and provide continuity and some leadership all groups noted that a paid position was required to act as coordinator or the point person. One group noted a science writer could play an important role whereas the other groups focused more on a coordinator to facilitate all the points above.

There was significant discussion in all groups concerning the development and structure of the collaborative. The following points were put forward:

- There are different models for the collaborative.
- The collaborative is a shared organization that is not owned by any one organization.
- A2A could be the dedicated coordinator, but all members of the collaborative are working together to develop the Strategic Plan. Once the tactics are defined, they may be further developed by the individual organizations of the collaborative.
- Should the collaborative be promoted as a new identity, supported and coordinated by A2A?
- The collaborative needs to have support of regional jurisdictions, so that organizations are not excluded because of boundaries issues. It is necessary to explain the role of smaller regional organizations with respect to the Big Picture.
- With the adoption of the A2A vision, the importance of the connectivity in our own “back yards” must be emphasized, so that funders, employers, and local landowners buy in.
- The on-the-ground work needs to be done on the local level.



- Have an advisory committee of 25 or so representatives who could work together to make a “Big Vision”
- Would A2A provide some coordination?
- Organizations, such as land trusts, could be networked into sub-groups rather than trying to coordinate all groups on one level.
- Geographically speaking, the corridor is huge with a small “pinch point” that is the last intact corridor in eastern North America.
- We don’t want to exclude anyone, but rather to encourage everyone to work together- think globally, act locally.

b. Who should be involved in the collaborative? What role would they play?

One group provided a specific list of organizations (see Table 2) while other groups had more general lists and others focused more on the roles they would play. It was generally agreed those who share the A2A vision should be involved. The A2A vision can be found on <http://www.a2alink.org/>.

More than one group noted that there should be full involvement on both sides of the border i.e. full US/Canadian involvement. Heidi Kretser provided a list of various organizations in the US which should be involved more (see Table 3). There was a suggestion that political leaders should be involved in order to obtain high-level government buy in. Participants considered this would be a good role for an A2A collaborative, in both the US and Canada. The big vision is promoted at the national level, and the work is done on the local level, at the land ownership level.

A nested approach was suggested so that the groups stay reasonably small and there is a need to have regionally specific information (i.e. need to address locally sensitive issues appropriately) in order to avoid issues that could be polarizing.

One of the groups suggested the following general groups of stakeholders should be involved:

- Industries , e.g. Forestry, Mining, Agriculture, Tourism
- Public Health
- First Nations
- NGO’s on the ground (Conservation Authorities)
- Landowner Reps
- Land Trusts



Table 2: List of Organizations that should be involved from Group 2	
St. Lawrence Parks Commission	A2A
St. Lawrence Islands National Parks	Private sector-Businesses (large and small) especially tourism
First Nations	Planners' conferences
Ontario Provincial Parks	Cultural/heritage groups
Conservation groups	U.S. Forest Service
Land trusts	National Capital Commission
Land owners	Canadian Museum of Nature
Thousand Islands Area Residents' Association	Canadian Parks and Wilderness Society- Ottawa Valley Chapter
Municipalities especially planners	Greenbelt Coalition
Ministry of Natural Resources	Military-U.S. and Canada
Ontario Tourism	Ontario Nature
Nature Conservancy-Canada and U.S.	International Joint Commission
Field naturalists	Environment Commission of Ontario
Local residents	Ontario Road Ecology Group
Private land owners	Eastern Ontario Model Forest
Local group reps	Wildlife Society
Ducks Unlimited	Ontario Ministry of Transportation
Environment Canada	Ontario Ministry of Environment
Science groups	International Union for Conservation and Nature
U.S. Fish and Wildlife	Woodlot owners
Academic researchers	Canadian Sustainable Forestry
Frontenac Arch Biosphere (FAB)	Colleges and Universities
Farm groups	Certified forest owners
Aggregate and mineral groups	Citizen Science
Federation of Anglers and Hunters	Rideau Canal
MRC Strategic planners –municipal, regional and county	Source water protection committees
Politicians e.g. Eastern Ontario Wardens' Caucus	



Table 3: Potential US representation from Heidi Kretser	
NYS DEC Region 6	Academics e.g. Paul Smith College, Potsdam, SL University, Clarkson
Farm groups in St. Lawrence County	Office of Parks and Recreation
Maple Sugar Community	Tug Hill Tomorrow (Land trust)
St. Lawrence County Planning	Thousand Islands Land trust
Tug Hill Commission	Fort Drum Military Biologists
TNC The Nature conservancy	US Fish and Wildlife Service
Adirondack Park Agency	Homeland Security/Border Control- Federal
Adirondack Nature Conservancy Association (ANCA)	St. Lawrence Seaway
Akwesasne (Mohawk, First Nations)	Cornell Cooperative Extension
Public Health in US	Great Lakes Commission

c. How can a collaborative help you do your work?

