2019 CASIOPA Breakout Discussions – Synthesis of Ideas & Outcomes

Contents

Breakout Topic I. Science-based Selection of Protected Areas.	2
Overview	2
Background	2
Questions for Breakout Topic I	2
Ideas & Outcomes from Discussions on Questions for Breakout Topic I	3
Breakout Topic II. Integrating Protected Areas into Landscape Management	9
Overview	9
Background	9
Challenges	9
Questions for Breakout Topic I	10
Ideas & Outcomes from Discussions on Questions for Breakout Topic II	10
Breakout Topic III. Collaborative Conservation Planning	12
Overview	12
Background	12
Questions for Breakout Topic III	13
Ideas & Outcomes from Discussions on Questions for Breakout Topic II	13

Breakout Topic I. Science-based Selection of Protected Areas.

Overview

This session will explore science-based criteria for identifying new protected areas in Ontario. Protected areas should be complementary, connected, and collectively contribute to achieving biodiversity objectives. Discussions will focus on identifying science criteria to guide conservation planning by a diversity of groups from local to provincial scales. In addition, we will examine challenges and possible solutions to the adoption of shared criteria by conservation organizations with varying interests and mandates.

Background

Science-based conservation planning. The process for identifying and selecting areas for protection has evolved over time. Many of the first protected areas were identified in an ad hoc manner to provide recreational opportunities or preserve scenic vistas. Over the past few decades, systematic, science-based approaches to conservation planning have developed for identifying complementary areas that collectively achieve the protection and persistence of biodiversity.

National perspective. Aichi Target 11 and Canada Target 1 both set a target to protect 17% of lands and inland waters and have renewed interest in expanding protected area networks. In addition to quantitative targets, Aichi Target 11 and Canada Target 1 describe qualitative elements that should be features of protected area systems. This includes the idea that protected areas represent the full variety of the species and ecosystems of a region, be well connected, protect areas of importance for biodiversity and ecosystem services, and are integrated into the broader landscape.

Local and regional conservation planning. Criteria and methods for site selection vary among groups and organizations that are engaged in conservation planning. Consequently, the complementarity of sites and their contribution to a provincial network of protected areas can only be accounted for in a post hoc fashion, rather than as an integral part of the conservation planning process.

Challenges. Some challenges to developing shared criteria and approaches include incomplete biodiversity data, coverage of spatial data, the biogeographic variability of the province, regional variation in land uses and resource management activities, and the different interests and mandates of various conservation groups and government agencies. There are also science needs related to emerging areas of interest; for example, designing for climate resilience, ecosystem services, connectivity, and aquatic ecosystems. In addition, there are often multiple and sometimes conflicting objectives that must be balanced in selecting sites, such as addressing the demand for outdoor recreational opportunities, while maintaining ecological integrity.

Questions for Breakout Topic I

- 1. What values or criteria should be considered in selecting and designing new protected areas?
- 2. Why is it important to consider the values/criteria identified in question 1?
- 3. What data and methods are available for assessing each value/criterion?

- 4. What research is needed or recently available to improve how the values/criteria are applied or to assess their effectiveness at achieving conservation goals?
- 5. What are the challenges and/or opportunities to adopting shared criteria among different groups involved in conservation planning, and how could these challenges be addressed, or opportunities realized?
- 6. What are the most important values/criteria?
 - For question 6: CASIOPA aims to have each group end their Breakout Session I with a vote on their most important values/criteria dotmocracy we intend this to be done using small dot stickers (a 'dotmocracy') against each group's total list of values and criteria each person in a group places their stickers next to that list.

Ideas & Outcomes from Discussions on Questions for Breakout Topic I

1. What values or criteria should be considered in selecting and designing new protected areas?

Many similar criteria were identified among the groups that participated in break out sessions held at Peterborough, London, and Thunder Bay. Most criteria could be sorted into one of ten categories (Table 1).

Condition, connectivity, ecological design and ecological representation were identified by all groups. Community support, cost effectiveness, Indigenous knowledge, species, and habitats were common to three out of four of the groups. Climate change and ecosystem services were identified by two groups. Other criteria that were identified by a single group included unique physical and abiotic features, areas of high functional diversity, and existing designations.

During the "dotmocracy" in Peterborough, connectivity received the most votes; other criteria that were deemed most important were related to species and habitat, ecological representation and climate change.

2. Why is it important to consider the values/criteria identified in question 1?

Groups at the different sessions answered this question in various ways and did not necessarily link their responses to specific criteria. There were several recurrent themes for identifying criteria by participants (Table 1).

