

eco

A Newsletter of the Canadian Council on Ecological Areas

www.ccea.org

No. 19, Winter 2009

EXECUTIVE BOARD

Chair

Bas Oosenbrug

Vice Chair

David MacKinnon

Treasurer

John P. Vandall

Secretary

Robert Hélie

Directors

Karen Beazley

Sian French

Joyce Gould

John Meikle

Jacques Perron

Associate Directors

Tom Beechey

Dan Paleczny

JURISDICTIONAL REPRESENTATIVES

Newfoundland and Labrador

Sian French

Prince Edward Island

Rosemary Curley

Nova Scotia

David MacKinnon

New Brunswick

Vacant

Quebec

Jacques Perron

Ontario

Rob Davis

Manitoba

Yvonne Beaubien

Saskatchewan

Marlon Klassen

Alberta

Joyce Gould

British Columbia

Ken Morrison

Yukon

Bruce Downie

Northwest Territories

Michelle Swallow

Nunavut

Richard Wyma

Environment Canada

Robert Vanderkam

Canadian Wildlife Service

Robert Hélie

Fisheries and Oceans Canada

Mary Rothfels

Parks Canada Agency

Marc Johnson

Agriculture and AgriFood Canada

Neil Veroba

Editor

Mark Richardson

Design and layout

Elisabeth McCalden

...From the CCEA Chair

Another year's end and 2008 has been a turbulent one for the world, and Canada's economy. It is difficult to predict what the environmental impact of the economic downturn will be in 2009 and beyond, but from a Canadian protected areas perspective the current lessened demand for non-renewable resources may well provide opportunities for new area establishment - time will tell.

Over the past year several jurisdictions celebrated significant accomplishments in establishing new areas and strengthening the protection for others. In May 2008 Quebec announced the creation of 23 new protected areas representing more than 18,000 km². In August Alberta designated over 10,000 acres of native grassland as Heritage Rangeland on the OH Ranch south of Calgary. At the same time the Georgian Bay Land Trust and Nature Conservancy of Canada purchased 450 acres

of Sandy Island in Parry Sound, Ontario. In September Manitoba added the 4,095 hectare Little Limestone Lake Park Reserve to its network of protected areas. In November Nova Scotia designated five new nature reserves totalling nearly 1,500 acres of old-growth forests, wetlands and rare species habitats. The federal government in 2008 announced funding to support the creation or expansion of protected areas supporting the Northwest Territories Protected Area Strategy.

The Canadian Wildlife

Service (CWS) is working with communities in the Dehcho and Sahtu regions on the Edézhíe, Ts'ude niline Tu'eyeta and Sambaa K'e candidate National Wildlife Areas - three areas totalling over 50,000 km². CWS recently committed to creating three additional National Wildlife Areas in the NWT over the next 5 years. And as of April 2009 logging will be prohibited in nearly all current provincial parks and all future parks in Manitoba. Logging is now being phased out of Nopiming, Whiteshell, Clearwater Lake and Grass River Provincial Parks.

This issue of 'eco' includes summaries of the presentations from the September 2008 CCEA Conference and AGM held in Quebec City, entitled Boreal Zone Protected Areas - Towards Protecting International Natural Heritage. It too focused on creation of new areas, and especially those based on collaborative efforts between governments, local communities and private organizations - we can expect more of these in a changing world and uncertain future.



CCEA Field trip to Parc national des Hautes-Gorges-de-la-Rivière-Malbaie
Photo Credit: Ron Thiessen, Canadian Parks and Wilderness Society

Integrating cultural and ecological dimensions in protected area creation on the east coast of James Bay

Colin Scott, McGill University

This presentation discusses the goals pursued and challenges faced by the James Bay Cree community of Wemindji, in partnership with a McGill University-based interdisciplinary team of researchers, in developing the rationale and design for a protected area network for Wemindji's traditional area.

The goal of our project is to protect spaces of high ecological and cultural importance to the community, in a context of extensive and mounting pressures on their environment from hydro-electric development, mining, and recreational hunting and fishing. We seek ways to do so which build upon and reinforce existing socio-ecological relations, including in particular the institutions of extended family hunting territories, hunting territory stewards, and local knowledge that are fundamental to resource management in the community's area. In this regard, we believe that biodiversity, cultural diversity, and community autonomy are interdependent.