All participants thought creating an information ‘hub’ or open forum of information to share was an essential role of the collaborative that would definitely assist their work. The following areas where a collaborative could help were specifically mentioned:

- Facilitate data access (data warehouse) – organizations need to become interoperable, and data need to be standardized. Organizations should promote consistent free access to data and could explain technically how this can happen. There is a need to perform quality assurance since not all data are equal.
- Since the Natural Heritage Information Centre (NHIC , <http://nhic.mnr.gov.on.ca/>) already exists and compiles, maintains and distributes information on natural species, plant communities and spaces of conservation concern in Ontario, there is no need to duplicate their efforts.
- I-naturalist (<http://www.inaturalist.org>) collects information about wildlife vehicle collisions, E-birds (<http://ebird.org>) collects bird observations, I-map(www.imap-migration.org) provides migration maps, Invasive Species databases in Canada and US, Amphibian Atlas in Ontario and US already exist. These should be compatible with any data facility supported by A2A or a collaborative.



- A network of professionals or a research network could help colleagues locate and collaborate with like-minded workers.
- Train and use citizen scientists. In order to ensure the quality of data collected this way, citizens need training, and specific data collection parameters must be identified.
- The collaborative could provide a research summary (quarterly) to collaborative members in the form of a RRS feed, blogs or something similar.
- Ambassadors are needed from various organizations and from A2A to increase cross-linking between organizations and to advocate for the collaborative.
- A well-considered Strategic Plan needs to be developed with input from all the stakeholders.
- Research priorities and directions need to be better and more specifically defined to assist with decision making e.g. how to optimize use of funding, identify knowledge and research gaps, avoid duplication, and streamline research efforts.
- Define the A2A region.
- Leverage funding from scholarships and research organizations on both sides of the border.
- Help on-the-ground groups raise funds.
- Promote legitimacy and advocacy.
- Networking
- Publicity, including promoting awareness using social media
- Assist in the meeting of missions.
- International travel
- Provide training

Summary and conclusions

- The need exists for the current A2A to act as a catalyst for the formation of an Interim Action Committee drawing on the members of A2A, participants at this workshop, participants at the practitioners' workshop and others where appropriate to ultimately evolve into a steering committee for a Collaborative Network focused on connectivity in the A2A region.
- The Interim Action Committee should be established as soon as possible and will develop a terms of reference (TOR) that articulates a mission, goals, governances, who is responsible for what, and how it will conduct itself. This would serve as the guideline for the Collaborative Network. The committee should draft an outline and solicit input from the



stakeholders. The final document should be approved by members of the Collaborative Network.

- TOR might be extractable from question 3 e.g. The Collaborative Network vision (to be developed) is probably already mostly reflected in existing organizations. It was suggested that the Vision for this network be very similar to that of Sustaining What We Value:

A sustainable quality of life for the communities within and adjacent to the study area is supported by a balance of environmental, economic, cultural, and social land uses that includes a system of connected natural areas capable of conserving indigenous biodiversity, ecological functions and species habitats.

The fundamental goals of the Collaborative Network are to **co-ordinate** and **facilitate** the following:

1. Establishing a shared Vision and the development of a Strategic Plan
2. Information management
3. Ecological Land management
4. Partnerships and interdisciplinary thinking
5. Fund raising
6. Providing scientific and technical expertise (establish a Science Advisory Group)
7. Engaging the public/outreach/education/PR
8. Provision of a paid coordinator position

The stakeholders should include representatives from the conservation NGOs, governmental environmental organizations and the following groups: local industries (forestry, mining, tourism), Public Health, First Nations, landowners, land trusts. In order to keep the group sizes manageable there should be a nested approach.

The precise tactics and sources of funding to achieve these goals remain to be determined.

- A second workshop is required aimed at on-the-ground practitioners. It is hoped to hold this in the fall.
- Inter-group communications should be established: what can groups offer the Collaborative Network, and what do they want from it?