Achieving conservation of biodiversity was a predominant consideration in the criteria that were identified. The rationale for criteria (e.g., connectivity, ecological design, ecological representation, species and habitat, climate change) included: protection of source populations; lowering extinction risk; protecting endangered and threatened species; maintaining and enhancing resilience, and; adapting to climate change. Protecting as broad a range of species and biogeography as possible was considered vital, especially in a time of ecological change. Some groups remarked on the urgency for conservation, noting, "Space and time is running out".

Indigenous knowledge was identified as an important source of information for identifying significant features to protect. Indigenous knowledge can provide long-term, historical biodiversity information that complements western science. In addition, the knowledge and interests of Indigenous communities represents a different perspective on the features and values that are important to protect.

Supporting species movement was important in relation to criteria for climate change, ecological design and connectivity. Criteria should facilitate the movement and connectivity of populations, individuals, and genes to ensure their persistence. At a landscape scale, the interconnectedness of aquatic and terrestrial ecosystems is a significant factor for identifying areas for protection. Connectivity was recognized as a critical consideration for adapting to climate change and enhancing resilience. It was noted that the level of landscape disturbance might affect the importance of connectivity as a criterion.

Community support for protection is essential. Criteria, such as ecosystem services and climate change, which conserve features and services that are valued by humans are important for building community support. The human health benefits of natural spaces, opportunities to connect with nature, and preserving a legacy for future generations, are positive reasons for conservation that can be addressed through selection criteria. Unique places for which a community has a special attachment (e.g., a local geographic feature) can also become a focal point for community support. Some criteria, such as climate change, can create partnerships and collaboration that are not otherwise available for biodiversity protection.

Criteria should be effective at achieving conservation objectives and efficient in the allocation of scarce funding and resources. Protection efforts and money should be directed (strategically) towards the highest priorities for protection. Different levels of investment may be needed for areas that are relatively undisturbed compared to places that need restoration. Opportunities for education and research can add to the value of a site. The ability to manage a site once it is secured should influence conservation planning decisions. For example, fewer large areas may be more efficient to manage than many small ones. It is important that selection criteria include Indigenous knowledge and perspectives since this may influence how sites are managed. Collaboration among different organizations can enhance prospects for long-term management.

Table 1. Criteria for selecting protected areas identified during break out sessions.

Criteria	Description	London	Ptbo. 1	Ptbo. 4	Thunder
Condition	Current land use, cumulative impacts, ecological integrity, anthropogenic degradation	√	~	✓	Jay √
Connectivity	Connectivity, linkages		✓	✓	✓
Ecological design	Size, shape, core area, interior habitat, interior vs. edge, buffers	~	~	\checkmark	~
Ecological representation	Representation of biodiversity, ecological representation, geographic dispersion/representation,	~	~	\checkmark	~
Community support	Social/political willingness to protect an area, community support		~	✓	~
Cost effectiveness	Ability to manage land long-term, cost benefit analysis, economic impact, feasibility (e.g., current ownership)	~	~	\checkmark	
Indigenous knowledge	Traditional and local knowledge, traditional knowledge, traditional values		~	✓	~
Species & habitats	Keystone/endemic/rare species, species at risk, globally threatened species and habitats, sensitive or rare species or vegetation communities, focal species and habitats	✓	~	~	
Climate change	Climate change adaptation and mitigation, resilience, climate change refugia		~	\checkmark	
Ecosystem services	Human-nature connectedness, community values, sites with significant ecological services		~	\checkmark	
Other	Cultural landscapes and values, unique physical/abiotic features, areas of high functional diversity/biodiversity, existing designations	✓	~	~	

3. What data and methods are available for assessing each value/criterion?

Data and methods were discussed for many criteria; however, some groups had more general discussions of information needs and assessment methods. Nonetheless, there was a variety of data and information requirements that were identified among the groups. Data and methods included both qualitative and quantitative sources and approaches (Table 2). Broad information needs were identified, ranging from biodiversity and environmental data to socio-economic information and assessments. The need for baseline biophysical inventories was noted, as well as gaps in data as a result of information being collected for other purposes (e.g., information on geologic features is derived from data collected by the Ministry of Northern Development and Mines). At least one group discussed the need for measures to control data quality, such as training for citizen scientists, as well as technical expertise for data analysis.