Wemindji's environment is a unique land-sea interface of subarctic forest (classified within three of Quebec's "ecological regions") and arctic marine ecology. A key challenge is to provide maximum scope for responsibility, oversight and authority by stewards and other senior members of the twenty family hunting territories at Wemindji, at the same time that we seek to protect a viable network of protected areas that is representative of ecological variation and interconnection throughout. The community recently gained Quebec Government acceptance of a projected biodiversity reserve that includes the Paakumshumwaa (Old Factory) and Maatuskaau (Poplar River) watersheds adjacent to the coast. Federal jurisdictional authority applies beyond the low tide mark, and Wemindji is pursuing a contiguous marine protected area with the relevant federal government departments. At the same time, we are considering ways to address the problem that Wemindji's farthest inland ecological region and several of its family hunting territories lie entirely outside the existing projected protected area.

Systematic and sacred integrating two perspectives on the land in Yukon's protected areas experience

John Meikle, Kwanlin Dun First Nation

Over the past three decades numerous national and territorial protected area initiatives have been proposed for implementation in the Yukon. Most of these have aimed to represent terrestrial ecological stratifications at various map scales. While on the surface, a northern jurisdiction with little private land and limited resource allocation should be an easy setting in which to achieve protected area system planning goals, this has not proven to be the case. From a national perspective, three of four Parks Canada Natural Regions are represented. The Interior Mountains and Plateau Natural Region is not represented. From the territorial perspective, only 12 of 22

ecoregions are adequately to partially represented. While a measure of success has been achieved in High Alpine, Arctic and some Taiga ecosystems, boreal Yukon is largely unrepresented.

The systematic approach to protected area selection has not gained traction in the community at large, particularly the First Nation Community. Areas supported for protection through the treaty process by First Nations have tended to be areas of sustenance resource value and, secondly, sites that are understood as sacred. The largest protected area in Yukon's boreal zone with a completed management plan is Ddhaw Ghro Habitat Protection Area, 1,610km². Initially set aside in to protect a unique population of thimhorn sheep, the area was a candidate for representing the Interior Mountains and Plateau Natural Region and contributes to the representation of a boreal ecoregion, Yukon Plateau North. Through the management planning process it became clear that while these interests were understood by the First Nation participants, the principle value was seen in protecting and buffering a sacred site.

This experience has lessons that may have application in establishing other protected areas throughout Canada's boreal zone. These include: acknowledging and centering protected areas on sacred sites, which often have high biodiversity value; gaining appreciation for traditional first nation perspectives on the land; incorporating these values through cooperatively managed protected areas; and broadening conservation area boundaries through co-management of Crown and adjacent First Nation lands.

Finally, a related initiative that began with Ddhaw Ghro and has been extended to regional land use plans is the development of habitat suitability maps. Regional interpretations have been generated by combining habitat ratings to ecosystem types by both knowledgeable first nation members and species biologists. This integration has been well received by both the Yukon Government and First Nation Planning partners. This approach may be a useful bridge to integrating traditional and local knowledge with scientific knowledge in protected area selection elsewhere in Canada's boreal zone.

Partnership between the Cree Nation of Mistissini and the Ministère du Développement durable, de l'Environnement et des Parcs du Québec (MDDEP) for the establishment of the Albanel-Témiscamie-Otish National Park

Jean Gagnon, Ministère du Développement durable, de l'Environnement et des Parcs

Since the year 2001, the Service des parcs of the Ministère du Développement durable, de l'Environnement et des Parcs has been working in close collaboration with the Cree Nation of Mistissini towards the establishment of the Albanel-Témiscamie-Otish national park within the boreal zone. This park project encompasses 10,934.8 km², within conventioned land (James Bay and Northern Québec Agreement - JBNQA) and is situated on traplines of the Cree community of Mistissini in Northern Québec. Once

created, it will become the first inhabited park in Québec.