4th Break-out Session A

Purpose: To identify the best tools for managing and sharing data on the A2A landscape. Consider examples such as Sustaining What We Value, the High Conservation Value Forest Toolkit, and other tools with which you are familiar.

4. Identifying the tools used to organize and share data on the A2A landscape.

All workshop participants interested in this topic got together in one group to address this question.

a. What types of information are important for the collaboration to have?

- Who is doing what? When? Where? An inventory of conservation organizations and their activities, research being conducted and contact information of those involved is necessary.
- Cross-border data accessible to everyone
- On-line mapping products
- Compatible data

b. How do you standardize the collection and presentation of the data?

- The key is accessibility and compatibility.
- Establish a project to develop common words and definitions and comprehensive data definitions.
- Focus on small tight geometrics.
- Create cross-border agreement for key layers of data.
- Use the best currently available data.
- Develop a joint project and work plan, identifying key data layers, definitions etc.
- Focus on “low hanging fruit” to get early success.
- Network first phase using students in both US and Canada.
- Involve students from colleges where emphasis is more practical, less on academic publications e.g. Sir Sanford Fleming in Peterborough has geomatics courses.
- Use open sourced software to save money and to create accessibility, compatibility etc.
- Focus on regional level- A2A region.



- Consider the use of citizen scientists as part of the projects, creating templates to collect data e.g. Field Botanists of Ontario, Ontario Field Ornithologists.
- Example Moose mascot....citizen scientists report sightings of moose feeding, breeding and movements using password protected public website and templates for reporting. This website is linked to a scientific website that then pulls literature review, habitat data, maps it and referees the data for publication.

c. How can the information be stored and shared?

- Need transparent land mapping (check Land Information Ontario).
- Develop data sharing agreements.
- Storage on websites
- Linkages with Nature Conservancy – Conserve Online which is available to partners and has information on projects, plans, reports and literature
- Linkages with Stewardship tracking systems
- First step: solicit data sets from collaborative members (Urgent), most current data
- Land cover data with geographic context
- Examine boundaries and develop meta layers of data.
- Organize a central repository.
- Mediate between two data sets.
- Improve meta layers as you go, first sets large, then refining over time and usage.
- As a base model look at 2 Countries, 1 Forest Atlas, it has a good map gallery, data warehouse and data dictionary.
- Do not replicate work that has already been done.
- “Adopt, adapt, develop” should be the motto.
- Capitalize on existing resources.
- Source data sets first (not derived data).
- Year 1: focus on the big picture...grainy information

d. Who is going to collate this information?

- Need a dedicated individual to manage the project or a cross border group to share the project and guide it or both.
- Ongoing direction is needed (i.e.: by Science Advisory Group).



- Develop seamless land cover maps and data, through agreements to standardize the data...for the purpose of creating the big picture, leaving individual sources with their own processes and definitions.
- GIS not in detail, big picture first year
- Use Industrial scholarships at the college/technical institute level. We need at least one college from either side of the border to be working together.
- Who is going to take the lead to get people together? Science Advisory Group? A2A? The Collaborative Network?

e. What barriers and challenges might arise in developing these tools?

- Funding
- Data ownership (who is the custodian?)
- Accept that public criticism about data sensitivity and data validity may be present.
- Possible source of funding NAFTA: Commission on Environmental Cooperation
- Data agreements and compromises
- Presentations and exposure to public
- Clear documents, writing and presentations of spatial data, species data etc.
- Need for seamless data at lowest common denominator may not win support of the scientific community unless sold as a first step in an ongoing process. This is difficult to promise in light of multi-year funding challenges.
- Making 5 separate data sets merge into the big picture-time consuming and requires good will and willingness to compromise without compromising the data

Summary

The data group identified a clear need for hard data concerning the species and distribution of the flora and fauna. Furthermore the corridors for various species need to be established. Mapping data also needs to be generally accessible. All of this data has to be compatible and made available widely. An extensive bibliography is required so all stakeholders are aware of previous studies. Effective communication could be provided through a well designed website with pointers to data repositories, mapping data, conservation organizations....and giving indications of where citizen scientists could contribute. It was suggested that the 2 Countries, 1 Forest project would be a good model for providing data accessibility. Cross border collaboration both with respect to data sharing and future research projects was identified as an



opportunity. The group emphasized the need for a dedicated individual or cross border group to facilitate the development of all of the above and noted that this would require the ongoing direction of the Science Advisory Group. Barriers to progress that were noted include funding, and the question of data ownership. The Data Group resolved to establish an interim group on line to discuss and develop thoughts and ideas around definition and structure of database and data management.