Data & methods	Examples
GIS data, analysis and tools	Land cover data, administrative/jurisdictional boundaries,
	protected area boundaries, land ownership, gap analysis,
	Southern Ontario Land and Resource Information System
	(SOLRIS), roads, barriers, remote areas
Land and resource plans and	Municipal plans, agriculture, aggregates, mining
mapping	
Ecological land classification	Terrestrial and aquatic ELC
(ELC)	
Species specific information	NHIC, Indigenous knowledge, species at risk occurrences, source
	populations, recovery strategies, citizen science
Modeling	Changes in ecological biomes, Circuitscape, flood forecasting
Scientific literature	Species-area relationships, minimum viable population size
Environmental data	Air quality, ice cover, long-term meteorological data
Human health data and	Disease reporting (e.g., West Nile, Lyme disease), veterinarian
metrics	reports, measures of human connectedness (e.g., Nature-
	relatedness scale), psychometric measures
Consultation & surveys	Environmental Registry, surveys, interviews, angler and hunter
	results, social networks, TEK, perceptions of ecological integrity
Other	Historical data, professional expertise/ judgement, ecosystem
	valuation

Table 2. Examples of data and methods for assessing selection criteria.

4. What research is needed or recently available to improve how the values/criteria are applied or to assess their effectiveness at achieving conservation goals?

Long-term, standardized monitoring is needed for establishing baselines, detecting change, identifying thresholds and assessing cumulative effects. Research related to "how much is enough" remains a gap. Examples include: how much area to protect in the protected areas network; the minimum area and spatial configuration needed to meet species requirements, and; the amount of disturbance that is acceptable before a threshold for change is reached. Several other research needs were associated with detecting and accounting for change and uncertainty. These included such factors as determining

thresholds and benchmarks, understanding successional pathways, and predicting the effects of climate change on species and biomes. Application of social sciences to conservation planning was another research gap that was relevant to several selection criteria.

5. What are the challenges and/or opportunities to adopting shared criteria among different groups involved in conservation planning, and how could these challenges be addressed, or opportunities realized?

Sharing of data and information was both a key challenge and opportunity. Participants noted that data is not equally available to all stakeholders and should be more readily accessible. In addition, information about the types of data that are available is not always widely known. It is critical for different land managers to work together to share data and information; however, this requires trust and buy-in from all parties. Lack of data and variable data quality are also issues; however, there are opportunities to partner and work together towards data acquisition and clear standards.

Knowledge gaps are another barrier for designing effective protected area networks. Our understanding of species and ecosystems is incomplete, and we lack quantitative metrics for many ecological and social values that are important criteria for conservation planning. There are also questions and uncertainties about the impacts of design decisions. For example; increasing connectivity may facilitate the movement of invasive species; protecting an area may lead to its degradation due to over use; when is an area too disturbed to merit the investment in protecting it?

The criteria that are chosen depends on the landscape context, spatial scale for planning, and conservation objectives. There is a wide diversity of ecosystems, land uses and patterns of settlement across the province. Criteria may vary depending on these factors. Furthermore, conservation planning may be done at a variety of scales from local to provincial or national level, which may also influence the selection and appropriateness of criteria. Conservation objectives will also guide the selection of criteria, for example, whether the goal is to provide access to natural areas near urban centres or to protect remote wilderness areas.

It is challenging to find common criteria that represent the different interests and perspectives of organizations, communities and individuals that have a stake in conservation planning. Mandates and priorities of organizations are different and may not coincide (e.g., federal, provincial & municipal governments, private land trusts). Even within organizations, conservation means different things to different people. Resources and the capacity of organizations can also limit the adoption of shared criteria or the ability to participate in conservation planning. Criteria that work for large organizations could hinder the efforts of smaller ones. However, the adoption of shared criteria that are widely supported could enhance funding opportunities. There are also different worldviews and values that can be mutually enriching and complementary yet challenging to integrate into shared criteria.

Competing interests can influence criteria and conservation outcomes. Our landscapes must meet a variety of present and future needs and requirements. There is often a tension between conservation and recreational/social values. Protection can sometimes conflict with other interests in land. Even where there is broad support for protection, opportunities may not be available, for example if a private land parcel is not for sale.

A comment by participants of one group encapsulates the challenges and opportunities of developing selection criteria for conservation planning: "How do we integrate all of these values and criteria, as well as their condition/quality, into a landscape approach with various groups involved and limited resources? We need collective policies for a comprehensive network- this will provide the information needed to allow <us> to plan in the most appropriate places."

