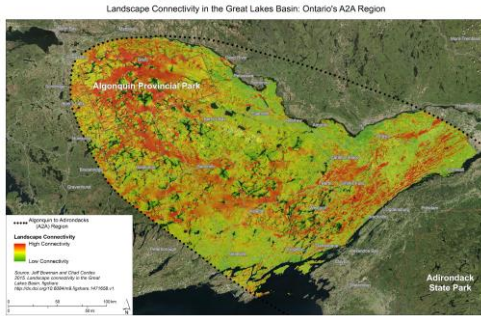




A2A

Algonquin to Adirondacks Collaborative



Conservation Action Planning (CAP) in the Algonquin to Adirondacks (A2A) Region – Stage 1

Exploring a Framework for Landscape Conservation Planning in A2A



January 2018



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Executive Summary

The Algonquin to Adirondacks (A2A) Collaborative is a science-based organization that works with partners to connect lands and people, enhance a critical linkage area for biodiversity, and to increase resilience in the A2A region and eastern North America. Through the Conservation Action Planning (CAP) Project, the A2A Collaborative set out to explore:

- 1) how to best assist future local CAP initiatives, and
- 2) to determine how to facilitate the inclusion of a landscape-scale perspective in conservation planning efforts in the A2A region.

Throughout the project, this process involved identifying existing resources, and developing new resources. One new resource, the A2A Lens, identifies principles to consider when planning in a landscape where there are still significant areas of, and opportunities for, large-scale connectivity.

A major conclusion of this exploratory work was that local CAPs should follow the established CAP process as closely as possible. This to allow the CAP process to be an effective, locally-driven conservation tool. A larger-scale perspective has the opportunity to emerge naturally through the CAP process, through the selection of science-based targets and threats, and with the participation of groups like A2A.

Through research, stakeholder engagement, and assessing feedback and findings, the greatest opportunities for the A2A Collaborative to assist CAP development in the A2A area are:

- To facilitate gatherings with First Nations, to build relationships and to allow for true engagement and cross-cultural collaboration to develop.
- To facilitate gatherings where local and regional partners can engage with each other, including in areas where potential ecological linkages have been identified.
- To facilitate and co-sponsor funding applications to fund local CAPs.
- To participate in local CAPs, to provide a larger-scale perspective.

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How to Use this Work:

The Conservation Action Planning project was developed with the understanding that the CAP process will not necessarily be used by every group and organization in the Algonquin to Adirondacks (A2A) region. Whether your group plans to implement CAP now, at a later date, or you are undertaking your own conservation planning process, the principles and resources identified through this project are valuable tools to consider when thinking about your area, as a part of the A2A region.

Here are suggestions for how to use the results of this work:

- Review the lens principles to identify topics that align with the goals of your organization. The five lens principles are:
 - 1) Landscape-Scale Context
 - 2) Cores and Corridors
 - 3) Strategic Stewardship and Partnerships
 - 4) Anticipate Future Threats
 - 5) Ways of Knowing
- Use the lens principles to help to identify local and regional priorities for your area.
- Use the new and existing mapping resources to identify important areas for protection and connectivity.¹
- Review the list of best practices documents and mapping resources and use them in your own work.
- Collaborate in new ways. Identify partners and important stakeholder groups that you haven't worked with in the past and start to build relationships with those groups.
- Participate in future gatherings to build relationships with First Nations and other conservation partners.
- Consider how permeability, resilience and connectivity might look in your own area, and how conservation, restoration, and sustainable working landscapes offer opportunities to increase each of these.
- Contact A2A if you would like more information on CAP, or would like to express an interest in participating in a future CAP.

¹ The mapping resources are explained in detail in the Mapping Resources section. To access the mapping resources please visit the A2A website <http://www.a2acollaborative.org> and go to Our Work -> Mapping

About the A2A Region

The A2A region encompasses Adirondack Park, in New York State, and Algonquin Park, in Ontario, and the lands and waters connecting them. It is one of the last major intact north-south forest and wetland corridors in eastern North America. The Algonquin to Adirondacks (A2A) region is an important landscape corridor, with connections to several forest regions in Eastern North America, making it significant on a continental level (Keddy 1995).

Incredibly biodiverse due to a wide array of natural habitats representing southern and northern ecosystems and species, the A2A region represents one of the last remaining areas where species, genes and ecological processes can flow in a north-south connection. It provides essential habitats for a vast number of species: mammals, migratory birds, and many other organisms. On the ground, the linkage can be seen through the Frontenac Arch, the narrow bedrock bridge of Precambrian Canadian Shield that spans the Canada/U.S. border and links the Adirondack Highlands to the Madawaska and Algonquin Highlands, and to the broader Canadian Shield (see Figure 2).

Scientists have recognized for decades what First Nations peoples have known for generations: that the A2A region has a unique and essential role to play in wildlife conservation in North America.

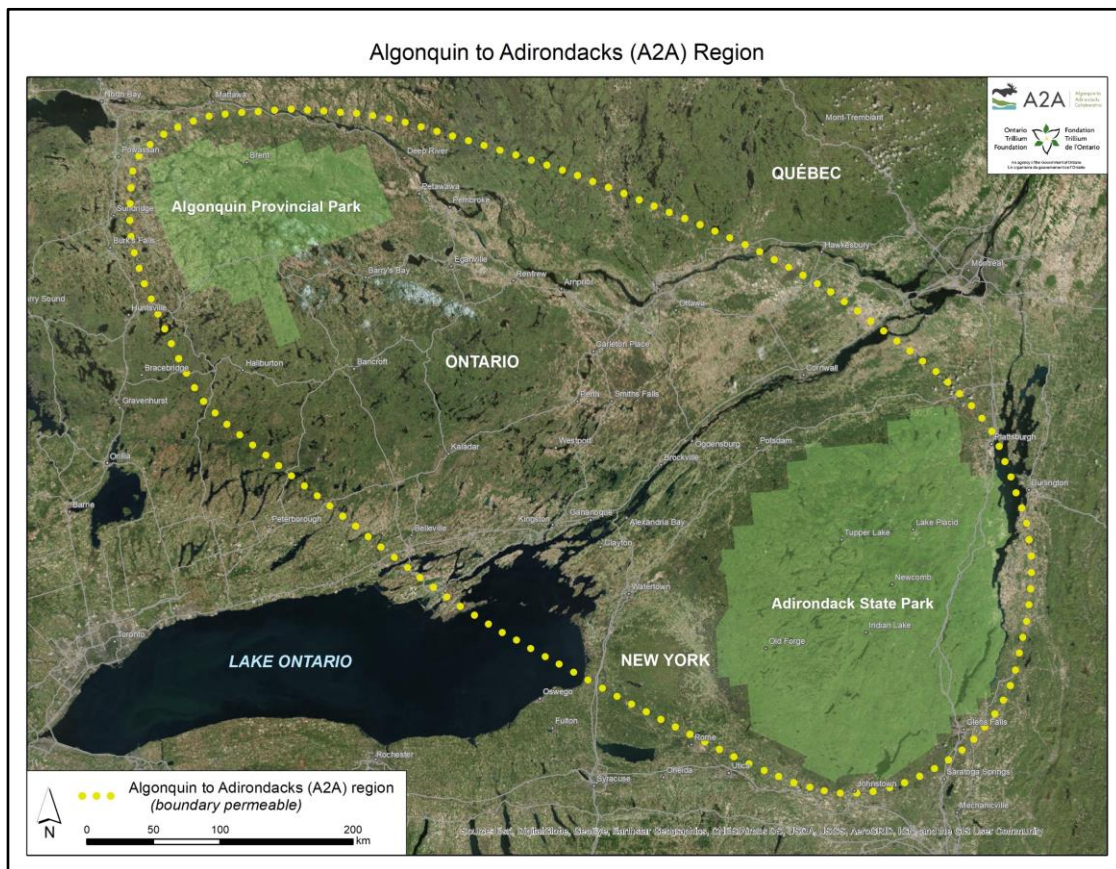


Figure 1: The Algonquin to Adirondacks (A2A) Region

The A2A Collaborative (A2A)

A2A is a multi-national (U.S., Canadian and First Nations) organization of partners dedicated to conserving and connecting lands and people across the Algonquin to Adirondacks region. We promote a healthy environment for wildlife and people. Connected habitat allows animals and plants to fulfill their needs and survive adversities such as climate change.

A2A evolved from the understanding that to conserve and connect the series of ecosystems anchored by Algonquin and Adirondack parks would require multinational efforts and expertise. A2A facilitates collaboration among our partners. Together we engage in projects to enhance and connect wildlife habitat and build public support for conservation and wise planning.

The Algonquin to Adirondacks Collaborative is comprised of a Board of Directors, committees, staff, volunteers, and a multi-national network of partner organizations from the United States, Canada, and First Nations. For more information on the Algonquin to Adirondacks (A2A) Collaborative, please visit our website <http://www.a2acollaborative.org>.

Our Vision: We envision a resilient, ecologically-interconnected landscape that sustains a full range of native wildlife and enhances people's quality of life for generations to come.

Our Mission: We connect lands and people across the Algonquin to Adirondacks region to conserve and enhance a critical corridor for ecological integrity and resilience in eastern North America.



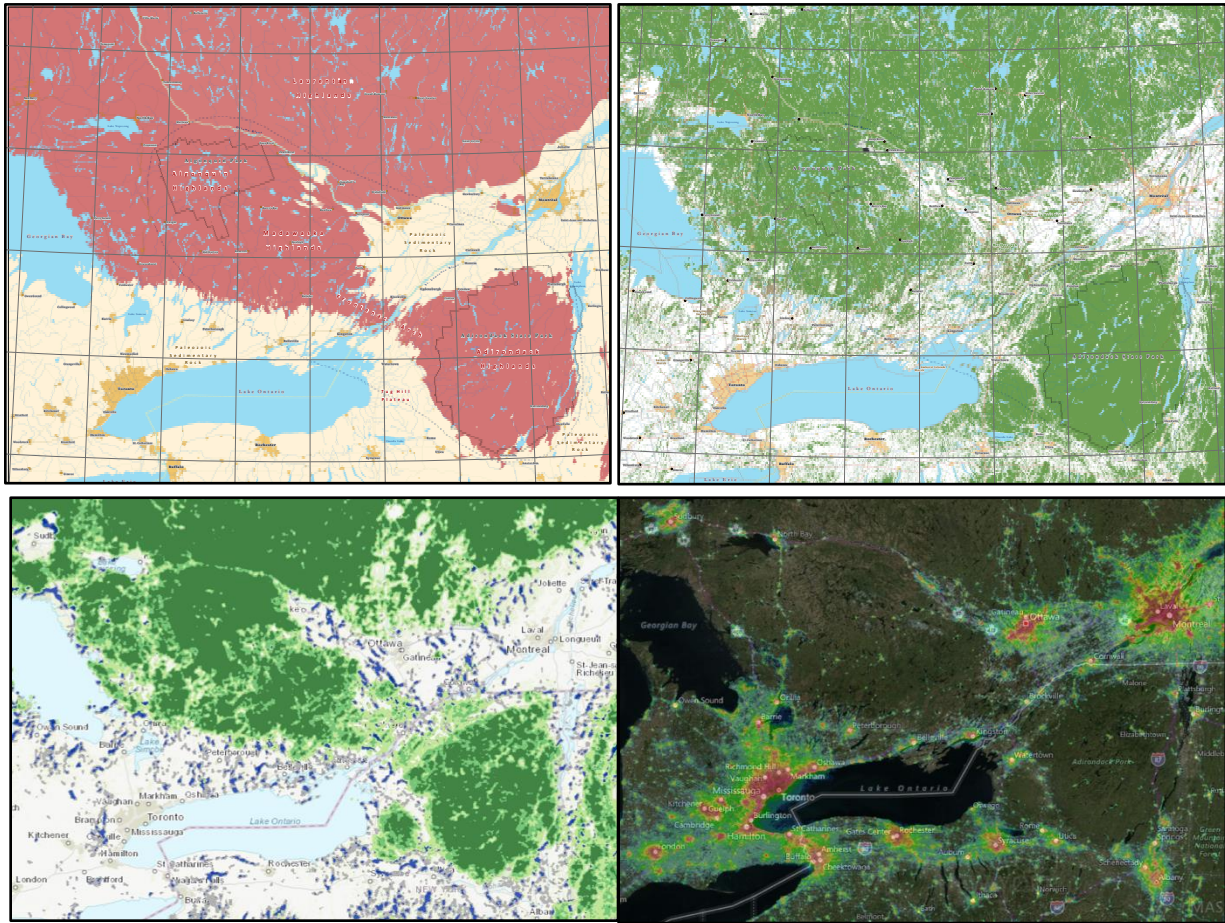


Figure 2a-d: Various depictions of the types of ecological connections in A2A. Clockwise from upper left: a) Bedrock Geology of the A2A Region (CPAWS Ottawa Valley 2012), b) Forest & Wetlands Cover of the A2A Region (CPAWS Ottawa Valley 2012), c) Regional Flow (The Nature Conservancy 2016) (see next section for further discussion), d) Human settlement patterns in the A2A region, as shown through light pollution (Lightpollution map.info 2017).