4th Break-out Session B

Purpose: To establish a Science Advisory Group that advises a regional collaborative. This is an opportunity for those who have experience working with conservation groups and academic scientific research to inform the creation of a Science Advisory Group for the Collaborative Network.

5. Establishing a Science Advisory Group.

a. What are the key areas of science that need to be represented in a Science Advisory Group, and who best represents those key areas

Participants suggested that a Science Advisory Group should be composed of scientists who either work in the A2A area or who are “concept” people. It was noted that the group should not be too large and that each member of the group could perhaps represent more than one of the core areas of specialization. Participants were asked to send in suggestions of specific people who might be appropriate.

Numerous areas of specialization were mentioned by both groups who considered this question including:

- Landscape Ecology
- Geology
- Disturbance Science
- Forestry
- Ornithology
- Fresh Water Science
- Landscape Permeability Research
....away from the corridor
- Road Ecology
- Large scale migration science
- Civil engineering
- Environmental philosophy



- Biology
 - terrestrial
 - aquatic
- Genetics through ecosystems
- Circuit scape theory
- Climate change
- Sociology
- Ecosystems evaluation
- Science of land use planning
- Hydrology

b. What is the best way for a Science Advisory Group to be formed and to function?

i. What is the best way for a Science Advisory Group to be formed?

Both groups considering this question agreed there is a need to have some of the plan laid out before contacting scientists (other scientists) i.e. Science Advisory Group needs a mission and goals.

A provisional 'terms of reference' document needs to be drafted This should include a vision statement and an explanation of the value of a science advisory group. The group doing this could be a sub-group of the Interim Action Committee. This should be disseminated widely and further input solicited. Ideally a draft should be ready for the fall workshop for the consideration of the on-the-ground conservation practitioners. This provisional 'terms of reference' document could be sent to scientists to ask them where their expertise could help build the evidence base to support strategic action.

ii. What is the best way for a Science Advisory Group to function

The following points were made concerning the functioning of the Science Advisory group

- Consider whether this group needs a leader of its own.
- As soon as possible the Science Advisory Group should have a representative on the Interim Action Committee.
- Members of the Science Advisory Group should be involved in helping to develop a Strategic Plan for the Collaborative Network.
- Sub committees can be used to consider particular issues and other scientists, who are experts on a topic that may come up, can be brought in to advise as needed.
- The Scientific Advisory Group would keep their finger on the pulse of relevant current science
- Members should be well-connected scientists, able to form outreaches (keep broad categories).



- There should be a balance of US and Canadian researchers.
- The Science Advisory Group is to:
 - determine the scientific defensibility of the Strategic Plan
 - make sure the science is well executed
 - review outreach material
 - prioritize scientific needs on the A2A region
 - identify research gaps
 - give advice concerning standardization of data collection and reporting across the 2 countries
 - develop study designs that support efficiencies e.g. multi-species investigations
 - identify sources of funding in both countries; facilitate access to funding to which one country might otherwise not have access
 - give advice to on-the-ground conservation groups regarding the application of science
 - act on the requests of the Collaborative Network-this is an advisory group and the Collaborative Network would set its own policies based in part on this scientific advice
 - present their findings perhaps associated with another meeting e.g. Adirondack Research Consortium

Summary

There is a need for clear, defining documents. In particular a provisional vision statement defining the purpose and goals of the Science Advisory group is necessary together with information concerning the time and resource commitment that would be required from participants. The provisional vision document can be adapted over time with input from the stakeholders.

The members of the Science Advisory group need to have broad perspectives, be well connected and represent more than one discipline area, in order to keep the group a manageable size.

It was noted that students could make significant contributions to research programs. Utilization of students would help satisfy the education component that is built into many grants.



Plenary to summarize the findings of the day and the next steps

Purpose: To prioritize actions of different groups.

1. A2A

- Report the Workshop Proceedings
- Establish an Interim Action Committee (earlier termed Steering Committee) as soon as possible to develop provisional Terms of Reference
- Co-ordinate fall workshop
- Compile a research database and follow-up
- Continue work on A2A website
- Provide A2A region Introduction slide package

2. Collaborative Network

- Pull together ideas from the proceedings and share further ideas.
- Perhaps not a collaborative but a Network (somewhat looser), with A2A as coordinating organization
- Use input from the Interim Action Committee to establish a Strategic Plan for the A2A region and solicit further input concerning it from the Collaborative Network members.