A working group comprising representatives from the Cree Nation of Mistissini, the Service des parcs and from the Société des établissements de plein air du Québec (SÉPAQ) was set up in 2001. Until now, 36 meetings were held. Among these, six meetings were held with the Tallymen impacted by this park project.

Since the beginning of the project, the Cree Nation of Mistissini has brought an unconditional support and contributed significantly to this park project. This community foresees the opportunity of providing a perpetual protection of this territory, which surroundings are subject to different types of economic activities (hydroelectric, wind farms, forestry, mining).

Accordingly with the Québec Park Act, a public hearing was held in January 2006, in the communities of Mistissini and Chibougamau. A provisory master plan was then presented. This document outlines the main orientations for the development of this future park in terms of conservation, laying-out and highlighting of the natural environment and the rich Cree culture.

The territory of this national park project was protected in March 2007 with an interim protection status of projected biodiversity reserve. Additional areas totalling more than 1,200 km² will be added shortly to this protected area.

The process leading to the creation of this park is nearing completion. The Service des parcs is finalising an environmental and socio-economic impact study to meet requirements of the JBNQA, with the purpose of minimising the impact of the park's establishment and operation on traditional use of the land by Cree trappers. This park should be legally constituted during the summer of 2009. The management of the park will be fully delegated to the Cree Nation of Mistissini, following a model of management developed for Nunavik parks in Northern Québec, with the Inuit.

Tallymen and trappers will have their say on planned development and activities offered on their trapline. They will also be invited to participate in the offering of activities and services. Finally, within the park, traplines will be used as land units for the management of this future national park.

Working with aboriginal communities in conservation

Jean-Paul Gladu, Canadian Boreal Initiative

The Boreal forest is home to over 600 Aboriginal communities. These communities have lived in and relied on the forests which have formed the basis for their societies for thousands of years. Their relationship with the land is paramount as we see through their diligence in challenging industry, environmental organizations and governments to recognize their rights to protect their lands for future generations through conservation and sustainable development planning. As a result, Aboriginal communities are one of the main players at the table when discussions around conservation planning occur. Many people consider Aboriginal communities as drivers in conservation as demonstrated through examples

such as Gwaii Hannas, the Decho, the Innu and the Manitoba Lowlands. We will explore how these Nations have or are influencing the landscape and what it means for conservation in the Boreal forest.

The challenge of protected areas in the Boreal Forest : the Quebec Case

François Brassard, Ministère du Développement durable, de l'Environnement et des Parcs

The Boreal Forest dominates the Quebec landscape from east to west, covering an area of close to 68 000 km²; making it the most important forested area of that territory. It is comprised of a mix of terrestrial and aquatic ecosystems sustaining species which are adapted to boreal climatic conditions and to a regime of high natural disturbance. Historically, the landscape in this zone was dominated by large ancient forests. However, since about 50 years ago, the boreal forest is under the influence of accelerated forest exploitation. The progression of the harvest from south to north has greatly modified the composition and structure in those ecosystems, as well as their naturalness. Road building necessary for this type of exploitation has increased access and has reduced the integrity of the boreal forest. This increased access is at the root of an expansion in cottages and associated activities (hunting, fishing, motorized sports, etc.) which have an impact on biodiversity. It is in this context that the creation of protected areas in the Boreal Forest began at the beginning of the years 2000. Then, there were virtually no protected areas in the Boreal Forest: It was therefore becoming a priority for the establishment of protected areas. The first actions by Government were to set aside vast territories representative of boreal biodiversity in remaining pristine areas with the intention of creating protected areas. Then, the Government set aside zones which represented ecological conditions in the Boreal Forest and which were subjected to different forms of industrial exploitation. One of the challenges was to make room for conservation in areas identified for logging or having a mining or energy potential. Another challenge was to identify representative sites which had little human disturbance and had enough area to be used as control sites to monitor the natural evolution of ecosystems in a managed territory. There are now 824 protected areas in the boreal zone, covering an area over 47 000 km², almost 7% of the zone. This network of strictly protected areas is a safety net for biodiversity in the Boreal Forest. The forest certifications which call for protected areas have participated –and are still participating – to the progression of the network while contributing to the maintenance of the companies market shares. The experience of creating the network has also increased the level of public and aboriginal participation in the decision making process linked to the protection of the territory. In addition, the establishment of a network of protected areas has elevated biological conservation to a level which makes it essential to consider in the context of forest management. In spite of important progress, the experience we have acquired in the last few years in setting aside protected areas has shown that more efforts will be needed to improve the network. This is why the ministère du Développement durable, de l'Environnement et des Parcs will publish, in 2009,

a status report on this network in terms of current issues for the conservation of biodiversity. This evaluation will serve as a basis for further developments and management of the protected areas network.