Project Scope

The total area of the A2A region is over 210,000 square kilometres, or more than 80,000 square miles. This area is distributed through the provinces of Ontario and Quebec and the states of New York and Vermont.

Province or State	Square Kilometres (approximate)	Square Miles (approximate)	Percentage of Region
Total A2A Region	211,920	81,823	
Total Area in Canada	127,095	49,072	60%
Total Area in the United States	84,825	32,751	40%
New York	79,340	30,633	37%
Ontario	109,862	42,418	52%
Quebec	17,233	6,654	8%
Vermont	5,485	2,118	3%

Although the A2A region spans four states and provinces, the focus of the activities for the CAP Project were based in Ontario, due to the funds provided by the Ontario Trillium Seed Grant. However, stakeholders from across the A2A region were invited to all sessions, and phone and webinar based meetings offered opportunities for engagement from afar.

The Resilience of the A2A Ecoregion

Regional protected area networks that allow for the movement of species, genes, and for the continuation of ecological processes are central to biodiversity conservation. The Algonquin to Adirondacks region is an integral corridor for biodiversity conservation in eastern North America. Many authors (see Keddy, 1995; Quinby et al., 1999; Stephenson, 2001; CPAWS, 2012) have detailed how a landscape perspective would benefit the region and the species within. Anchored by two major protected areas, Algonquin Provincial Park in Ontario and Adirondack State Park in New York State, the persistence of this landscape as an important ecological corridor depends on how conservation planning in the region is developed and implemented.

Throughout the CAP project, we researched existing and ongoing work highlighting the importance of large-scale connectivity, with a specific focus on work related to the A2A region. The types of information we reviewed included local and regional scale information (e.g., draft versions of updated Ontario ecodistrict reports), and larger scale analyses in eastern North America. (e.g., The Nature Conservancy's ecoregional assessments).

One large-scale project, The Nature Conservancy's Resilient and Connected Landscapes for Terrestrial Conservation report (Anderson et al., 2016), and its associated *Resilient Land Mapping Tool* and *Resilient and Connected Landscapes* portal, visually demonstrate the significance of the A2A region.

Though the TNC mapping is mostly limited to the United States, the information it shows about the A2A region is significant. Through the mapping, we can see the current suitability of the landscape for regional flow (Figures 3a-b), and the current opportunities for movement in response to future climate conditions (Figure 4). Compared to the surrounding landscape, the A2A region offers many more opportunities for flows to occur.

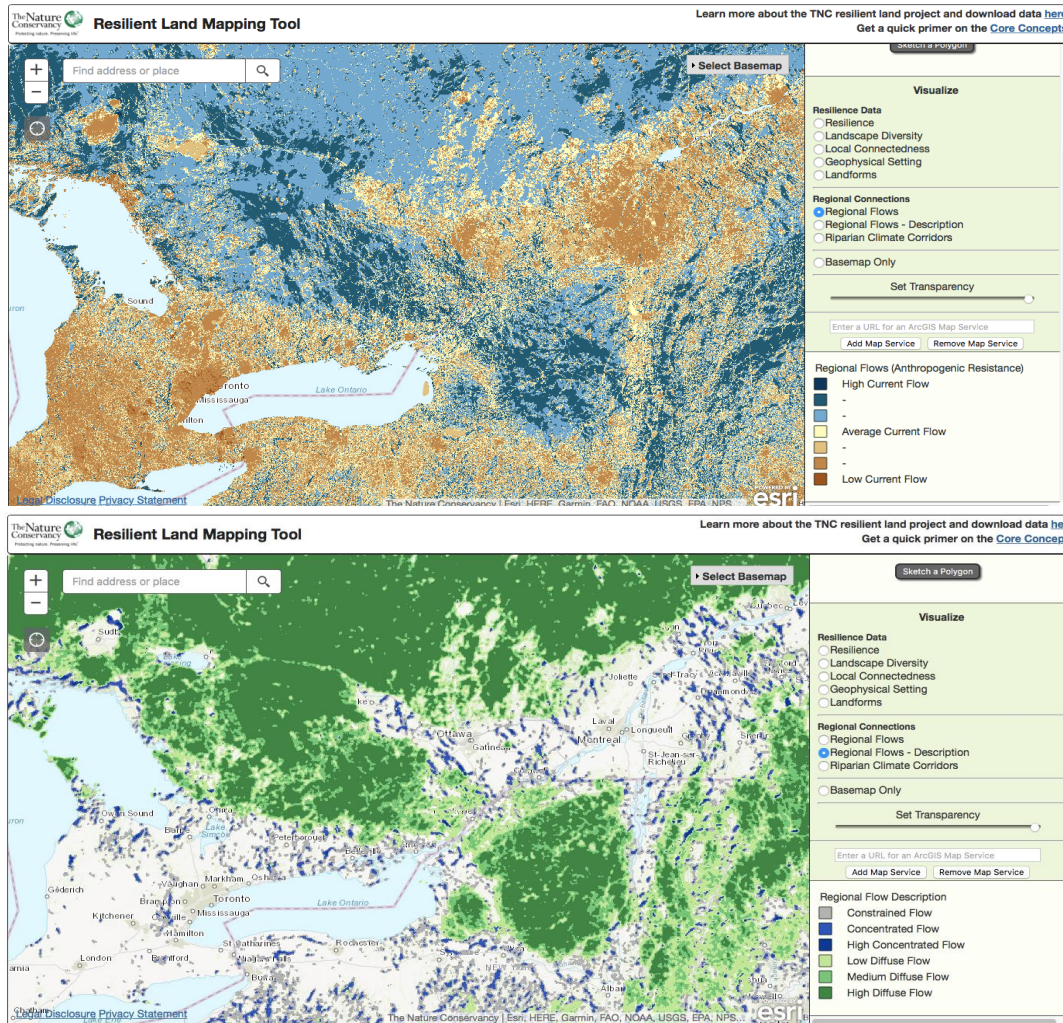


Figure 3a-b: a) Regional Flows (Anthropogenic Resistance) in the A2A region. Dark blue to orange represents a gradient from areas of High Current Flow to Low Current Flow. b) Regional Flows in the A2A region. Areas of gray and blue show less flow, and areas of green show more flow. Gray is Constrained Flow, and blues are Concentrated Flow or High Concentrated Flow. Light to dark green show a gradient of Low Diffuse Flow, to High Diffuse Flow. Diffuse means species are able to move in the landscape to meet their needs. Source: The Nature Conservancy 2016.

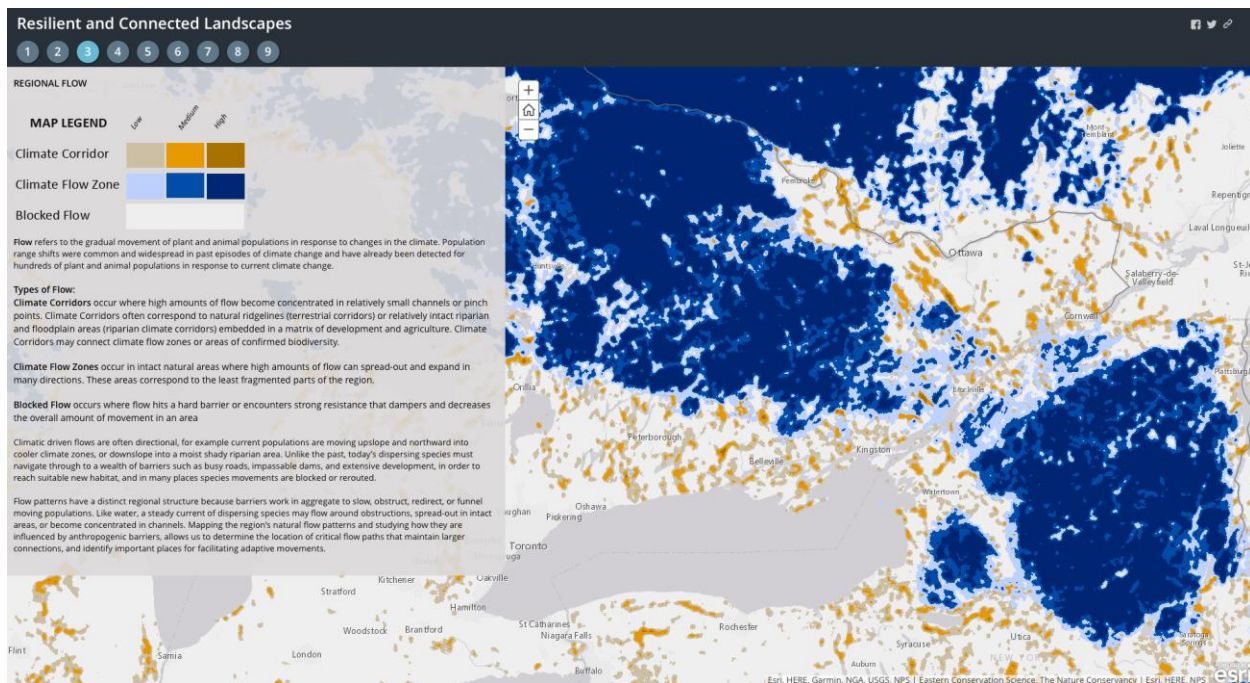


Figure 4: Regional Flow as defined by climatic driven flows in the A2A region. Source: The Nature Conservancy 2016.

The TNC mapping shows the ecological connectivity within and throughout the region, a key feature of the A2A region. This current and potential ecological connectivity is why the CAP project examined how to implement and support CAP, using an A2A perspective or “lens”.

Conservation Action Planning

The CAP approach was first developed by The Nature Conservancy (TNC), and is now used worldwide by practitioners and stakeholders. CAP offers an approach that helps conservation teams develop strategies, a plan of action to meet regional priorities, measures of success to assess action outcomes, and integrate adaptive planning and management to incorporate new information (TNC 2017).

In Ontario, the Nature Conservancy of Canada (NCC) has implemented CAP to guide their planning and to conserve areas of biodiversity across the province. In southwestern Ontario, the Carolinian Canada Coalition (CCC) has facilitated the development of collaborative local CAPs in partnership with local groups in biodiversity hotspots. In these very collaborative plans CCC has found the CAP process to be “extremely successful in focusing the conservation activities of multiple collaborators and stakeholder towards common objectives and targets; this coordinated approach has facilitated the recovery of Key Ecological Attributes at the landscape level” (Steiner and Jalava 2014: iv).

The Algonquin to Adirondacks Collaborative’s 2016 annual general meeting shared the Carolinian Canada Coalition’s experience with CAP. In further discussions, and with insight from board

members and partners, the collaborative CAP model was felt to be an important tool for conservation in the A2A region. The question that arose over the course of these discussions was whether CAP would be implemented differently in A2A, where there is a larger degree intact forest and wetland corridors, and where opportunities for connectivity between local areas still exists.

Goals of the Algonquin to Adirondacks (A2A) Conservation Action Planning (CAP) Program

The A2A region’s current and potential ecological connectivity provided an opportunity to consider the collaborative CAP approach with an added emphasis on a landscape perspective. In the A2A landscape, an overarching goal is maintaining the ecological connectivity of the A2A region. By using an A2A-scale lens to assess local conservation situations, the landscape-scale perspective can be brought into all scales of planning within A2A.

Through the Conservation Action Planning (CAP) Project, the A2A Collaborative set out to explore:

- 1) how to best assist future local CAP initiatives, and
- 2) to determine how to facilitate the inclusion of a landscape-scale perspective in conservation planning efforts in the A2A region.