3. Data group

- Establish an interim group on line.
- Discuss and develop thoughts and ideas around definition and structure of database and data management.

4. Science Advisory Group

- Need to define provisional vision for Science Advisory Group and solicit further input.
- What science is happening, where are we now, what has and is being done where are the gaps
- Data needs to be organized so scientists are confident their data is not mismanaged.
- Scientists need to assist the Collaborative Network in defining and achieving their priorities.



5. Participants in workshop

- Refer to your research in the context of the A2A region and the Collaborative Network to generate more interest.
- Use the Introductory slide package, and the CPAW area map (to be provided by A2A) to promote the A2A region.
- Stay in touch with A2A.
- Volunteer!

Conclusions to Workshop

Significant progress was made developing terms of reference for the establishment of an Interim Action Committee for the Collaborative Network. It was resolved that this committee would be established and acting as soon as possible, and be comprised of diverse scientists, as well as conservation practitioners and representatives from other stakeholder groups.

Provisional terms of reference for the Interim Action Committee arise out of the discussions concerning the Collaborative Network (Q3) and could serve as discussion points and the guideline for the Collaborative Network. The major role seen for this Collaborative Network is as facilitator and coordinator of research and actions leading to conservation of biodiversity and connectivity in the A2A region. A Science Advisory Group is to be established once the Interim Action Committee has defined the vision for such a committee.

The priority actions established in the final plenary session clearly define the initial work needed to be done. Leadership needs to be given by the Interim Action Committee in order for successful establishment of a regional Collaborative Network and its strategic plan. Stakeholder input will be solicited concerning these major documents (TOR for the Interim Action Committee and ultimately the Strategic Plan for the Collaborative Network), but without significant leadership, progress will not occur.

Several key themes emerged during this workshop:

- 1) A requirement to identify and map the flora and fauna and their corridors. Some data concerning this is already available in the literature (e.g. Theberge and Theberge. 2004, Lapointe *et al.* 2003) but more hard data, specifically related to the A2A region, needs to be obtained. Ways are needed to encourage research biologists to answer questions specifically concerning the A2A region. There is a role for the Collaborative Network to foster a capability to examine A2A region comprehensively.



2) A need to manage data and research effectively

Maps indicating the distributions of flora and fauna and all the protected and conserved areas in the A2A region (both in Canada and the US) with the ability to superimpose such a map on the geographical, ecological and manmade features of the area would be useful. Such mapping data should be broadly available and easily accessible. An extensive bibliographic database needs to be set up and made available publicly so that anyone researching and working in the area can easily access the published research. This database needs to be linked to a second database of publicly available data. Databases of this type already exist and rather than duplicate them they need to be linked in an accessible manner.

3) A requirement to collaborate and communicate more effectively:

- Across the US Canada border, between and among scientists and between scientists and practitioners

Clearly there is research ongoing on both sides of the international border concerning the A2A region. Any databases set up need to reflect this. The Collaborative Network could facilitate this by providing a single space online linking the collection of biological data originating from the Collaborative Network, a bibliography of published work, an inventory of scientists and conservation practitioners working in the A2A region, and a platform for communication among the researchers and practitioners involved.

- With the public generally and stakeholders

Clearly public support for conservation of the A2A region is necessary. Outreach and communication are a central part of sustaining and enhancing conservation. Science communication can also be used to stimulate public debate and allows for an informed public to make rational, informed choices on controversial issues. Science literacy is critical for the public to be able to engage effectively. The Collaborative Network could undertake to reach out through its website presentations and workshops in specific communities to further public understanding of conservation issues and to better understand public concerns.

- With politicians

Communicating is necessary for linking research and policy. Science communication provides policymakers with credible, objective evidence on which to base their policy decisions. By summarizing the key research findings in forms of policy briefs, the A2A Collaborative Network could help ensure that policymakers receive scientific information in a form that is readily understandable and useable.

- Among conservation organizations



In order to avoid duplication and use funding efficiently and effectively, organizations need to interact to share labour, data, research, and best practices.

All of the above can be facilitated through a well-designed Collaborative Network website.

The lack of significant progress arising from a similar workshop 12 years ago seems to have been largely due to absence of action on the recommendations. The success of this workshop depends on the participants following through on the action items, particularly the establishment of an Interim Action Committee to catalyze the process. A2A was the motivator for this workshop and needs to continue in this role to ensure progress is made. It is clear that this is a huge task for a volunteer organisation and a priority item should be to seek funding for a full time position to assist in developing the goals of the Collaborative Network.