Breakout Topic II. Integrating Protected Areas into Landscape Management

Overview

There is clear evidence that even large protected areas cannot achieve their management goals in isolation. In order to safeguard species and ecosystems, it is critical that a landscape approach considers the regional context, including key elements such as connectivity, population viability, climate change, and invasive species. There is a need for approaches that see landscapes as both the target for and the mechanism to achieve conservation. Discussions for this session will explore strategies for improving the integration of protected areas into landscape level management for better biodiversity outcomes.

Background

Integrated landscape management. Integrated landscape management is not a new concept, and some protected areas are already engaged in broader landscape initiatives (e.g., Algonquin to Adirondacks, Niagara Escarpment). However, for most the response is varied, and influenced by capacity, political, historical or other reasons. Regardless, the need for a more informed, supportive and enabling environment for landscape planning, for approaches that increase connectivity and integrates biodiversity conservation values beyond protected area boundaries, is needed now more than ever. Climate change is already driving species movement across our landscapes and seascapes, the question being, is there adequate refuge in and outside our protected areas and is the obstacle course even passable?

National and international context. By 2020, at least 17% of terrestrial and inland water areas and 10% of coastal and marine areas, especially areas of importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures and integrated into the wider landscape and seascape.

Challenges.

While landscape planning with a focus on building resilience and enhancing species flow is essential, it is also important to consider designing networks whose function is to achieve greater coordination of science and monitoring activities, fosters communication and social learning, and effectively integrates governance and conservation approaches at the landscape-scale. Strategies such as buffer zones around protected areas, restoring degraded lands, protecting corridors, and sustainable resource management can be difficult to implement or achieve because of the value and uses of non-protected lands. In addition, the important role of Indigenous communities, private landowners, industry and other sectors (e.g., agriculture, woodlot associations) in managing lands outside protected areas for biodiversity conservation needs to be recognized and leveraged. Very different approaches to landscape integration may be needed in southern Ontario, with a predominance of private land ownership, compared to largely Crown lands in northern Ontario and resource uses, such as commercial forestry and mining.

Questions for Breakout Topic I

- 1. What are some strategies for integrating protected areas into landscape management?
- 2. What opportunities are there in Ontario for implementing these strategies?
- 3. What are the barriers and challenges?

Ideas & Outcomes from Discussions on Questions for Breakout Topic II

Given this is an integrated question, all four questions can be integrated into one answer.

If one is going to be integrative, then cross-sector, real-time communication is required; this would mean key personnel representing different organizations would have to be dedicated to joint discussions, for example, of how protected areas, agriculture, housing, mining and other activities can find common ground. This is not as difficult as it may appear; there are often many win-win situations (e.g. agricultural incentives that foster less harvesting into the drip line of adjacent protected lands). The UN Biosphere Reserve Program is an example of a model for protected area management that is explicitly designed to ensure areas are protected, but that this protection is integrated with human economic and resource activities. There are also potentially other opportunities for better integration through existing planning processes, such as municipal planning. For example, a provincial natural heritage strategy developed collaboratively across sectors could help to align practices and policies and set common goals (characterized and labelled, perhaps, as sustainable land management) that could be implemented at the local level. Current landscape management strategies are challenged with a lack of awareness and coordination, so duplication and conflicting efforts are inevitable. Provincial level guidance for a land management system that aligns with an integrated management approach could help to avoid conflicting mandates that often don't conflict because of intent but because the operational details are not congruent.

As noted by many of the participants, building effective communication structures would require building trust amongst government, ENGOS, private landholders and other stakeholders – which is never easy. A particularly daunting challenge is the competitive nature of funding and resource acquisition. There will have to be a long process of getting to collaborative efforts (the art of the compromise will be needed) but it could avoid siloing while recognizing there still will be unique goals in each stakeholder or agency. The key is to get to an agreement – and Aichi targets demand it – on how much land (and water) should be protected and how that is done across different land uses. Furthermore, investing in dedicated staff would promote long-term trust and efficient coordination between agencies and organizations whose goals for integrative landscape management are similarly long-term in nature.

Another potential strategy was working towards a better integration of protected areas with other managed green areas. Finding common elements between protected and non-protected areas can help set the stage for collaboration, with the understanding that natural and human processes extend beyond the boundaries placed upon them. This is a complementary model of landscape scale protected areas – a series of mixed use and stricter protected areas that have physical connections to ensure there is enough space for metapopulations to thrive.

Truly integrative landscape planning would also need to place greater emphasis on boundary conditions and interactions given that many protected areas are not delineated by ecologically informed borders.