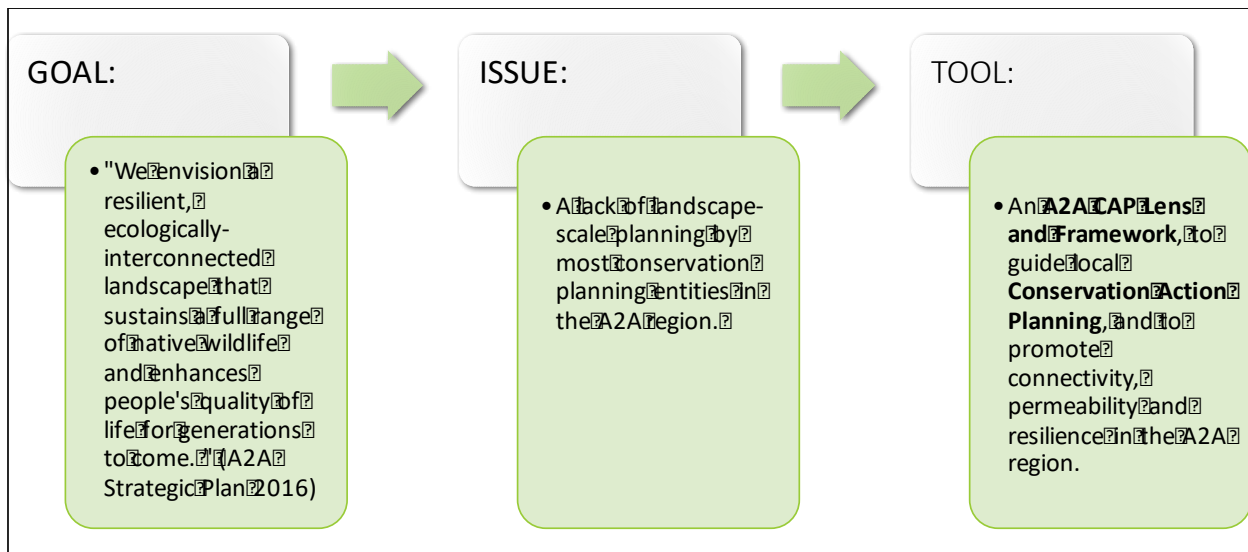


Figure 5: The A2A Collaborative’s CAP Project Approach.

In this project, we examined key principles related to the ecological, social and cultural landscape connections of the A2A region, to determine the feasibility of addressing landscape-scale planning through local CAP planning and other conservation planning exercises.

Developing an A2A Lens

In order to approach conservation planning in a way that recognizes the importance of regional and landscape-scale issues, the Algonquin to Adirondacks Collaborative began developing an A2A lens. This is a tool to guide current and future conservation planning in considering the regional or landscape-scale perspective.

The lens can be thought of as a series of intersecting circles based on key principles related to the ecological, social and cultural landscapes in the A2A region. Each principle has criteria to be considered, and the principles can often be considered in conjunction with each other, when developing conservation plans for areas within A2A. The degree to which each lens component can be applied to each project may vary, but it is expected that all plans will benefit from considering all parts of the lens.

The A2A lens concept was initially conceived with six principles, developed from landscape-scale planning literature, and a conservation practitioner's understanding of the A2A region:

- the explicit acknowledgment of a landscape-scale perspective,
- the identification and evaluation of core conservation areas,
- strategic stewardship and conservation efforts,
- partnerships between management organizations,
- anticipating future threats to conservation, and
- the use of best available scientific data.

These principles were referred to as the landscape-scale conservation planning theory (LSCP), and identified the attributes necessary to consider the A2A regional landscape from ecological, social and cultural standpoints. In cooperation with students from Queen's University, a review of the relevant landscape theory and planning literature, and an analysis of current conservation planning using these principles was undertaken over three months, at the start of the CAP project. Specific focus was given to reviewing existing natural heritage and protected area management and conservation plans.

Assessing Conservation Planning Using an A2A Lens

Using the A2A lens to assess conservation planning was an opportunity to review the conservation approach taken by conservation practitioners in the A2A region, and to determine whether current conservation planning considers the significance of the landscape-scale of A2A.

This review was not a spatial analysis of the geographic coverage of various plans, although we recognize that the extent of conservation planning will be variable throughout A2A. Broadly speaking from a spatial standpoint, municipal planning will cover the entire A2A region. Watershed based planning by conservation authorities partially covers the Ontario A2A region, focusing in the southeastern portion, with additional coverage near Algonquin Park through the North Bay Mattawa CA. Other conservation plans are generally more place-based and less wide-ranging in their coverage.

It was generally found that the jurisdictional boundaries of each stakeholder's area of interest formed the basis for their plans. Conservation authorities focused on their specific watersheds, but did not look beyond watershed boundaries. Provincial park planning was focused within the provincial park boundaries, with little focus on the surrounding landscape, unless the park was classified as a wilderness park. Municipalities were guided by the robust Ontario Provincial Policy Statement, but the establishment of natural heritage systems was still focused on core areas, with little regard to landscape-scale linkages. Non-governmental organizations (NGO) were found to have some of the more landscape-focused plans, depending on the NGO's capacity and planning process. Some NGO plans focused mostly on issues related to human well-being and enjoyment of the environment, as opposed to ecological functioning.

Overarching findings from all plans were the varying degree of landscape-scale connectivity in plans depending on their location in A2A, and the need for various groups to work together to harmonize plans and strategies.

There were some notable exceptions to the general findings stated above. The North Bay Mattawa Conservation Authority Integrated Watershed Management Strategy touched on all six of the landscape-scale principles. Within the regionally important Frontenac Arch, several organizations have implemented conservation planning which does recognize the importance of landscape-scale planning. Both Frontenac Provincial Park and Frontenac County's plans were noted to be more landscape-scale focused than required by their guiding policies, and more than other provincial park and municipal government plans. The Frontenac Provincial Park plan

acknowledges the landscape-scale perspective, with recognition of the importance of the surrounding landscape in the ecological integrity of the park. Potential acquisitions of wetlands near park boundaries are also discussed and the plan supports adaptive management if research reveals new pertinent information. The Frontenac County Official Plan was noted to acknowledge connectivity, through recognition of linkages between core areas. The Nature Conservancy of Canada (NCC)'s Frontenac Arch Natural Area Conservation Plan (NACP) also focuses on this area, and, like all of NCC's NACPs, there is a strong landscape-scale focus in the plan. All of the landscape-scale principles the group examined were recognized in the NACP.

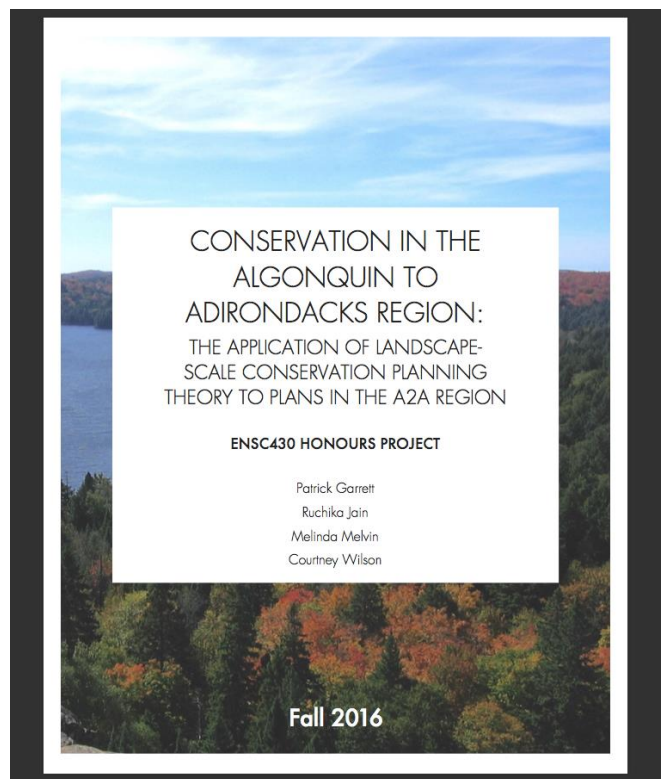


Figure 6. The report that reviewed the current state of conservation planning in the Ontario A2A region.

Partnerships were found to be extremely important to the region, due to the varied stakeholders in the region, as well as the complex nature of natural heritage features crossing multiple jurisdictional boundaries. Examples of successful partnerships that cross jurisdictional boundaries in other areas of Ontario present examples of how regional scale conservation planning can be implemented through effective partnerships. The Conservation Authority Moraine Coalition (CAMC) for the Oak Ridges Moraine is one such example, although this group came together in response to a federal initiative. The CAMC partnership subsequently developed additional partnerships with the local municipalities, modelling a multi-partner approach that would be beneficial in the A2A region.

It is worth noting that the overarching guiding documents and policies (e.g., the Natural Heritage Policies of the Provincial Policy Statement, the Provincial Parks and Conservation Reserves Act) do not offer guidance on planning beyond jurisdictional boundaries. A review of these overarching policies to promote looking beyond jurisdictional boundaries would be beneficial to the ecological functioning of systems across Ontario.

In the absence of a landscape-scale perspective in these guiding policies, using the A2A lens as a tool to add a landscape-scale perspective offers an opportunity to enhance conservation planning in the A2A region.

Refining an A2A Lens

Reviewing existing conservation plans supported the general understanding the A2A Collaborative held with respect to how planning was implemented in the region. While some plans recognize the need to consider larger scales, [e.g., NCC's Frontenac Arch Conservation Plan II (2012), Frontenac Provincial Park Management Plan (2016)], the vast majority of current conservation plans follow policies which focus only on the area within a specified boundary (e.g., provincial park, municipality, watershed, etc.).

This demonstrated that a collaborative Conservation Action Plan process, involving many local stakeholders would support conservation planning outside of the typical boundaries, through regional collaboration between partners.

Over the next several months, through additional research and discussions, the A2A lens was refined to include five main principles. The original six principles considered during the gap analysis were merged into four principles. The principle related to the use of best available science was removed from the lens, as this is an integral part of the CAP process. The importance of "Ways of Knowing" as its own lens component emerged. The five lens components and their definitions are shown in Figure 7. The full A2A Lens description, with sub-principles and explanatory examples can be found in the [A2A Lens Document](#).

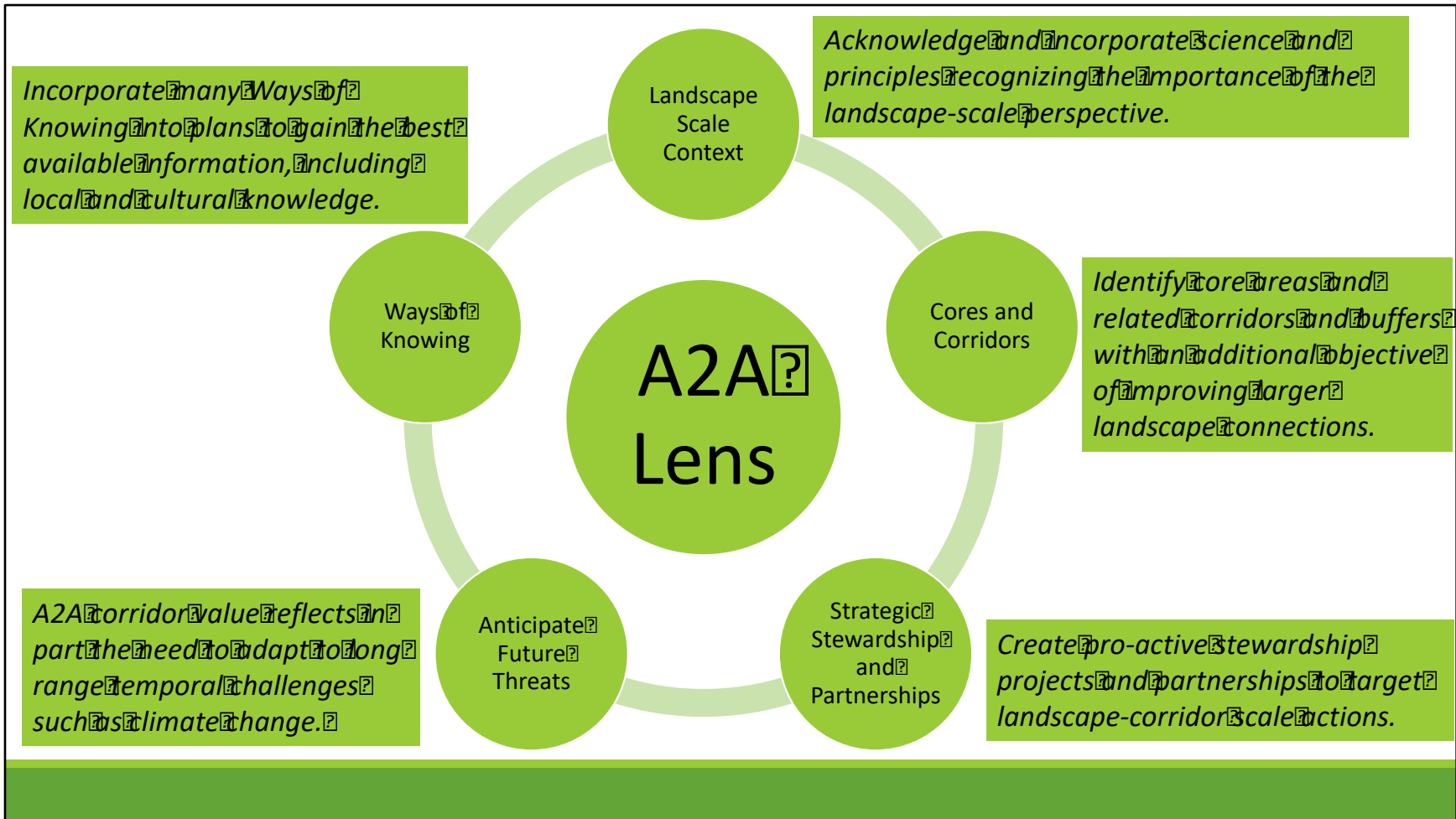


Figure 7: The A2A Lens

Stakeholder Engagement Activities

A major part of the exploratory process was to hold a number of engagement sessions with stakeholders, to introduce the CAP process, to present the project goals and preliminary findings, to gain input and feedback, and to continue to develop the project. Below is a summary of the stakeholder engagement opportunities, and their main outcomes. For several of the session topics, meetings were held in multiple geographic areas, to allow participants from across A2A to participate (Figure 7).