Benchmarks across the boreal : Pro-active planning for system-level conservation and resilience

Fiona Schmiegelow, Steve Cumming, Lee Anderson, Shawn Leroux, Kim Lisgo, Meg Krawchuk and Frédérique Saucier, Canadian BEACONS Project

Boreal regions in Canada are globally significant, containing a significant proportion of the world's remaining intact forests, and supporting naturally-functioning ecosystems with a full complement of native biota. These intact areas represent some of the last opportunities to avert conservation crises plaguing most ecosystems. However, to fully realize boreal conservation and ecological sustainability, some basic changes to traditional conceptual approaches are needed. Current conservation paradigms reflect a history of reactive post-hoc efforts. They have led to constraint-based forest management strategies and to the mistaken impression that conservation is a cost to resource development, rather than a fundamental component of sustainability. Planning proactively for conservation requires a precautionary approach that acknowledges the uncertainty in all management decisions. The growing recognition of climate change as an agent of both direct and indirect impacts on boreal forests also highlights the need for more sophisticated management approaches that maintain or enhance resilience at broad-spatial scales. Integrating the strengths of adaptive resource management and systematic conservation planning offers system-level frameworks for addressing these needs.

We describe a scientific framework for large-scale conservation: the conservation-matrix model (CMM), which exploits the strengths of systematic conservation planning and adaptive resource management through a systems approach. Related land-use planning involves assessment and identification of a comprehensive protected areas network, including ecological benchmarks, under management regimes that systematically enhance learning by treating management activities as carefully designed, incremental, and rigorously monitored experiments. Pro-active planning offers the greatest potential to maintain the full range of natural and cultural values that boreal regions currently support, in balance with enhanced economic opportunities.

To date, our work has focused on the design and application of ecological benchmarks, in particular, system benchmarks, as we view this as the most time sensitive component of the CMM. System benchmarks are intact areas of sufficient size to experience the largest, anticipated natural disturbance and still maintain internal recolonisation sources. Benchmark design incorporates size as informed by large-scale processes, including original work on fire regionalization in Canada; hydrologic connectivity; and intactness. Recognizing that system benchmarks are not always possible and those smaller areas have utility as benchmarks; we are also developing a "sliding scale" for sub-system benchmarks that can sustain

identified subsets of ecosystem properties.

We will highlight the potential of the CMM and application of benchmark design in Saskatchewan and Northwest and Yukon Territories. We present the Benchmark Builder, software that automates the design of benchmarks de novo or from existing protected areas; the Ranker, statistical software to rank benchmarks and benchmark networks based on their ability to represent a set of biophysical criteria; and CONSERV, landscape dynamic simulation model that simulates fire and succession for tracking conservation targets and informing benchmark size. We also highlight future application of our work in Alberta and Québec, where forestry and mining are advancing on intact forest.

Why should we protect at least 50% of Canada's North ?

Harvey Locke, Canadian Boreal Initiative

Our experience in the XXth century has shown that isolated and scattered protected areas on a small portion of the territory will not be useful to protect nature in the long term. Studies by specialists in conservation biology science demonstrate that society should protect at least 50% of its territory in interconnected protected areas networks to ensure ecosystem functions and the survival of all species.

This protection and conservation of our natural heritage idea is supported by several forest companies, First Nations and environmental groups, many of which are signatories to the Convention for the Conservation of the Boreal Forest led by the Canadian Boreal Initiative. It is also the goal of hundreds of organizations which support the Yellowstone to Yukon Conservation Initiative, the Mountain Equipment Coop, and CPAWS which launched the Wild Horizons campaign. Through their document "Tomorrow Will Not Wait", all of Canada's major environmental groups have given their support to these ideas.