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Appendix 1: Workshop Participants

Appendix 1 : List of Workshop Participants, Facilitators and Note takers	
Participant	Affiliation
1. Gary Bell	Nature Conservancy of Canada
2. Andy Bramburger	St. Lawrence Institute of Environmental Science
3. Brian Cumming	Queens University, Department of Biology
4. Ryan Danby	Queens University, School of Environmental Studies
5. Peter Dawson	Ontario Parks
6. Lyn Garrah	Queens University, School of Environmental Studies
7. Jochen Jaeger	Concordia University, Department of Geography
8. Heidi Kretser	Wildlife Conservation Society (New York)
9. Alison Lake	Algonquin Provincial Park- Ontario Parks
10. Sheldon Lambert	St. Lawrence Islands National Park
11. Clay McMullen	Queen's University, School of Environmental Studies
12. Cameron Smith	A2A
13. Zoe Smith	Wildlife Conservation Society (New York)
14. Joy Sterritt	Ontario Ministry of Natural Resources
15. Silvia Strobl	Ontario Ministry of Natural Resources
16. Samantha Tavenor	Queen's University
17. Mathew Tomlinson	National Capital Commission
18. John Urquhart	Ontario Nature
19. Catherine Verreault	National Capital Commission, Gatineau Park
20. Steve Voros	Ontario Ministry of Natural Resources
21. Graham Whitelaw	Environmental Studies, Queen's University
22. Ian Whyte	Canadian Parks and Wilderness Society- Ottawa Valley and A2A
23. Josh Wise	Ontario Nature
24. Lorna Wright	The Nature Conservancy, Central & Western New York Chapter
Jacqueline Nunes (observer)	A2A and York University, Faculty of Environmental Studies
Workshop Facilitators	
Ken Buchan	CPAWS- Ottawa Valley, A2A
Emily Conger	A2A
Neahga Leonard	Staying Connected Initiative
Ed Lowans	A2A
Bryarly McEachern	A2A
Cheryl O'Connor	
Workshop Note takers	
Jacquie Bastick	
Sandy Gray	A2A
Jessie Little	A2A
Molly Sorensen	A2A



Appendix 2: Workshop Agenda



Working Toward a Strategic Roadmap for Connectivity

A2A Workshop #1, April 28th, 2012
Queen's University Biological Station

Agenda and Discussion Questions

Friday evening, April 27

5:00-6:30 Registration of weekend participants in Main Lodge dining hall (upper level)

6:30-7:30 Dinner in Main Lodge dining hall

7:30 Free time: relax, network, explore

Saturday, April 28

7:30-8:30 Breakfast in Main Lodge dining hall

8:00-8:30 Registration of day participants (in dining hall)

8:30-8:45 Assemble in Main Lodge conference room (lower level)

8:45-9:00 **Welcome introduction**
Emily Conger, President, Algonquin to Adirondacks Conservation

9:00-9:35 **Keynote presentation: Sustaining What We Value**
Silvia Strobl, Ontario Ministry of Natural Resources

9:40-10:30 **1st Break-out Session: Participants assigned to groups. All groups do question #1.**

Purpose: To familiarize ourselves with the A2A region and prioritize key areas for connectivity and biodiversity conservation, focusing on core areas, wildlife linkages, and areas of high conservation value.

1. Prioritizing core areas, wildlife linkages, and areas of high conservation value. (50 minutes)

a. Using the maps provided, outline the most important ecological areas between Algonquin and Adirondack Parks. Focus on core areas, potential wildlife linkages, and areas of high conservation value. *(Circle and label with sticky notes)*

b. What research has been done that would help a regional collaborative prioritize areas for connectivity/biodiversity conservation in the region? *(Write your name on a piece of paper and the topic or locale you have information about. It could be ecological, social, aboriginal information...)*



c. What research needs to be done in order to effectively prioritize areas? (*Brainstorm and record on flip chart. State the research need in one sentence or less*)

10:30-10:55 1st Report-back: Reassemble in conference room

Each break-out group will have 5 minutes to report their findings to the larger group. Facilitator, Neahga Leonard, will spend 5 minutes summarizing/highlighting the shared priorities among groups. He will do this at the end of each report-back.

10:55-11:05 Coffee break

11:05-11:50 2nd Break-out Session: All groups do question #2.