Stakeholder Engagement Sessions (Dates)	Location	Goals	Important Outcomes
A2A Annual General Meeting (March 26 2017)	Mallorytown Community Centre, Mallorytown	To share the concepts of the CAP project with an A2A audience.	- The Ways of Knowing Principle was added to the lens following this meeting.
The A2A Lens Workshops (May 4 & May 10 2017)	Rideau Valley Conservation Authority office, Manotick (May 4); Frontenac Arch Biosphere Reserve office, Lansdowne (May 10)	To gain conservation planning experts' input on the A2A Lens.	- Verified that lens considered the appropriate principles. - Identified a need for resources (e.g., mapping tools, planning tools, guidance documents) to be created for places in A2A where they are currently lacking. - Identified a lack of urgency in conservation planning in areas where landscape is more intact/ disturbances are less obvious on the landscape. - Identified a need for better funding to support multi-partner activities.
The A2A CAP Webinar (June 6 2017)	Online	To broaden understanding of the CAP process and the A2A approach.	- Co-presented with Jarmo Jalava of the Carolinian Canada Coalition, an expert in the CAP process and collaborative CAP efforts in southwestern Ontario. - Created an accessible web-based explanation of the CAP process and the A2A Lens. - Answered participant questions at the end of the webinar.
The A2A CAP Meetings & Discussions	Conference call (June 28); Mississippi Valley Conservation	To consider specific parts of the CAP process through an	- Identified a stakeholder acknowledged need for more collaborative planning. - Identified stakeholder issues with knowing how to begin to collaborate with some new partners.

(June 28 & July 6 2017)	Authority office, Carleton Place (July 6)	A2A Lens perspective.	<ul style="list-style-type: none"> - Reiterated a lack of urgency in conservation planning in areas where landscape is more intact/ disturbances are less obvious on the landscape. - Identified the need to consider the capacity of different stakeholders/ communities in undertaking conservation planning, and the need to consider how to ease the burden on those communities. - Identified the need to reach out to new partners in conservation by going to their meeting, event or network, to create new relationships and partnerships.
The A2A CAP Workshops Workshop 1: Ways of Knowing (September 21 2017)	The Opinicon, Elgin (September 21)	To gain a better understanding of how to better integrate Ways of Knowing into work in A2A (Workshop 1).	<ul style="list-style-type: none"> - Co-facilitated with Larry McDermott of Plenty Canada and Chris Craig of South Nation Conservation, who shared their ceremonies, knowledge and experiences with participants. - Identified the need for a governance system to structure collaboration between First Nations and partners. - Identified the need for more opportunities for meaningful, relationship-building, cross-cultural collaboration with First Nations throughout A2A. - Identified the need for stakeholders to reach out to First Nations partners to start a relationship.
The A2A CAP Workshops Workshop 2: A2A CAP September 28 2017)	Mallorytown Community Centre, Mallorytown (September 28)	To review specific steps of the CAP process and see if A2A scale perspectives align with what stakeholders feel is important at the local level (Workshop 2).	<ul style="list-style-type: none"> - Identified that the language used in the CAP process does not necessarily resonate with stakeholders from intact areas of A2A. - Identified that the CAP process must be allowed to proceed without bringing in outside considerations. - Indicated that A2A's role as a facilitator for bringing CAP to A2A, and as a participant with a particular view on what is important in A2A should be two distinct roles, so as to not influence the CAP process. - The workshop was formally evaluated by Jarmo Jalava of the Carolinian Canada Coalition, who also provided insight into CAP during the workshop.

Table 2: Stakeholder engagement meetings through the CAP Project.

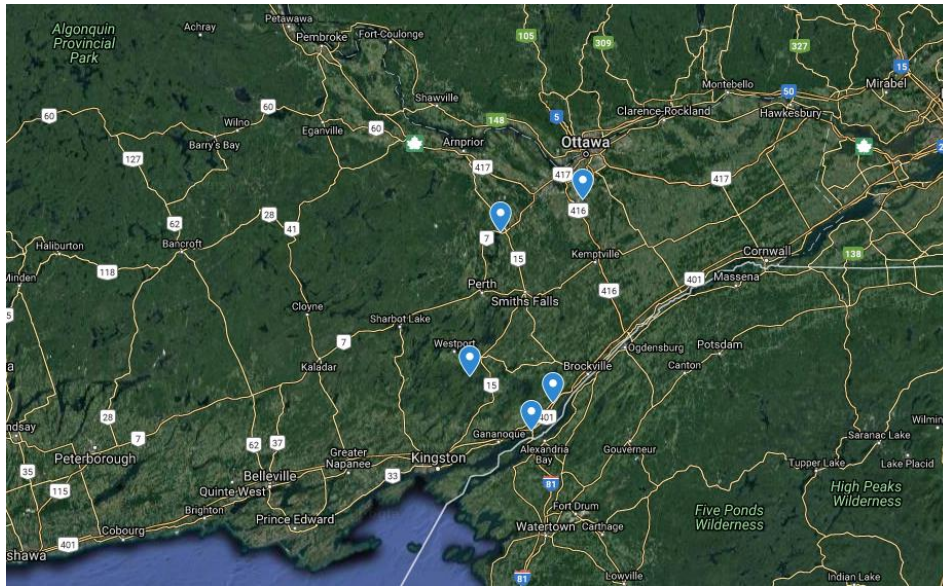


Figure 8: Locations of CAP Project Activities in Ontario. A conference call input session and online webinar were also held. The CAP Project was also discussed at several meetings throughout the A2A region, including in NY state.

Mapping Resources

In several meetings stakeholders identified a need for mapping resources to guide conservation planning decisions. The A2A Regional Connectivity Mapping is an existing resource the A2A Collaborative developed in 2014, but this mapping only covers a portion of A2A, and in Ontario, only covers the more southern 6E ecodistricts (see Figure 9).

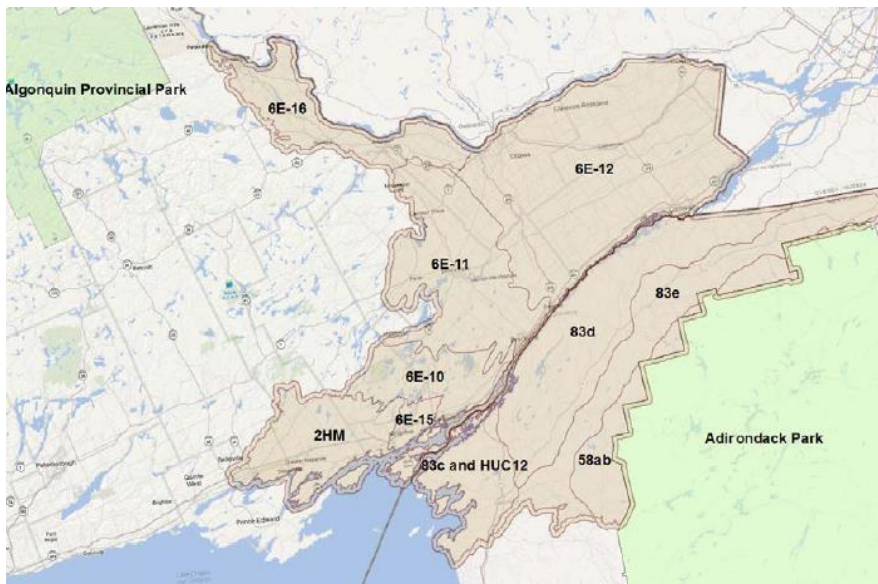


Figure 9: Study area boundary for the A2A Regional Connectivity Mapping (2014).

To help fill this gap, A2A looked at new mapping resources that had recently become available. The Canadian Wildlife Service had recently completed a mapping analysis for High Value Biodiversity Areas (HVBAs) (Figure 10), and an associated Human Influence Analysis (HIA) (Figure 11) for the Bird Conservation Regions (BCR) associated with the Mixedwood Plains (BCR 13) and the Boreal Transition Zone (BCR 12). The data from BCR12 (the Boreal Transition Zone) included the more northern area in A2A, not included within the A2A Regional Connectivity Mapping. While the methodologies of the CWS and A2A analyses were different (e.g., different scales were used), and although the A2A study looked at core areas from a landscape ecology perspective and the CWS study looked at HVBAs from a biodiversity perspective (for federal biodiversity interests such as species at risk and migratory birds), a number of the input variables used to assess A2A cores and the CWS HBVAs were similar. The High Value Biodiversity Areas identified are classified into three main categories, forest, wetland and open country.

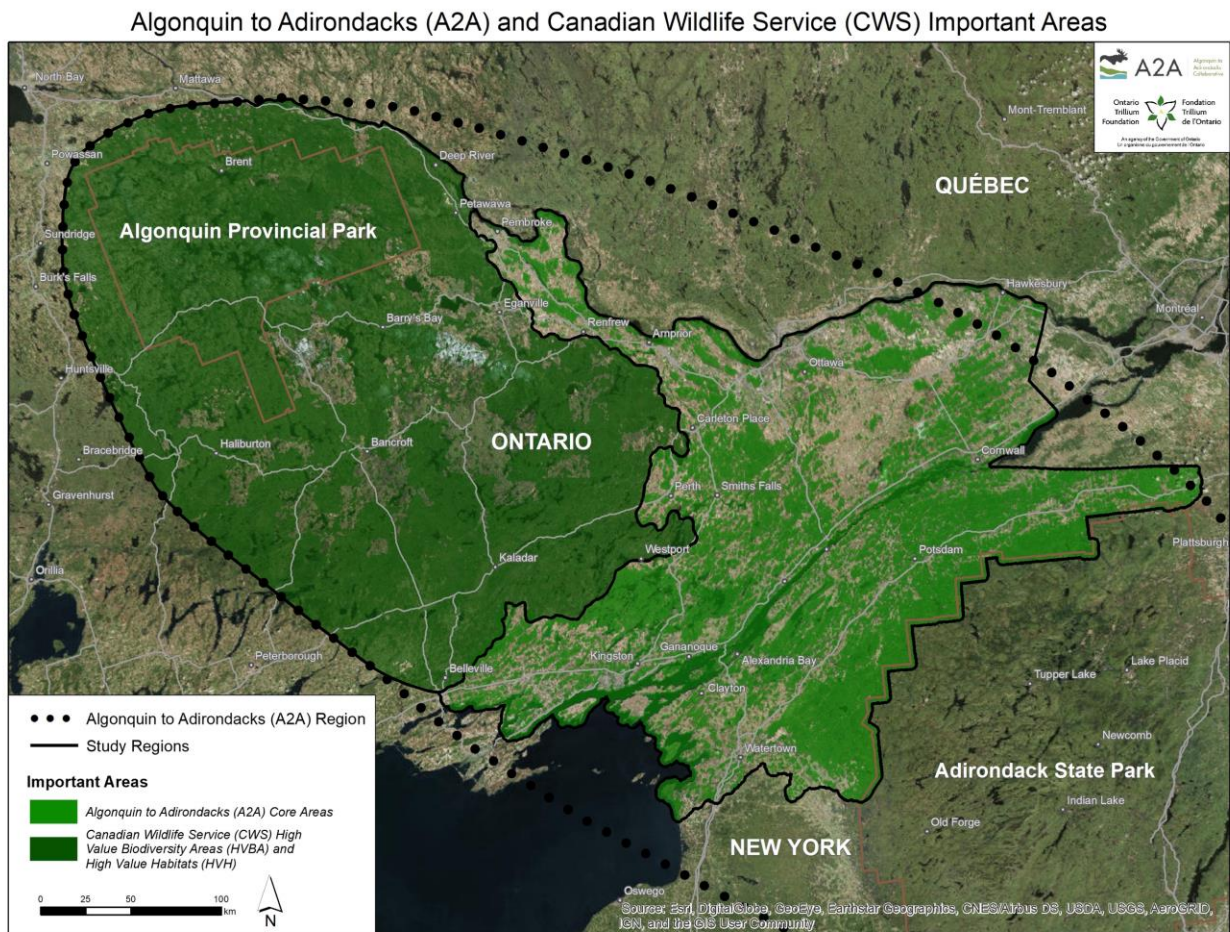


Figure 10: The expanded study area, showing the extend of the A2A mapping and the CWS mapping. The Canadian Wildlife Service mapping includes High Value Biodiversity Areas and Human Impact Analysis.