In Canada, we have seen recent advances. Ontario, under the leadership of Premier McGuinty, has announced in July, 2008, its plan to protect 50% (225,000 km²) of its Far North. In the NorthWest Territories, the Federal Government has acted in the last two years to provide interim protection to 169,000 km². These areas, added to the already existing 69,355 km² permanently protected bringing the total to 19% of the Territories. The Dehcho nation intends to protect half of their 225,000 km² territory, from which only portion is comprised in this number. In the Queen Charlotte Islands, a combination of park and aboriginal protected areas created by the province of British Columbia and the Haida in December, 2007 protect 50% of these islands which are covered by old growth forests.

In Quebec, the situation is critical. An accumulated lag of several decades took its toll. At the beginning of the XXth century less than 2% of the territory was classified as a protected area. The present proportion is 6% (0,5% in national parks, 5,5% protected by other legislation) and the vast majority of this protection is temporary. The Government has pledged to reach 8% between now and the end of 2008. Naturally, it is only a beginning.

Quebec has one of the largest frontier forest in the world: the Boreal Forest. It is, with its bogs among the most powerful antidotes to climate change. Thanks to our cold winters which slow down the decomposition of organic matter, the ground beneath the Boreal Forest – including wetlands and the taïga – is the largest terrestrial reservoir for carbon dioxide, one of the main green house gases. The solution is simple and doable : do as Ontario does and leave at least half of Northern Quebec intact and under permanent protection.

Nahanni and Dumoine Watersheds : Two examples of community collaboration and public engagement to create protected areas in the Boreal Forest

Alison Woodley, National Protected Areas Program and Marie-Eve Marchand, Canadian Parks and Wilderness Society (CPAWS)

This presentation is part of the global effort to conserve the boreal forest and, over the last year, it focused on the process of creating two high-profile protected areas: Nahanni and Dumoine. Synergy among the general public, First Nations, outfitters, users, conservation groups and government bodies lies behind the development of a shared vision for protecting both watersheds in their entirety. Using two concrete cases, one involving the Northwest Territories and the other Québec, CPAWS will present what it has learned through the various steps, strategies, challenges and conservation objectives to ensure the protection of those two exceptional sites.

Nahanni:

To grasp the current vision and real importance of protecting Nahanni, we have to look back to the early 1970s, when then Prime Minister Pierre Elliott Trudeau protected some of the river around Virginia Falls to prevent a hydropower project. The first natural site to be featured on the World Heritage list, Nahanni is a canoer's dream and a site that is sacred to the Dehchos and Sahtu nations, which have been living there for thousands of years. In order to meet the needs of wildlife conservation (including the grizzly bear and woodland caribou), the needs of water quality and karstic geological formations that are unique in the world, the national park reserve must be enlarged to provide for the long-term protection of biodiversity and ecological integrity.

In the summer of 2007, Canada's Prime Minister announced that he was in favour of a massive expansion of the Nahanni national park reserve. In April, 2008, Canada's Environment Minister announced interim protection for the upper part of the river, at its source. Active involvement by thousands of Canadians in recent years, and the First Nation's drive to protect their territory will create one of Canada's biggest boreal forest parks and ensure that Nahanni will, for future generations, remain a place for preserving and discovering the wild in all of its majesty.

Dumoine:

If we look at a map of Canada's last great forest landscapes, the picture for Québec is very clear: only two places below the 48th parallel are blanketed by intact forest over more than 500 square kilometres. One of them is situated at the

confluence of the Ottawa and Temiscaming Rivers, in the Dumoine River watershed. In the spring of 2008, it was given aquatic reserve status over almost 1,500 square kilometres. The other place is already protected by the Grands-Jardins and Jacques-Cartier national parks.

The Dumoine River features legendary beauty, flanked by landscapes that take your breath away and famous for its whitewater among canoers and kayakers, it is the last undammed river in south-western Québec. An important witness to climate change adaptations because of its north-south orientation, the watershed takes its source in the great boreal highlands, crossing mixed forest to join the Ottawa River. Delighted about the interim protection it has received, many ardently hope that the watershed, which represents over 5000 years of Algonquin history, get full recognition by receiving permanent status as a national park.