Purpose: *To identify the most significant barriers/threats to biodiversity conservation and connectivity in the A2A region.*

2. Identifying barriers/threats to biodiversity conservation and connectivity. (45 minutes)

- a. What are the most significant barriers to biodiversity conservation and connectivity in the A2A region? (*Use your dots to indicate urgency and feasibility. You have 10 dots for each.*)
- b. What research has been done about these barriers/threats? (*Same exercise as 1.b.*)
- c. What research needs to be done in order for the A2A collaborative to effectively address each of these barriers/threats?

11:50-12:15 2nd Report-back: Reassemble in conference room

12:15-1:00 Lunch in Main Lodge dining hall

During the morning sessions we discussed areas and issues of concern, as well as research needs; during the afternoon session we will look at how we can take action.

1:10-2:10 3rd Break-out Session: All groups do question #3.

Purpose: *To identify how a regional collaborative could work together to improve and promote connectivity in the A2A region.*

3. Sketch individually on a scrap paper answers to the following questions, then collate on a group “mindmap” (graphic brainstorming or schematic):

- a. What do we want a regional collaborative to be able to do?
- b. Who should be involved? What role would they play?
- c. How can a collaborative help you do your work?

2:10-2:45 3rd Report-back: Reassemble in conference room

2:45-3:00 Refreshment break

3:00-3:45 4th Break-out Session: Join the group that matches your expertise/interests to discuss one of the following two topics (question #5 or #6):



Purpose: To identify the best tools for managing and sharing data on the A2A landscape. Consider examples such as Sustaining What We Value, the High Conservation Value Forest Toolkit, and other tools with which you are familiar.

4. Identifying the tools used to organize and share data on the A2A landscape. (45 minutes)

- a. What types of information are important for the collaborative to have?
- b. How do you standardize the collection and presentation of the data?
- c. How can the information be stored and shared?
- d. Who is going to collate this information?
- e. What barriers and challenges might arise in developing these tools?

Purpose: To establish a Science Advisory Group that advises a regional collaborative. This is an opportunity for those who have experience working with conservation groups and science advisory groups to inform the creation of a Science Advisory Group.

5. Establishing a Science Advisory Group. (45 minutes)

- a. What are the key areas of science that need to be represented in a Science Advisory Group, and who best represents those key areas?
- b. What is the best way for a Science Advisory Group to be formed and to function?

3:45-4:10 4th Report-back: Reassemble in conference room

4:10-4:50 Plenary to summarize findings of the day and next steps

Cheryl O'Connor to facilitate

Purpose: To prioritize actions that an A2A Collaborative should accomplish in its first year. Science Advisory Group.

4:50-5:30 Open poster session (an opportunity also to view MNR's new 3-D mapping)

5:30-6:30 Dinner in Main Lodge dining hall

6:30 Free time: relax, network, explore

Sunday April 29th

9:00-12:00 Brunch in Main Lodge dining hall



Appendix 3: Sources for Information, knowledge &/or expertise concerning research areas.

Appendix 3: Sources for Information, knowledge &/or expertise concerning research areas.	
Urquhart, John	<ul style="list-style-type: none"> • Ecological land classification and turtle mark recapture study at lost bay Nature reserve
Bell, Gary	<ul style="list-style-type: none"> • Nature Conservancy of Canada • Frontenac Arch NACP • Roland Kays- NY State Museum, Fisher Biology, Connectivity
Bramburger, Andy	<ul style="list-style-type: none"> • Disturbance ecology re. • water levels • edge effects • Karstic wetland connectivity • Turtle Species at Risk Info • St. Lawrence river AOC data • Rideau River monitoring data • Rideau Lakes fisheries/energetics
Danby, R.	<ul style="list-style-type: none"> • Transboundary protected areas • body of literature looking at heritage networks across international boundaries, many specific studies as well as general literature that will be useful for looking at how to address information gaps across the border to facilitate planning across the border. • Ecotones and transitions- literature and studies on the biodiversity at biome transition and nature of ecosystem transitioning
Garrah, Lyn	<ul style="list-style-type: none"> • Wildlife road mortality on 100 Islands Parkway • Frontenac Arch Biosphere Region Sustainability Plan- incl. mapping for high quality biodiversity • Lanark County road kill study • Kingston Field naturalists bioblitz results
Jaeger, Jochim	<ul style="list-style-type: none"> • Road ecology research • effects of road networks • thresholds of effects of roads on population viability • utilization measures (passages, fences, road removal, monitoring effectiveness • lab work – Lecore Falling, Carleton Univ. • Ontario Roads Ecology Group • Work done by Tomhauser, Potsdam, Clarkson Univ. • Urban sprawl analysis