The CWS Human Impact Analysis shows the impact human activities are having on the high value habitats. As the human impacts increase, the amount of high value habitat decreases. The analysis uses four quartiles to rank the human impact. The least impacted 25% of the HVBA are the best quality, while the most impacted 25% are subject to the greatest human influence. In the A2A connectivity mapping, human impact is assessed as barriers to the cores and as higher cost for connectivity. Both studies used a number of the same variables, despite having different methodologies.

The original Human Impact Analysis in BCR 12 assessed the human impact across all of BCR12, which extends to the eastern shores of Georgian Bay and Lake Superior, and also includes an area on the northwest shore of Lake Superior, near Thunder Bay. To make the HIA more relevant to the A2A region, the HIA quartile ranking was redone solely for the A2A area, using the scores for the areas within the A2A region.

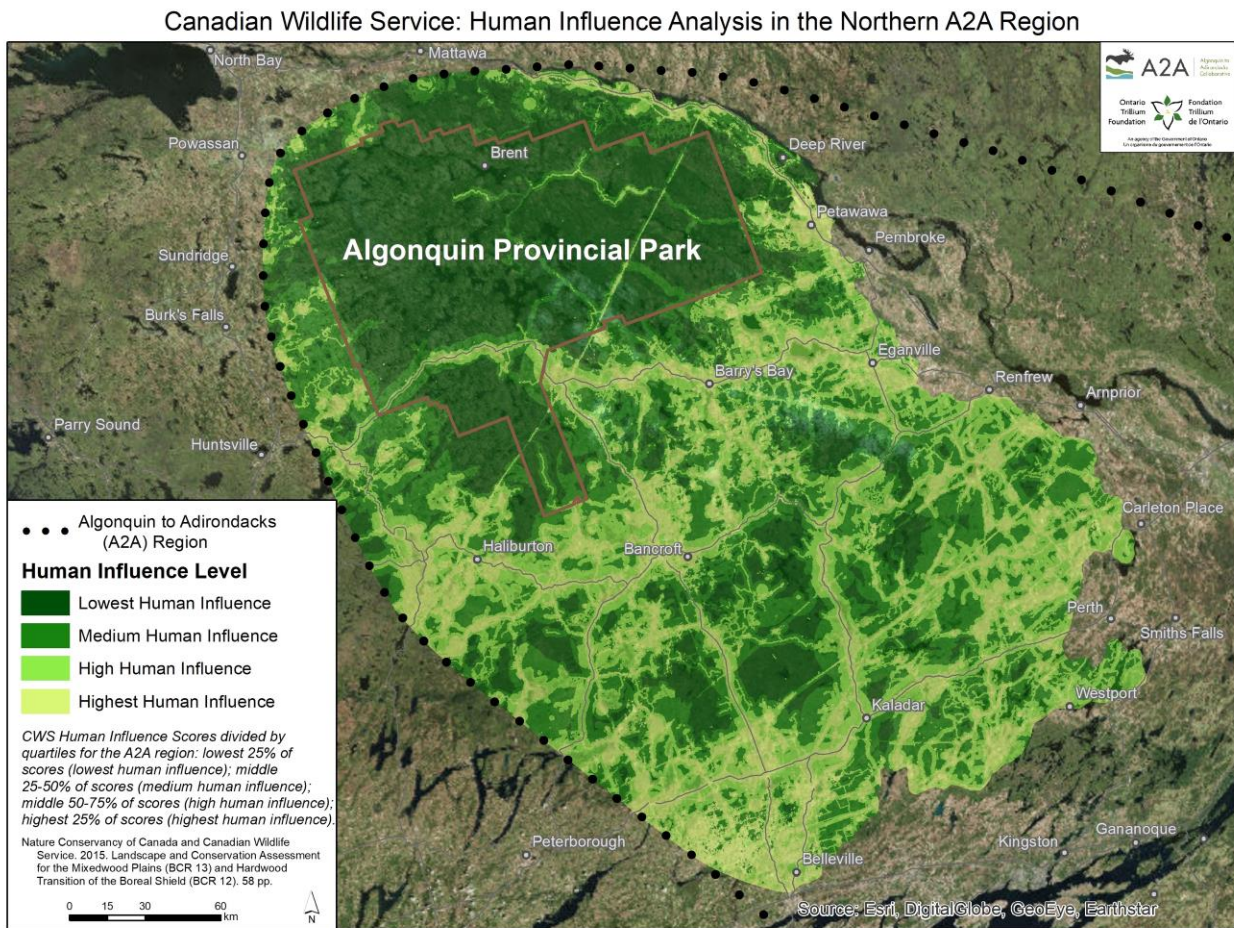


Figure 11: The Human Influence Analysis in the northern portion of A2A.

In addition to the recent work completed by the Canadian Wildlife Service, a connectivity analysis, Landscape Connectivity in the Great Lakes Basin had also been recently completed

(Bowman and Cordes, 2015). This connectivity analysis includes much of Ontario, and was clipped to the A2A boundary to show the connectivity analysis for the A2A region (Fig. 12).

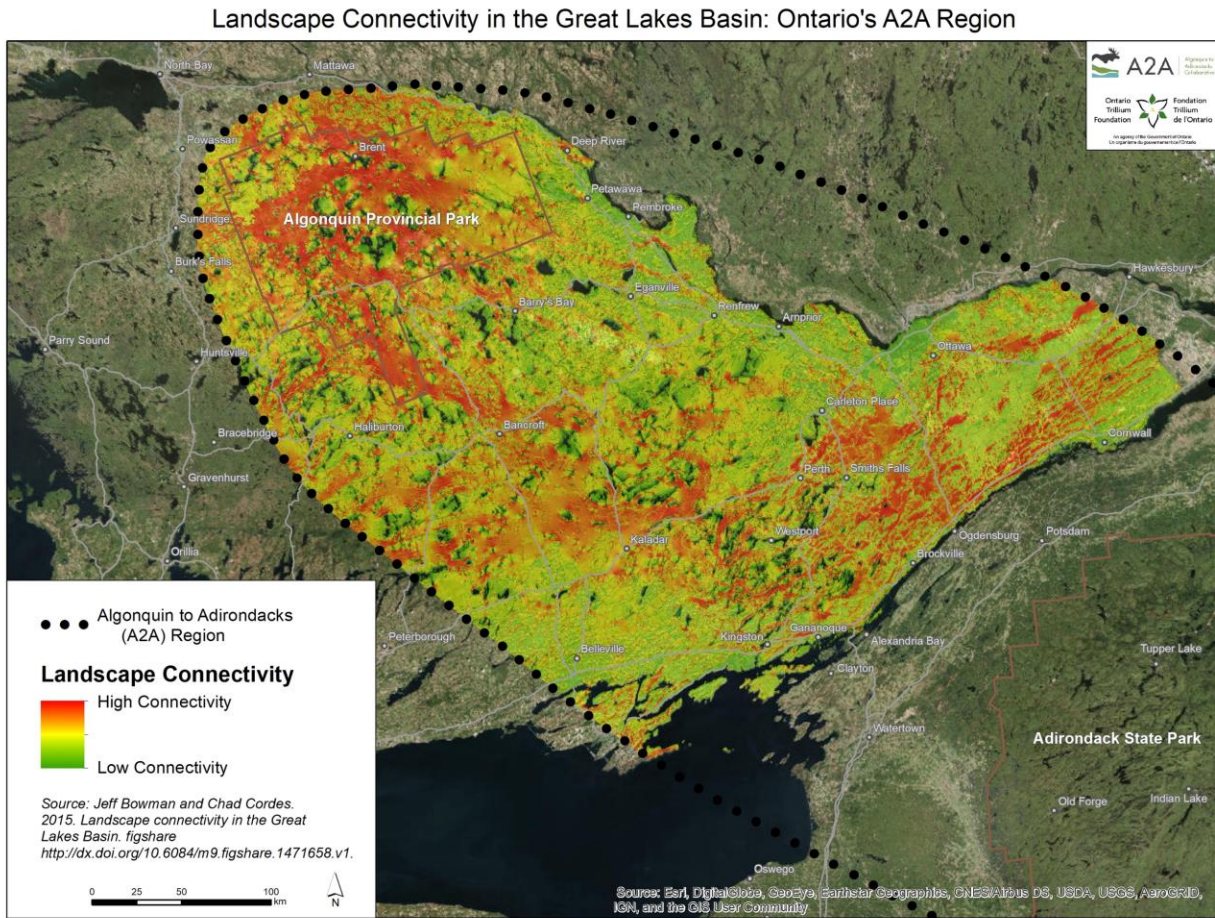


Figure 12: Landscape Connectivity in the Great Lakes Basin (Bowman and Cordes, 2015).

All of the mapping resources discussed here will be made available as shapefiles. They will also be available as Google Earth files, following the example of the A2A connectivity mapping, so that the resource is accessible even without GIS software. The CWS High Value Biodiversity Area layers will show the HVBA classifications (e.g., forest, wetland, open country, combinations of these classifications, etc.), and each layer can be viewed independent of the others. The Human Impact Analysis layers will also be available to view by quartile (from the least impacted 25% of the HVBA to the most impacted 25% of the HVBA).

The mapping resources discussed here are important contributions of the A2A CAP project. They directly address a need that was identified by stakeholders in numerous instances. With the additional resources stakeholders in areas not covered by the A2A Regional Connectivity mapping will be able to better inform their conservation planning decisions.

The A2A Lens for Conservation Planning Efforts

Below is the current version of the A2A Lens, with the five main lens principles, and their more detailed components. These represent the considerations that define an A2A perspective.

A2A Lens Principle	Lens Principle Components (More specific measures to be taken to support the lens principle)
1. Landscape Scale Context	1.1 Look beyond the jurisdictional borders.
	1.2 Focus on species and ecological flows and processes requiring large landscape/ranges.
	1.3 Examine local communities in terms of landscape diversity – what role do local areas play in broader biodiversity conservation.
2. Cores and Corridors	2.1 Systematic identification of core natural areas and connections incorporate landscape criteria and reference multiple scales (e.g., local, regional, international).
	2.2 Policies protect ecological flows and processes within the local natural system that permeate the landscape as well as the features themselves.
3. Strategic Stewardship and Partnerships	3.1 Projects involve partners from across jurisdictional boundaries and from diverse sectors, including participants with local knowledge.
	Local and community knowledge may include Aboriginal Traditional Knowledge (ATK), Naturalized Knowledge Systems (NKS), Traditional Ecological Knowledge (TEK), anecdotal information known by the public and local communities, data from citizen science initiatives, and other forms of knowledge. Information can be shared in written format, but also in other formats that support oral storytelling traditions.
3.2 Ecological enhancement projects (e.g., planting, restoration) are planned in targeted areas to enhance landscape-scale connectivity and function.	
4. Anticipate Future Threats	4.1 Include an element of future needs and challenges.
4.2 Consider different future scenarios and incorporate adaptive management principles for resilience.	
5. Ways of Knowing	5.1 Incorporate Ways of Knowing that emphasize an understanding of the larger landscape and changes over time.
	Ways of Knowing that capture larger spatial and temporal scales may include Aboriginal Traditional Knowledge (ATK), Naturalized Knowledge Systems (NKS), Traditional Ecological Knowledge (TEK), archaeological information, historical documents, and other forms of knowledge.
	5.2 Incorporate Ways of Knowing that acknowledge and integrate the importance of local and community observations and knowledge.
	Ways of Knowing that capture local and community knowledge may include Aboriginal Traditional Knowledge (ATK), Naturalized Knowledge Systems (NKS), Traditional Ecological Knowledge (TEK), anecdotal information known

	by the public and local communities, data from citizen science initiatives, and other forms of knowledge. Information can be shared in written format, but also in other formats that support oral storytelling traditions.
	5.3 Establish principles of engagement and governance that allow for respectful and meaningful cross-cultural collaboration. Cross-cultural collaboration today should recognize and reflect the agreements made centuries ago, and represented through various wampum belts.
	5.4 Ensure culture is recognized and included with environment, economy and society as a pillar of sustainable development.