Aboriginal participation in protected areas planning and management : Case studies from the Canadian Parks Council with specific discussion of the Yukon

Bruce K. Downie, Yukon Parks

At the request of the ministers with responsibility for parks across Canada, the Canadian Parks Council produced a compendium of case studies that illustrate the broad participation of aboriginal peoples in the full spectrum of planning, management and operation of protected areas. Twenty five examples were prepared illustrating six different themes used to categorize the diversity in focus. The largest group of studies focused on partnerships in planning and management of individual sites. System planning was also prominent among the case studies while further examples address themes of interpretation and tourism, the role of culture and traditional knowledge, cultural learning opportunities for youth and capacity building.

A brief review of the case studies nationally will be presented highlighting the different themes used in the compendium. More specific focus will be placed on the Yukon examples. Firstly, employment efforts in Tombstone Park were undertaken cooperatively with the Tr'ondek Hwech'in First Nation through special provisions in the claim and programs within the Yukon Government. Secondly, tourism operations related to commercial grizzly bear viewing in Ni'iinlii'Njik have been developed as a joint venture. Specific illustrations of the compendium themes will be given in discussion of both of these examples.

In addition, current initiatives will be discussed with respect to management planning for Kusawa and Agay Mene Territorial Parks flowing from the land claim agreements of the participating First Nations. The status of these programs with an assessment of the directions and issues will be presented.

Creating and keeping meaningful partnerships in the Northwest Territories Protected Areas Strategy

Michelle Swallow, Northwest Territories Protected Areas Strategy Secretariat, and Jason Charlwood, Ducks Unlimited Canada

The Northwest Territories (NWT) covers 14% of Canada and has a population of 40,000 people distributed amongst 33 communities, of which only half can be accessed by an all weather road. In 1999, the Northwest Territories Protected Areas Strategy (PAS) was developed in response to impending large scale industrial development in a relatively pristine region with few protected areas. The PAS was designed to promote a balanced approach to land use decision making by incorporating the best available traditional, ecological, cultural and economic knowledge, and by being consistent with all land claim agreements.

The responsibility for implementing the Strategy is shared by the federal and territorial governments, however, a program of such large scale could not be realized without strong working partnerships. The Strategy is co-managed through a Steering Committee that includes representation from 8 regional First Nations, the territorial and federal governments, environmental non-governmental organizations (ENGOs) and industry representatives.

Today, there are more than 16 areas, averaging 7,800 km² in size moving through the PAS process. This presentation will review how partnerships have strengthened this process, enabling significant progress to be made, despite the challenges that a conservation initiative of this magnitude faces. Example where partnerships have helped strengthen the process include: First Nations, government, and ENGO staff working together on assessments required as part of the PAS process resulting in the integration of western science and traditional knowledge, a multiparty budget funded jointly by two governments and five ENGOs, Dene language translation workshops held to ensure First Nation communities, government, ENGO, and industry staff have common understanding of conservation terminology, and the influence the PAS has on government conservation policy.

The ability of these northern partnerships between governments, First Nations, ENGOs and industry to evolve as new issues arise will ensure that the proposed network of protected areas in the NWT becomes a reality.

Using both local-scale and territory-wide planning to build a network of protected areas in the Northwest Territories

Joanna Wilson, Northwest Territories Department of Environment and Natural Resources

The goals of the Northwest Territories (NWT) Protected Areas Strategy (PAS) are to protect special natural and cultural areas of the NWT, and core representative areas within each ecoregion of the NWT. The process of area identification through the NWT PAS, as well as complementary processes such as land use planning, is primarily driven by community values and Aboriginal traditional knowledge. These include cultural, ecological and economic aspects. To complete a

network of potential conservation areas that includes core representative areas in each ecoregion, representation analyses using enduring features and vegetation types have been produced and are discussed in this presentation.