Understanding that aquatic and terrestrial ecosystems are strongly impacted by activities beyond their borders is a necessary undertaking to form management plans that include a comprehensive group of involved stakeholders. This mindset is closer to the Indigenous views on land management and would work to more easily integrate traditional knowledge into the landscape management process. A focus on neighbouring communities and industries would open the door to greater discussion and collaboration, as well as facilitate educational opportunities for those who wish to become informed on the role and functioning of protected areas on a broader landscape level. Discussions about social concerns, benefits, and incentives are other opportunities that can take place on the fringes of protected areas and work to bridge traditionally fragmented relationships in the world of land management.

The ambitions and challenges laid out in the issue that is integrative landscape management compelled many to communicate the need for a "champion" figure, whether that be an individual or an organization that can elevate the need for landscape management to the fore of environmental and political necessity. It is indeed vital for champions to emerge if only to facilitate the process of communication, collaboration, and cooperation needed to share ideas across diverse sectors and encourage trust between agencies and stakeholders who have all too often been on conflicting ends of land management discussions. A "champion" is needed to interact with the public and garner public and political support, without which the goal of protect area integration would surely be tested.

Breakout Topic III. Collaborative Conservation Planning.

Overview.

The purpose of this session is to identify ways the conservation community can effectively work together to design and secure new protected areas in Ontario. In recent years, more groups are getting involved in conservation planning. These groups are diverse, with different interests that guide their land protection objectives. Discussions for this session will explore how conservation organizations, Indigenous communities, and all levels of government can coordinate their efforts to achieve common goals for establishing new protected areas and protecting biodiversity.

Background

National perspective. Aichi, Canada Target 1 recognizes other governance models for protected areas besides government (e.g., Indigenous Protected and Conserved Areas, municipal lands, conservation authority lands, land trusts). This is an important consideration for conservation planning – different systems for land protection can work together to achieve the goal of Canada Target 1. Local and regional level conservation planning and the important role of Indigenous communities and governments is gaining in prominence as governments work towards achieving national and international targets.

Local and regional conservation planning. Conservation planning by local groups and organizations has a long history in Ontario. Many ecologically significant areas have been protected through the efforts of private land trusts, Indigenous communities, non-government organizations and industry. There are several excellent examples of collaborative conservation planning initiatives in Ontario and elsewhere. However, often groups are working in "silos" to achieve similar conservation objectives, leading some to call for a more collaborative and coordinated approach in working together and with all levels of governments and stakeholders.

Challenges. Some challenges to collaboration include diverse interests and mandates of various conservation groups and government agencies, and limited funding and capacity to undertake conservation planning. It is important to understand the social, economic and political context. Conservation planning is unlikely to be successful unless communities, stakeholders and decision-makers are engaged.

Questions for Breakout Topic III

- 1. What are the critical elements that are necessary for successful collaboration in conservation planning for protected areas?
- 2. Who should be involved in collaborative conservation planning?
- 3. What are some "best practices" for collaboration?
- 4. What are the respective roles of conservation organizations and agencies, Indigenous communities, municipal, provincial and federal governments, other sectors (e.g., agriculture, forestry), and private landowners?

Ideas & Outcomes from Discussions on Questions for Breakout Topic II

1. What are the critical elements that are necessary for successful collaboration in conservation planning for protected areas?

Given the wide range of stakeholders that are involved in collaborative conservation planning for protected areas, it is not surprising that the dominant themes that emerged from the group discussions were that of effective communication, clarity of purpose, and efficient structure. Promoting a culture of respectful communication and open discussion was highlighted as an essential component in collaborative planning in order to facilitate an honest and open environment where every group or individual has an opportunity to contribute and be heard. Experienced facilitators would be necessary to give voice to all participants and to ensure that a variety of communication styles are employed to present views and disseminate knowledge at all stages in the conservation planning process. This culture of respect and empathy is critical at all stages, particularly during feedback when strategies for improvement need to be developed and existing conflicts need to be resolved. Finally, a measure of commitment and trust from all stakeholders and between stakeholders is essential to maintain a productive long-term working relationship between groups and individuals.

Achieving goals and objectives cannot realistically be pursed without clarity in relation to purpose, expectations, and needs. Our groups identified the need to thoroughly discuss and outline the various motivations and interests of all stakeholders to construct clear and inclusive planning objectives. In a highly collaborative and sometimes crowded planning arena, having solid goals to refer to throughout the process acts as a reminder of the scope of the project and acts as a shared common ground for ongoing campaign efforts.