Throughout the CAP project, how to use the A2A Lens in practical applications was considered in a number of different ways, e.g.,

- Indicators of ecosystem well-being such as key ecological attributes (KEAs) were reviewed to see how science-based measures fit with different parts of the lens.
- Examples from other Conservation Action Planning exercises in Ontario helped to provide ideas for how the lens components could look in a CAP.

As the project grew, so did the lens. The supplemental A2A Lens Database reflects that for different situations, different pieces of information are useful. The A2A Lens Database can be accessed [here](#).

An important part of the A2A Lens Database is a list of important resources that could aid conservation planning. These are resources that were identified or created throughout the CAP Project. Tracking and sharing these resources to highlight best practices became an important part of the project. A partial list is below, a full list of the resources is contained within the A2A Lens Database.

- How Much Habitat is Enough? Third Edition (Environment Canada, 2013)
- How Much Disturbance is Too Much? (Environment Canada/ Beacon Environmental, 2014)
- Islands of Life: a Biodiversity and Conservation Atlas of the Great Lakes Islands (Henson et al., 2010)
- Important ecological connections through the Algonquin to Adirondacks (A2A) region (Canadian Parks and Wilderness Society Ottawa Valley Chapter, 2012)

As local CAPS are completed, the A2A Lens Database will continue to be updated, to create an ongoing record of resources and A2A examples. This iterative adaptation of the lens will help improve the resources and knowledge available to help inform and implement an A2A perspective.

Implementing the Lens

One of the key findings during the workshops and project evaluation relates to the application of the A2A lens. To be successful, local Conservation Action Plans must be locally driven, and all parts of the process must be determined during the course of the CAP. It is counterproductive to the local CAP process to try to initiate each CAP with a predetermined A2A objective.

Rather than completing local conservation action plans using the lens, it was determined that the lens will be most useful when used as a precursor to local Conservation Action Planning. The goal of sharing the A2A Lens perspective will be to build an engagement model, to bring local and regional partners together, to build meaningful relationships with First Nations partners, to increase awareness about the A2A region and its ecological connectivity and importance, and to consider areas especially important for ecological connectivity.

In this model, the A2A scale considerations and lens components are considerations rather than prescriptive measures. The A2A scale perspective can also be shared in local CAPs through participation by the A2A Collaborative in local CAPs. This model is truer to the intent and proven benefits of the CAP model, and more closely reflects the A2A Collaborative model as well. Figure 13 demonstrates how the A2A Lens could be incorporated into CAPs in A2A.

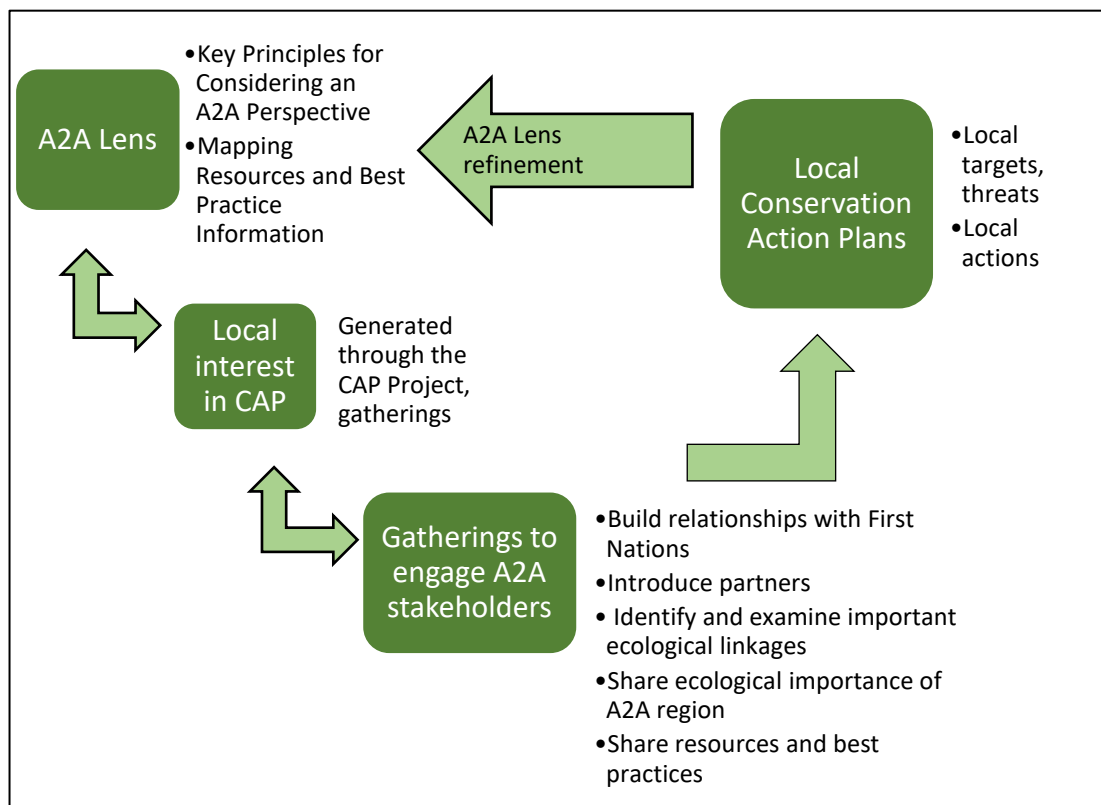


Figure 13: The proposed application of the A2A Lens.

The Next Steps – Opportunities in A2A

Through a combination of months of research, stakeholder engagement, and assessments of feedback and findings, the greatest opportunities for the A2A Collaborative to assist CAP development in the A2A region are:

- To facilitate gatherings to build relationships with First Nations, and to allow for true engagement and cross-cultural collaboration to develop.
- To facilitate gatherings where local and regional partners can engage with each other, including in areas where ecological linkages have been identified.
- To facilitate and co-sponsor funding applications to fund local CAPs.
- To participate in local CAPs, to provide a more regional scale perspective.

Gatherings and Relationship Building

One of the major findings which emerged throughout the A2A region was the need to build relationships between most stakeholders and local First Nations. This need emerged in the June 28 and July 6 discussions, and was reinforced during The A2A CAP Workshops, Workshop 1: Ways of Knowing (September 21 2017). In all of these discussions we heard that without established connections to First Nations partners, communities or governments, people were often uncertain about how to begin to establish a relationship, and often did nothing.

From an A2A Conservation Action Planning perspective, Ways of Knowing means

- Incorporating the best available information into conservation planning initiatives
- Including local and cultural knowledge

The Ways of Knowing workshop was designed to specifically address issues of engagement, and increased understanding of other ways of knowing. From this workshop, we learned several important lessons. People from all types of organizations were excited for the opportunity to engage and gather. People often want to participate and engage, but don't know how, so gathering together and listening to First Nations presenters was a first step. We learned and heard that more opportunities are needed, because people are often listening, observing and learning how to engage at first, and need time to open up and be comfortable. We also learned that we need to allow enough time in the day.

A very important step in this relationship-building is the creation of governance models to establish how parties will relate to each other over the course of their relationship. This is the need to establish a way of relating, before jumping into a project. Larry McDermott, Executive Director of Plenty Canada shared this perspective with participants, based on the need to establish ethical spaces based on the 7 grandfather teachings (wisdom, love, respect, bravery, honesty, humility and truth). This governance model will create spaces where everyone can be brave and share freely because there is trust. Participants heard that this would be a return to the original cross-cultural agreements reflected in the Three Figure wampum belt, sharing the best of our cultures. Moving forwards, there is a need to return to what these original agreements represented. This perspective was shared during the course of the workshop, but also before the workshop through a Community Conservation Research Network (CCRN) webinar presented by Larry McDermott (Indigenous Engagement in Conservation, CCRN

Webinar Series 2017 – Webinar #5 <http://www.communityconservation.net/indigenous-engagement-in-conservation/>). This governance model discussion formed the basis for Ways of Knowing principle 5.3: Establish principles of engagement and governance that will allow for respectful and meaningful cross-cultural collaboration.

We also heard that First Nations partners are like any other partners. Talk to them, begin to establish relationships, and work together. These are the first steps. We need to continue the conversation, and the relationship, in order to make true progress. Examples of how this is being done in the A2A region (e.g. Eastern Ontario First Nations Working Group, Eastern Ontario Model Forest) provide insight into how this could become a model for all groups.

From the input and experiences of the presenters, A2A staff, and the participants we considered what would be the most useful thing to consider moving forwards. The items that made sense were:

- To provide opportunities for engagement, listening and understanding of each other.
- Informal gatherings would be beneficial, sharing cultural aspects with each other.
- These gatherings could be topic-based, but don't need to be workshops with outcomes. More an opportunity for information exchange and for relationship building.
- These gatherings should provide opportunities and enough time for ceremony and discussions, without too much of a formal agenda to get in the way.
- Ceremony is key, it opens people's hearts and minds.
- Opportunities to both be outdoors and explore the land would be important, especially to sharing in other ways of knowing (spiritual, emotional, physical, mental).
- Two-day long workshops would provide opportunities for both formal and informal discussions

These gatherings would be held in advance of local Conservation Action Planning efforts. This need to begin with gatherings and ceremony with First Nations stakeholders was modelled at the Ways of Knowing workshop. The relationships and engagement/governance models will vary between local efforts, but can incorporate common elements as explored during this project and facilitated by A2A in future local efforts.

Ecological Linkage Connectivity Considerations

The second important consideration in advance of local CAP efforts is increasing awareness about the key ecological linkages and areas most important for local and regional connectivity. An increased understanding of the importance of the A2A region may provide important context for local CAPs. Existing work on this has been completed by the Canadian Parks and Wilderness Society Ottawa Valley Chapter (CPAWS – OV) (2012) (see Figure 14).

Building on the work by CPAWS-OV, the A2A Regional Connectivity Mapping, CWS High Value Biodiversity Areas and Habitat Mapping and the Landscape Connectivity in the Great Lakes Basin mapping all provide additional perspectives on what may be important in an area. By hosting gatherings based on important geographic areas, key areas for local CAPs to develop may be found.

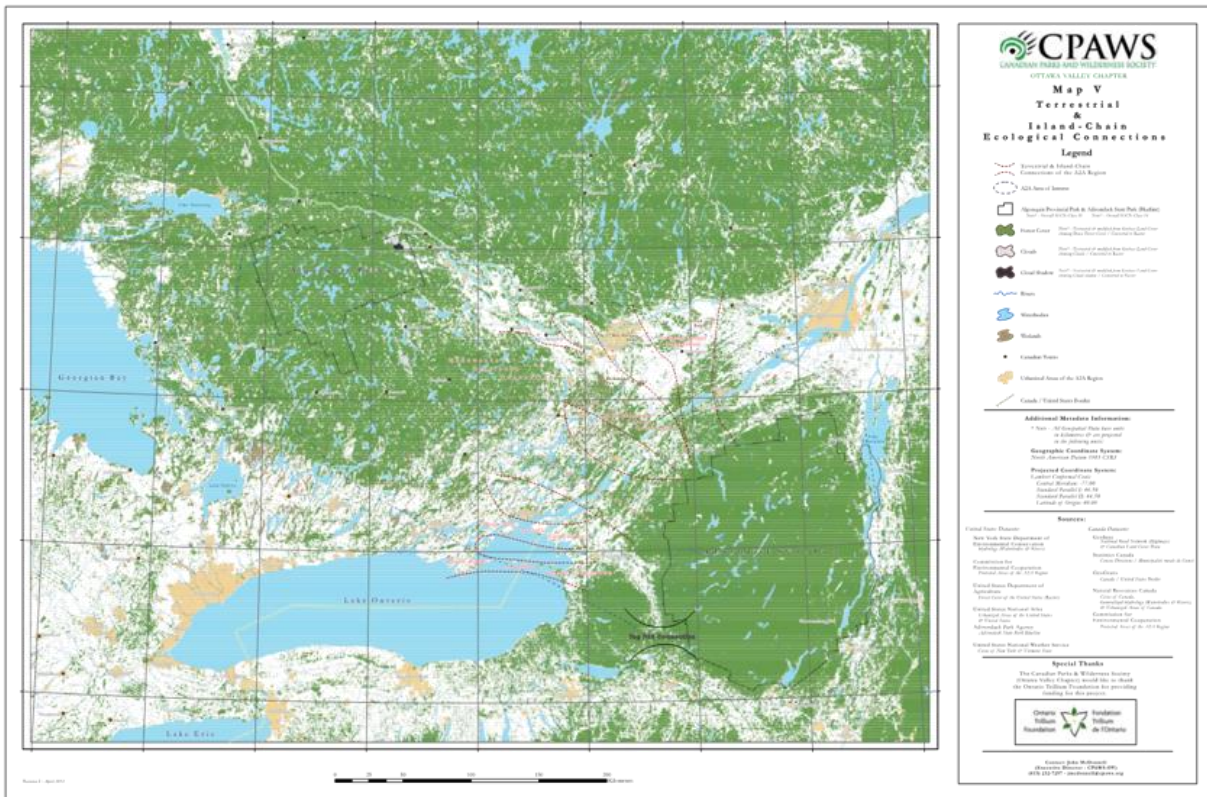


Figure 14: Map V Terrestrial and Island-Chain Ecological Connections. CPAWS Ottawa Valley Chapter (2012)

Conclusions

This project has generated several outcomes:

- An initial A2A landscape lens to guide local work on conservation planning.
- Interest in local Conservation Action Planning.
- A stakeholder/engagement process which recognizes the importance of collaborative governance models
- Mapping and other tools to facilitate application of the landscape-scale for future local Conservation Action Plans and all conservation planning efforts.