	<ul style="list-style-type: none"> -quantitative metrics -historic analysis -future scenarios -relationship to socio-economic variables(GDP etc) -scenarios of land use regulation - work done by Schwich, Jaeger, Betkiller, Kienast (2012) Urban sprawl in Switzerland -M.Sc. thesis in Jaegers lab about Urban sprawl in Montreal and Quebec greater areas • Landscape fragmentation analysis <ul style="list-style-type: none"> - Jaeger <i>et al</i> 2008, 2011 - Roch and Jaeger 2012
Kretser, Heidi	<ul style="list-style-type: none"> • Has info on NY side of border • Need a review of township land use codes for conservation regulations related to development on the Canadian side • Moose genetics in the North East • Needed- Understanding moose movements in A2A using scat
Lake, Alison Alison.lake@ontario.ca	<ul style="list-style-type: none"> • First nations cultural sites in A2A-Bill Allen, Archaeologist • Maple syrup producers of Ont., continuous landowners + 150yrs
Lambert, Sheldon	<ul style="list-style-type: none"> • Nature serve explorer • Kestrel database • Large quantity of species at risk and wildlife occurrence data in and around Parks, Canada. May not be able to make all info available • First Nations archaeological data
McMullen, Clay	<ul style="list-style-type: none"> • Historic Forest cover change <ul style="list-style-type: none"> -pattern and composition -NE USA, SE Ontario
Nielsen, Gary	<ul style="list-style-type: none"> • Barbara Boyser, Forest Gene Conservation Association, Assisted Migration trials
Ontario Ministry of Natural Resources	<ul style="list-style-type: none"> • Silvia Strobl-vegetation inventory plots in Ecodistricts 6e10, 11, 12, 15 and more • Aaron Walpole, Jeff Bowman- Circuitscape work • Jeff Bowman-Radio collar study of coyotes, Fisher study • Les Stanfield- Stream surveys
Puric-Uladenovic, Dr. Danijela	<ul style="list-style-type: none"> • Climate modelling of tree species
Smith, Zoe	<ul style="list-style-type: none"> • 2 Countries 1 Forest ecoregional spatial analysis • Tug Hill-Adirondacks linkage strategic plan and circuitscape modelling • NYS Open Space plan • WCS technical paper- effects of exurban development on wild life • Building a sense of place • Citizen science



	<ul style="list-style-type: none"> • Public perception/human dimensions of wildlife • Ecological effects of ex urban development and land use planning • Working with local planners on land use planning for connectivity • Maintaining connectivity at ecoregional scale • Building wildlife corridors in Western US (the Pronghorn) • Road ecology •
Tavenor, Samantha (Masters student)	<ul style="list-style-type: none"> • Currently investigating climate change policy existing in A2A corridor • Identified parks and natural areas and will be interviewing park planners to highlight perceived threats, assessment/monitoring and possible policy that can be implemented relating to climate change
The Nature Conservancy	<ul style="list-style-type: none"> • St. Lawrence Ecoregional Plan identifying large Forest blocks
Verreault, Catherine NCC, Gatineau Park.	<ul style="list-style-type: none"> • We have info on: • Ecological corridors adjacent to Gatineau park • National Capital Commission Greenbelt and core natural areas. • For these areas we have: Invasive sp., bird inventories, flora inventories, sp. at risk, Blandings turtle habitat, movement patterns, studies on Mer Bleue Ramsar site
Voros, Steve	<ul style="list-style-type: none"> • Ecosystem status and trends report • Sustaining what we value-NHS Plan for ecosystems 6e10, 11, + -all of Leeds and Grenville
Whyte, Ian	<ul style="list-style-type: none"> • Ontario Roads Ecology Group Report • Canadian Parks and Wilderness Society (CPAWS) • CPAWS Atlas • Ottawa area maps • A2A maps
Wise, Josh Joshua.w@ontarionature.org	<ul style="list-style-type: none"> • Ontario Nature is starting a project on NHS planning to help Municipal Planners integrate into O.P.s (v. early stages) • Alternative Land Use Services (ALUS) will be going into the counties of Stormont, Dundas, Glengarry • Research related to Natures benefits to Agriculture and beyond