Related to both effective communication strategies and implementation of clear objectives is the need for an efficient structure to facilitate and manage the complex collaborative planning environment. The role of an efficient structure would be to enforce timeliness in regard to the various deliverables expected of the participants, to facilitate the connections between groups such as government representatives, landowners, and public interest organizations, and to maintain organization (e.g. in terms of data managements). The act of delegating is seen as vital to maintaining progress and ensuring that the spirit of collaboration is not lost in the oftentimes-overwhelming nature of group-orientated planning processes. Constructing an efficient structure would require effort and financial support from all stakeholders as well as sustained leadership throughout the planning processe. With a solid group of leaders, collaborative work is more likely to stick to the stated objectives and work with greater clarity of purpose and efficient use of shared resources.

2. Who should be involved in collaborative conservation planning?

It was clear from the responses of the groups that any individual or group may be involved in collaborative conservation planning depending on the context and scale of the issue. Broadly, they identified some features that might play a role in determining eligibility in being involved, such as a group's credibility in their area of interest, their ability to conduct participatory planning exercises, and a sincere passion for the issue at hand.

On a more specific level, commonly identified candidates included groups that share a direct connection to the management of land and resources through their organizational mandates, or as stewards of land or property. Examples include Indigenous groups, all levels of government, conservation authorities, land trusts and private landowners. Private sector representatives (e.g. industry, developers), and special interest groups (e.g. recreation associations) were also identified as important candidates for involvement in collaborative conservation planning due to their experience or interest in the management of resources. Additional considerations were given to citizen-based groups such as naturalists and hobbyists, non-governmental organizations representing any number of environmental concerns, researchers from academic institutions, and those with expertise in the conservation issues at play. Each of these candidates is capable of providing the collaborative process with knowledge, ideas, support, and resources. The responses indicate that the process should be as inclusive as possible to represent (both in the planning and action stages) the diversity of interests and concerns in the conservation of our shared landscapes.

3. What are some best practices for collaboration?

The ideas gathered by our groups for this question were in line for the most part with their responses to the first question, illustrating the optimal collaborative environment that would address the need for representation, transparency, and efficacy. According to their ideas, collaboration is most effective when the scope of the project is well outlined, with clear objectives, defined mechanisms for decision-making, and accountability with time management and deliverables. It is also desirable to exercise a culture of equity by creating management structures that are representative, fair, and transparent, with the aim of maximizing accountability, encouraging commitment, and actively pursing early engagement. The common theme here is that participants feel like they are involved in an accessible and responsive collaborative environment where progress is transparently visible.

Another major best practice identified in this session was implementing and maintaining cooperation between participants. This would include engaging in robust conflict resolution when necessary and working on relationship building to promote a climate of trust. When there are so many components involved in a collaborative environment, including shared resources (such as money, skills, tools, and knowledge), it is important to have mechanisms in place that ensure data security, promote respect when sharing ideas and information, and instill a feeling of trust between all participants. Furthermore, cooperation can be achieved by consistently revisiting affected communities, providing educational opportunities to those who desire it, and actively incorporating feedback into future decisions.

One final best practice identified for collaboration was adaptability. Collaboration is seen as most effective when goals are dynamic and able to respond to new ideas and changing conditions. With feedback, monitoring, and assessment results from a variety of sources, the collaborative process is more likely to achieve its stated objectives because it can adapt to dynamic environments and respond more quickly than if data was being contributed from only one perspective or component.

4. What are the roles of conservation organization, Indigenous communities, government, other sectors, private landowners?

Each group's role can change depending on the landscape and organizational scope of the issue or project, so it is necessary in each case to discuss roles and responsibilities with each stakeholder in the early stages of the collaborative process. The benefit of including all of these groups in some capacity is their ability to bring diverse perspectives to the planning process and contribute various skills and resources. Many potential contributions were identified, including local knowledge, political support, financial support, administrative capacities (in the way of data organization for example), leadership, facilitation, consultation, outreach and marketing, industry expertise, and evaluative/monitoring capacities.

Larger governments at the Provincial and Federal level were identified as holding more of a facilitative and supporting role through funding capacities and framework building. Private landowners and Indigenous groups were sources of local knowledge and impact articulation in efforts to advocate for land processes that might otherwise be unrecognized by larger organizational bodies. Overall, it is the role of each stakeholder to work towards finding common ground by expressing their interests in the conservation planning process and providing information that can articulate their concerns to the larger collaborative group.