These tools and products will continue to evolve as lessons are learned and feedback is given, during local Conservation Action Planning.

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Appendices

Appendix 1: Annotated Bibliography of Files Used Throughout Project

Filename	Date	Notes
A2A CAP Stakeholders.xlsx	Ongoing	List of stakeholders with an interest in the CAP Project. Updated throughout project, and used to track participation and engagement.
CAP Presentation.pptx	March 26 2017	Powerpoint presentation on the CAP Project developed for the A2A AGM, and used as the basis for presentations going forwards
A2A_CAP_Lens_Workbook_for_Review.docx	May 1 2017	Fillable workbook sent to A2A stakeholders to gain input on the A2A CAP Lens and project.
CAP Presentation for May 4 workshop.pptx	May 4 2017	Powerpoint presentation developed for 1 st of 2 half day expert workshops. The workshops presented the A2A Lens and asked for input.
CAP Presentation for May 10 workshop.pptx	May 10 2017	Powerpoint presentation developed for 2 nd of 2 half day expert workshops, with some refinement from 1 st workshop. The workshops presented the A2A Lens and asked for input.
CAP Presentation for June 6 webinar UPDATED.pptx	June 6 2017	Powerpoint presentation developed for 1 hour webinar on Conservation Action Planning, to explain the basics of CAP to interested stakeholders. Delivered with Jarmo Jalava of Carolinian Canada Coalition. Included a diverse audience, with interested federal and municipal government employees from jurisdictions outside of A2A, as well as American participants.
CAP Presentation for June 28.pptx	June 28 2017	Powerpoint presentation developed for 2 hour stakeholder input meeting 1 of 2, convened by phone.
CAP Presentation for July 6 REDUCED.pptx	July 6 2017	Powerpoint presentation developed for 2 hour stakeholder input meeting 2 of 2, held at the Mississippi Valley Conservation Authority office in Carleton Place.
CAP A2A Lens SHORT VERSION.pptx	June 28 2017	Powerpoint presentation developed as supplemental information material for the stakeholder meetings.
Presentation for Sept 21 workshop.pptx	September 21 2017	Powerpoint presentation developed for the Ways of Knowing full day workshop, held at The Opinicon.
Presentation for Sept 28 workshop.pptx	September 28 2017	Powerpoint presentation developed for the Target and Threats full day workshop, held at the Mallorytown Community Centre.

Appendix 2: Workshop 2: Expert Evaluation

A2A Conservation Action Planning Project Stakeholder Workshop, September 28 2017 Evaluation

Jarmo Jalava

Director of Ecosystem Recovery, Carolinian Canada

October 18, 2017

1. Introduction

Background

This brief report provides an evaluation of the Algonquin to Adirondacks Collaborative's (A2A's) Ontario Trillium Foundation-funded project undertaken in 2017 "to develop and test an innovative, landscape corridor level approach to applying the Conservation Action Planning (CAP) Framework within the Ontario portion" of the A2A corridor. According to A2A, this "corridor represents one of the most biodiverse regions in North America, and one of the last opportunities in eastern North America to create north/south connections that can sustain ecological functions and help ensure resilience to threats such as climate change."

The project is rationalized on the basis that: "Decisions made in isolation or within artificial jurisdictional boundaries, will not be as effective at addressing corridor scale issues that span these boundaries. Actions made in isolation and without full knowledge of A2A scale issues, may work at cross purposes or fail to take advantage of common collaborative opportunities."

Key desired outcomes for the project are:

- To integrate bigger-picture thinking within smaller-scale efforts in the A2A corridor.
- To explore innovative approaches and feasibility at the A2A scale prior to looking at more traditional, local conservation action planning (CAP) initiatives.
- To address A2A stakeholder group questions relating to the science and collaborative engagement aspects of CAP.
- Build partner capacity to engage CAP in a collaborative format.

The project aims to answer the following questions:

- How does the existing information and policy framework address landscape/corridor scale ecological functions that cross jurisdictional boundaries?
- What kind of framework or ecological lens would be most useful when trying to connect individual conservation plans to account for A2A scale functions such as wildlife movement?

- What would be the most effective stakeholder engagement/collaborative model to use in the A2A to ensure that the full range of cultural diversity and interests are involved in CAP?
- What would be the most effective/sustainable delivery model to use for local CAPs in the A2A?

This Evaluation

While some effort is made here to assess the project’s effectiveness in meeting its overall objectives, this evaluation is based on the author’s attendance of one stakeholder workshop (in Mallorytown, September 28, 2017). Its focus is primarily on questions relevant to this particular workshop, namely:

- i. Is CAP being explained well? What would enhance the explanation of CAP?
- ii. Observations on the explanation of the A2A approach to CAP (A2A Landscape as a region to be considered; A2A Lens; A2A Framework).
- iii. How does the A2A Framework inform/change participants’ understanding of key CAP concepts?

The Evaluation section below is structured on the basis of these three questions. At the end of each evaluation question section, some suggestions are provided to hopefully help A2A develop a framework for CAPs that will support both local and ecoregional considerations. Some additional general recommendations are provided in the final section of this report.

2. Evaluation

i. Effectiveness of explanation of CAP approach.

Overall, the CAP process and its merits were described well by the A2A team during the introductory portion of the workshop. The A2A representatives and the participating stakeholders engaged in excellent discussion on scope options (overview/guidance vs. local needs), the adaptive nature of CAP, and the benefits of collaborating on setting priorities and agreeing via a structured process on higher level goals and site-priorities. There was generally excellent input from the stakeholder group on the value of the CAP product.

Specific aspects of CAP that were presented on and discussed included establishing Project Teams, defining project Scope and Vision, selecting Conservation Targets and identifying Critical Threats. The explanation of each of these aspects is evaluated below.

Establishing Project Teams

There was good discussion with respect to the composition and function of the CAP team(s). The need to engage and collaborate with different sectors and organizations was recognized. There seemed to be consensus within the stakeholder group that all local sectors potentially affected by the CAP process should be involved in, or at least informed of, the CAP at appropriate times.

The need to have a “science team” with strong biological/ecological expertise to select appropriate conservation targets and evaluate their viability could have been emphasized more than it was during the workshop. This might have avoided some uncertainty and confusion during the afternoon breakout session.

CAP methodology is designed to be undertaken step-by-step and is meant to establish an evidence-based, foundation of sound conservation science. Ideally, a science team that includes experienced ecologists/biologists with strong local knowledge would be tasked with conservation target selection and viability assessment. The science team should also identify key ecological attributes for each conservation target (for future monitoring to assess whether CAP actions are having their desired

effect), as well as to identify the critical threats (i.e., stresses and sources of stress) impacting conservation target viability.

CAP objectives and strategies are made “SMART” (strategic, measurable, action-oriented, relevant/realistic and time-limited) through a robust analysis of social and economic factors underlying critical threats associated with human causes. An understanding of the social, cultural, political and economic drivers responsible for sources of stress is essential to developing effective objectives and strategies. The subsequent steps of a CAP (following conservation target identification and viability assessment) therefore benefit from an expanded team membership that includes individuals with insight into the social, political and economic landscape of the CAP area. This expanded team should include members with knowledge of and/or expertise in applying effective techniques to influence positive behavioural change.

At the workshop, the stakeholder team identified the need to explore and understand barriers and challenges to engagement with key players on the A2A landscape. This understanding will help determine at which stage(s) government decision-makers, politicians, industry and other resource-users, and non-environmental stakeholder groups, ought to be invited to participate in developing the CAPs or reviewing CAP products.

Zeroing in on situation analysis diagrams could help participants understand where human dimensions (overall vision; sources of stress; setting goals and objectives; strategies, implementation, outreach, monitoring, adapting, funding, etc.) fit within the CAP development process.

Determining Project Scope

There was discussion at the workshop with respect to project scope, specifically in the context of local CAPs “fitting in” with A2A landscape-level conservation priorities. Differences in land use and ecological conditions in the more impacted central part of the A2A area were contrasted with the more intact “ends of the dumbbell”, and these differences were suggested as a basis for division into project areas. An interesting suggestion was made to add a “cultural boundaries” layer to A2A mapping to display how attitudes, demographics, economic considerations, etc., vary with A2A geography. It was noted that the physical geography of the landscape is largely responsible for the “cultural boundaries” because of its influence on land use and local economies. In any case, such a geographic/cultural division for local CAPs would make sense from both ecological and strategic perspectives, since conservation target viability and threats would probably generally be relatively consistent across such local CAP areas, making the design of conservation strategies much easier.

Project Vision

There was recognition at the workshop of the need for consensus on an overall vision and goals to drive the process and determine the scope of local CAPs. Landscape connectivity seemed to be key aspect of interest to participating groups. This connectivity is graphically and symbolically displayed in the iconic “Alice the Moose’s journey” (despite a challenge to the veracity of some of the details of Alice’s story made by one of the workshop participants).

The A2A team did an excellent job recognizing the need (and challenge) to incorporate parallel Ways of Knowing (Indigenous / ATK) into the planning process. The workshop included a helpful recap of a meeting the previous week at which such priorities were elaborated with First Nations representatives. As a result, the question was posed to the September 28 workshop participants: “Should Indigenous and Western Science be integrated into the planning process? Or would they better be kept as two pieces to refer to?” It was noted that the Indigenous “vision” for the landscape might best be developed and articulated separately in order to maintain its cultural and intellectual integrity. While at first such an approach might seem counterintuitive to the notion of a “consensus-based CAP”, it could prove to establish a fertile creative dynamic that respects parallel world views. The success of a “Western science” based CAP could be measured against the Indigenous “vision” that is rooted in traditional

spirituality, and a respectful, sustainable relationship with the landscape and the essential gifts it provides.

Conservation Targets

The presentation on concepts for selecting conservation targets and determining target viability was quite brief, and not enough effort was made to ensure that all participants understood what conservation targets (in the CAP context) are, and why this approach is taken. As a result, only one of the two breakout groups seemed to grasp that “conservation targets” are usually ecosystem/habitat types, groups of species, or species with special conservation needs. The second breakout group seemed to confuse “targets” (e.g., an ecosystem type or species group that needs to be conserved) with “objectives” (e.g., better forest stewardship) and “strategies” (e.g., increasing landowner awareness). This confusion was resolved to some degree through extended discussion, but was not clear at the end of the workshop whether everyone left satisfied or fully understanding the material.

It is hoped that participants understood that the breakout groups were simply undertaking an exercise. If and when “formal” CAPs are developed, enough time should be allocated to robustly explain CAP concepts in order to ensure that participants have a sound understanding of CAP concepts. The Open Standards for the Practice of Conservation web site (<http://cmp-openstandards.org/>) provides a wide range of downloadable teaching tools and documents for this purpose, and trained facilitators are available.

In any case, some interesting and potentially useful solutions to the challenges experienced by the breakout groups emerged. One participant suggested re-naming “conservation targets” to “values we want to protect/conservate” (e.g., sustainable uses, ecological services, Crown land forests).

Identifying Critical Threats

The workshop included some discussion about identifying critical threats, but there was not enough time to fully explore what threats are in the CAP context and how they are evaluated and ranked. Concern was expressed with the actual term “threats”, since it has such strong negative connotations, which could be alienating for some key sectors that the CAPs will likely need to engage. It was pointed out that “threats” are actually broken out into “stresses” and “sources of stress” in Open Standards terminology, and these terms seemed to be met with more favourably by the workshop participants. “Impacts” is another term that could be used.

iii. How does the A2A Framework inform/change participants’ understanding of key CAP concepts?

The A2A framework should not “change” participants’ understanding of key CAP concepts. There seemed to be a bit of a misconception with respect to the scalability of CAP (a.k.a. Open Standards) as it seemed to be implied that the “traditional CAP approach” is not able to address A2A’s landscape-scale connectivity issues. In fact, CAP “can be applied at any geographic, temporal, or programmatic scale. The level of detail and the types of actions teams take will vary, but the general process applies across all scales” (<http://cmp-openstandards.org/about-os/faqs/>).