To illustrate the strengths and challenges of the NWT PAS community-driven approach, the potential conservation areas identified through communities in the Dehcho, Sahtu and Gwich'in regions are compared to a theoretical network based solely on representation of enduring features and vegetation types in ecoregions. Many special cultural and natural areas important to NWT residents would have been missed if protected areas had been identified based on ecoregion representation alone. From an ecological perspective, the potential conservation areas identified through communities include several areas larger than 5000 km² and some larger than 10,000 km². The potential conservation areas identified through communities make a substantial contribution to ecoregion representation, even though representation of ecoregions has not been a primary reason for any conservation area thus far. However, the NWT PAS goal to protect core representative areas in each ecoregion is not yet fully achieved. A second representation analysis shows that this goal could be met with the addition of relatively little area. NWT PAS approaches to meshing territory-wide planning with community-level planning are discussed. The emerging lesson is that planning at a local scale and at a larger territorial scale are both needed for effective protected areas network design.

Helping maintain biodiversity by creating small protected areas : biological refuges

Paul Labbé, Ministère des Ressources naturelles et de la Faune du Québec

In Québec, over 80% of productive forest land is under public tenure, and thus falls under the jurisdiction of the Ministère des Ressources naturelles et de la Faune du Québec (MRNF). This part of Québec's territory is divided into 74 forest management units (FMU), from which volumes of wood are harvested each year to supply the processing plants. The main legal tools governing the management of forests under government jurisdiction are the Forest Act (R.S.Q., c. F-4.1) and the Regulation respecting standards of forest management for forests in the domain of the State (R.Q., c. F-4.1.r.7). The Forest Act enables the Minister to assign forest resource protection and enhancement objectives (OPMV) to a management unit. OPMVs are a management by objectives approach that complements the Regulation respecting the standards of forest management. Creating biological refuges is one of the methods chosen for achieving the OPMV designed to always keep some mature and overmature forest. A biological refuge is a small area of forest that is permanently shielded from any forest development activity so as to protect the biodiversity that is associated with old forests. The siting of biological refuges was guided by the MRNF; the sites were also subjected to public consultation. The Forest Act was also amended and management guidelines were produced so as to provide a legal and administrative framework for the biological refuges and ensure that they meet the definition of a protected area. Once the exercise has been completed,

about 6,000 square kilometres will be recognized as biological refuges, with 3,000 refuges in all. Biological refuges are a complement to the network of major protected areas. They are a factor that contributes to the connections between the major protected areas. Combining the two approaches by developing large and small protected areas is a prudent strategy, one that is backed by many.

The challenge of ecological integrity conservation in a national park : the Case of the Mauricie National Park of Canada

Claude Samson, Parks Canada

The objective of Canada's National Parks is to conserve representative examples of the country's natural regions while keeping these regions accessible to the public. Reaching this objective assume that natural populations and communities regulation processes of all animal and vegetal species are maintained. We must also ensure that visitor activities do not significantly interfere with these processes. To do so, Parks Canada has recently implemented a monitoring program to monitor the condition of ecosystems and to evaluate the effectiveness of ecosystem management practices in National Parks of Canada. In addition, managers must now publish every five years the monitoring results in a report which summarises the state of the park. evaluates the degree of achievement of management goals and helps to establish the priorities of the park management plan.

La Mauricie National Park of Canada (LMNPC) faces several ecological integrity issues. For example, moose, wolf and bear populations are affected by hunting and trapping taking place at the periphery of the park. Bears can also become a nuisance in the park if waste and camper's food are not managed properly and if visitors are not made aware of the issue. In addition, forest fire control and logging activities before the creation of the park have modified the composition and age structure of the stands. Furthermore, park managers must ensure that canoe-camping and sport fishing occurring within the park boundaries does not hinder the brook trout and loon populations. The presence of exotic and invasive fish species in several lakes, as well as log floating practices before the creation of the park and the presence of old water level control dams have all contributed to modify the abundance and distribution of several salmonid populations. Managers must also ensure that bridges and culverts do not negatively affect the flow of water in streams and wetlands. Beaver population has dramatically increased since the creation of the park and is likely to modify aquatic and terrestrial ecosystems, to say nothing of the impact of this species on road infrastructures. Finally, the park is home to the wood turtle, a species having a vulnerable status in Quebec and threatened in Canada. All these issues have been monitored for a number of years and, in some cases, necessitated restoration programs, sometimes spanning several years. Thus, during the last 15 years, the park has undergone a prescribed burning program to enhance the regeneration of white pine and red oak. Some nesting sites for the common loon have been constructed and others have been more effectively protected. Wood turtles have been reintroduced in the park. In some lakes, old dams have been dismantled to restore the natural