3. General Recommendations and Additional Thoughts

In the evaluator’s opinion, the strategic challenge faced by A2A is not what methodology to use (or adapt) to develop conservation plans, since CAP can be used just as effectively at the local as the at the landscape-scale. The challenge is to do the planning in a logical and effective way, with appropriate stakeholder buy-in and participation. This challenge is amplified by at least three key factors relating to the ecological and demographic differences of the A2A geography: 1. It is bisected by an international boundary (with political, legal, cultural, economic, logistical and other implications); 2. It contains important traditional territory for Indigenous peoples (fulsomely incorporating First Nation needs and

perspectives is paramount to success of any initiative on this landscape); 3. It is characterized by ecologically distinct areas (relatively intact vs. moderately impacted and fragmented) with differing land use histories, cultures and economies.

It would seem logical that an A2A-scale CAP be undertaken first to develop a high-level consensus-based vision statement for the A2A region, and to identify the landscape-scale priorities. This overarching CAP would then serve as an important science-based and consensus-based reference to guide local CAPs.

Potential ecologically-based conservation targets for the overall A2A area could include:

1. Wide-ranging mammals
2. Migratory birds
3. A comprehensive suite of representative ecosystem types

In the context of landscape-level needs of wide-ranging species and climate change, the “A2A framework” or “lens” of habitat connectivity and complexity would by default be recognized. Their viability would be assessed by “key ecological attributes” at the regional scale. The local CAPs would inform and empower the activities of local groups to help meet both the landscape-level goals as well as ecological stressors occurring (and in some cases unique to) at local scales.

Specific impressions of the workshop included the fact that there were no representatives from United States organizations. Granted, the current exercise was Ontario-focused, it could have been beneficial to at least have a U.S. perspective present at the meeting, given how important the landscape-level considerations are. There was only one First Nations attendee, and she (I believe) was also a Parks Canada employee. There were no municipal representatives, and there did not appear to be reps from organizations not associated directly with the conservation sector (i.e., no agricultural organizations, landowner associations, resource industry reps). Also, there did not appear to be provincial government or conservation authority staff present. It was not clear why these various sectors were not represented (i.e., overlooked, intentionally not invited, or invited but unable to attend). All these sectors, and probably others, should be considered for engagement at appropriate points in the CAP process. In the evaluator’s experience, the project Vision is ideally endorsed (and developed) by as broad a representation of the affected community as possible.

Despite the challenges described above, my impression was that the participants were keen to learn about the process, committed to the overall mission, and enthusiastic to move forward with the process. Any criticisms and comments expressed by participants throughout the day appeared to be constructive. With appropriate planning, resourcing, timing and engagement of collaborators, I can see no reason why A2A should not proceed with developing CAPs (landscape-level and local) using the Open Standards for Conservation Success methodology and tools. Roles for A2A could include: partner engagement and liaison; developing the high-level vision and landscape-level CAP priorities; collaborative fundraising for local CAP development; coordinating third-party facilitation of local CAPs; central data storage, communications, outreach and web hub; participating in the CAP process as an equal partner with local groups (i.e., to ensure/advocate for incorporation of landscape-level ecological priorities at the local level); coordinating long term monitoring and evaluation of CAPs; linking local teams to provincial, national and international initiatives, current science and conservation tools.

Appendix 3: Descriptions of Shapefiles: High Value Biodiversity Areas & High Value Habitat

These are the descriptions of the High Value Biodiversity Areas (HVBA) and High Value Habitats (HVH) (Forest, Open Country and Wetland), as described in the original shapefiles.

High Value Biodiversity Areas - HVBA

Summary

Provides a summary of high value biodiversity areas in Bird Conservation Region (BCR) 12.

Description

This layer aggregates high value forest, high value grassland and high value wetland habitat per 5 ha hexagon in the Boreal Hardwood Transition Ecozone, also known as BCR 12. It is the final derived dataset from the CWS-ON Landscape Conservation Atlas and Plan (COLCAP). COLCAP is a comprehensive landscape assessment in BCR 12 and 13 that describes and assesses the CWS landscape biodiversity portfolio.

Using How Much Habitat is Enough? guidelines, forest, grassland and wetland habitat were assessed and scored and the top 25% of each were categorized as having potential high conservation value (PHCV). Species at risk (SAR) criteria (SAR richness, irreplaceability, global rarity, probability of critical habitat, diversity and candidate SAR) were assessed and scored and the top 25% of these scores within each habitat type were categorized as having PHCV. Migratory bird criteria relevant to each habitat (landbird stopover habitat, waterfowl stopover habitat, forest/grassland bird density and waterfowl density) were added together and the top 25% of each score were categorized as having PHCV.

Study units (5 ha hexagons) containing at least 2 of these PHCVs were aggregated together at 750 m to derive High Value Biodiversity Areas.

Areas greater than 20 ha are classified as 'Biodiversity Sites' and areas less than 20 ha are 'Secondary Sites.' These sites were created with the same criteria, the only differentiating attribute is size.

Credits

Environment and Climate Change Canada - Canadian Wildlife Service, Ontario, in partnership with the Nature Conservancy of Canada, 2016.

Use limitations

Users of this data are subject to the Open Government Licence - Canada.<http://open.canada.ca/en/open-government-licence-canada>

High Value Habitat - HVH-Forest

Summary

Provides a summary of potential high conservation value forests in Bird Conservation Region (BCR) 12.

Description

This layer aggregates potential high conservation value forests per 5 ha hexagon in the Boreal Hardwood Transition Ecozone, otherwise known as BCR 12. It is one of three high value habitat datasets derived from the CWS-ON Landscape Conservation Atlas and Plan (COLCAP). COLCAP is a comprehensive landscape assessment in BCR 12 and 13 that describes and assesses the CWS landscape biodiversity portfolio.

In the COLCAP, forest includes conifer swamp, coniferous plantation, deciduous swamp, dense deciduous or coniferous forest, mixed forest mainly deciduous or coniferous, sparse deciduous or coniferous forest, treed bog, and treed fen. Data was extracted from the Southern Ontario Land Resources Information System v. 2.0 (OMNRF, 2015), the Provincial Land Cover 28 (OMNRF, 1998) and the Forest Resource Inventory (OMNRF, 2004-2011).

Using the How Much Habitat is Enough? guidelines, each study unit (5 ha hexagon) containing forest was assessed and scored by the following criteria: percent forest cover in the quaternary watershed, large forest patches, percent of interior forest habitat, proximity to big woods, and connectivity. These criteria were added together to calculate an overall forest score for each study unit; this overall forest score was then divided into quartiles and the top 25% of scores were categorized as having potential high conservation value (PHCV).

Species at risk (SAR) were assessed and scored by the following criteria: diversity, SAR richness, SAR irreplaceability, global rarity, candidate SAR, and probability of critical habitat. These criteria were added together to calculate an overall SAR score for each study unit; this overall SAR score was then divided into quartiles and the top 25% of SAR scores that are within forests were categorized as having PHCV.

Migratory bird criteria relevant to forests (landbird stopover + forest bird density) were added together to calculate an overall migratory bird score for each study unit; this overall migratory bird score was divided into quartiles and the top 25% of migratory bird scores were categorized as having PHCV.

Using these three criteria (overall forest score, SAR score and migratory bird score), each study unit was assigned a final PHCV (0-3). A final PHCV score of 0 indicated that while the study unit may contain forest, it was not within the top 25% of overall forest scores. Study units with a final PHCV greater than 0 were aggregated together at 750 m to derive High Value Habitat: Forest.

Secondary Site - Forest = less than 20 ha in size; Biodiversity Site - Forest = greater than 20 ha in size.

Credits

Environment and Climate Change Canada - Canadian Wildlife Service, Ontario, in partnership with the Nature Conservancy of Canada, 2016.

High Value Habitat - HVH- Open Country

Summary

Provides a summary of potential high conservation value grassland in Bird Conservation Region (BCR) 12.

Description

This layer aggregates potential high conservation value grassland per 5 ha hexagon in the Boreal Hardwood Transition Ecozone, also known as BCR 12. It is one of three high value habitat datasets derived from the CWS-ON Landscape Conservation Atlas and Plan (COLCAP). COLCAP is a comprehensive landscape assessment in BCR 12 and 13 that describes and assesses the CWS landscape biodiversity portfolio.

In the COLCAP, natural grassland includes alvar, tallgrass/prairie/savannah/woodland, open sand dune, treed sand dune, rock barren and shrub rock barren communities; agricultural grassland includes pasture, hay and old fields, pasture and abandoned fields, and old cuts and burn areas. Data was extracted from the Southern Ontario Land Resource Information System v 2.0 (OMNRF, 2015), Natural Heritage Information Centre (OMNRF, 2013), Annual Crop Inventory (AAFC, 2013) and the Provincial Land Cover 28 (OMNRF, 1998).

Using the How Much Habitat is Enough? guidelines, each study unit (5 ha hexagon) containing grassland was assessed and scored by the following criteria: protection and conservation, proximity, patch size, and habitat heterogeneity. These criteria were added together to calculate an overall grassland score within each study unit; this overall grassland score was divided into quartiles and the top 25% of scores were categorized as having potential high conservation value (PHCV).

Species at risk (SAR) were assessed and scored by the following criteria: diversity, SAR richness, SAR irreplaceability, global rarity, candidate SAR, and probability of critical habitat. These criteria were added together to calculate an overall SAR score within each study unit; this overall SAR score was divided into quartiles and the top 25% of SAR scores within grassland were categorized as having PHCV.

Migratory bird criteria relevant to grassland (landbird stopover + grassland bird density) were added together to calculate an overall migratory bird score within each study unit; this overall migratory bird score was divided into quartiles and the top 25% of migratory bird scores were categorized as having PHCV.

Using these three criteria (overall grassland score, SAR score and migratory bird score), each study unit was assigned a final PHCV score (0-3). A final PHCV score of 0 indicated that while the study unit may contain grassland, it was not within the top 25% of overall grassland scores. Study units with a final PHCV greater than 0 were aggregated together at 750 m to derive High Value Habitat: Grassland.

Secondary Site - Grassland = less than 20 ha in size; Biodiversity Site - Grassland = greater than 20 ha in size.

Credits

Environment and Climate Change Canada - Canadian Wildlife Service, Ontario, in partnership with the Nature Conservancy of Canada, 2016.

High Value Habitat - HVH- Wetland

Summary

Provides a summary of potential high conservation value wetlands in Bird Conservation Region (BCR) 12.

Description

This layer aggregates potential high conservation value wetland per 5 ha hexagon in the Boreal Hardwood Transition Ecozone, also known as BCR 12. It is one of three high value habitat datasets derived from the CWS-ON Landscape Conservation Atlas and Plan (COLCAP). COLCAP is a comprehensive landscape assessment in BCR 12 and 13 that describes and assesses the CWS landscape biodiversity portfolio.

In the COLCAP, wetland includes bog, fen, marsh, swamp and open water. Data was extracted from the Southern Ontario Land Resource Information System v 2.0 (OMNRF, 2015), Wetland Unit (OMNRF, 2014), Great Lakes Coastal Wetland Inventory (ECCC and OMNRF, 2004) and the Provincial Land Cover 28 (OMNRF, 1998).

Using the How Much Habitat is Enough? guidelines, each study unit (5 ha hexagon) containing wetland was assessed and scored by the following criteria: percent of wetland cover in the quaternary watershed, location of coastal features, adjacent natural cover, size, and proximity. These criteria were added together to calculate overall wetland score within each study unit; this overall wetland score was divided into quartiles and the top 25% of scores were categorized as having potential high conservation value (PHCV).

Species at risk (SAR) were assessed and scored by the following criteria: diversity, SAR richness, SAR irreplaceability, global rarity, candidate SAR, and probability of critical habitat. These criteria were added together to calculate an overall SAR score within each study unit; this overall SAR score was divided into quartiles and the top 25% of SAR scores within wetlands were categorized as having PHCV.

Migratory bird criteria relevant to wetland (waterfowl stopover + waterfowl density) were added together to calculate an overall migratory bird score within each study unit; this overall migratory bird score was divided into quartiles and the top 25% of scores were categorized as having PHCV.

Using these three criteria (overall wetland score, SAR score and migratory bird score), each study unit was assigned a final PHCV score (0-3). A final PHCV score of 0 indicated that while the study unit may contain wetland, it was not within the top 25% of overall wetland scores. Study units with a final PHCV score greater than 0 were aggregated together at 750 m to derive High Value Habitat: Wetland.

Secondary Site - Wetland = less than 20 ha in size; Biodiversity Site - Wetland = greater than 20 ha in size.

Credits

Environment and Climate Change Canada - Canadian Wildlife Service, Ontario, in partnership with the Nature Conservancy of Canada, 2016.