regulation of water levels and large volumes of timber from the floating days have been removed from the bottom of the water. A report on the state of the park will be published in 2012 and will provide an update on the condition and management of ecosystems in LMNP.

Scientific review for the identification of critical habitat for boreal caribou

Fiona Shmiegelow, Environment Canada

Woodland Caribou (*Rangifer tarandus caribou*), Boreal Population (referred to as boreal caribou), are formally listed as Threatened under the federal Species at Risk Act (SARA). The Act requires the Minister of Environment to prepare a Recovery Strategy for the species that includes, to the extent possible and based upon the best available information, an identification of its Critical Habitat and/or, if there is insufficient information available, a Schedule of Studies to determine that information. In August 2007, Environment Canada (EC) launched a science-based review with the mandate to identify Critical Habitat to the extent possible, using the best available science and/or prepare a Schedule of Studies.

To complete this task, leading experts in landscape ecology, caribou biology, spatial habitat modeling, and population analysis were engaged to provide scientific advice on the identification of Critical Habitat for boreal caribou. Of these leading experts, 18 were part of a formal Science Advisory Group established to provide EC ongoing peer review throughout the process. An expanded group of experts contributed to the science review through a workshop held in Toronto in November 2007. A set of guiding principles was established to clearly identify the fundamental elements of the evaluation process.

Identifying Critical Habitat for local populations was framed as an exercise in decision analysis and adaptive management. The review was structured around three major questions to be addressed in the identification of critical habitat: 1) What is the current distribution of boreal caribou in Canada; 2) Where are the local populations within the current distribution of boreal caribou in Canada; and 3) What habitat conditions are required for persistence of local populations of boreal caribou in Canada? The review developed a systematic, transparent and repeatable process to address these questions and provides a suggested identification of boreal caribou critical habitat.

Conciliation of conservation planning visions in forest management territories

Mélanie Desrochers, Daniel Kneeshaw, Centre d'étude de la forêt, Université du Québec à Montréal, François Brassard, Ministère du Développement durable, de l'Environnement et des Parcs

Forest management is one of the most important modifiers of terrestrial landscapes, often changing proportions of forest age classes, species composition and stand structure. At the scale of management units many proposals have been made by the scientific community to incorporate planning for conservation and ecosystem management to maintain biodiversity. At the scale of a province or a country, goals are often different and focus on ensuring that conservation

areas represent the different natural features that are usually linked to quasi-permanent features.

There is thus a potential dichotomy between conservation goals at these two scales. A lack of integration between planners at the two scales can lead to acrimonious relations and dilemmas despite a similar goal of increasing conservation and providing increased opportunities for the maintenance of biodiversity. A clear definition of goals and those that are scale related is required. Also, identifying the potential gains ensuing from each vision could help make these approaches more complementary. Planners at the scale of a forest management area (FMA) may not consider planning outside of the borders of their administrative limits nor how protected areas within their area fit into a larger scheme. Also, proposed territories may be too small or not spatially representative of a large land base.

Planners at a provincial or national scale may on the other hand pay less attention to local concerns about shifts in non-permanent features that are of immediate concern for biodiversity (e.g. age class structure, species composition, landscape alteration, etc.). In a managed forest, should only intact forest remnants be protected or should more common and representative features be protected as well? Indeed, the scale of perception influences how we see the landscape. Sharing goals and concerns can ensure that the ultimate goal of coarse filter biodiversity planning is achieved. A concrete example of this issue in the boreal forest (Mauricie region) will be presented where territories were identified by both stakeholders (logging companies, hunters, municipalities, etc.) and the government as potential future protected areas.

Ecosystem-oriented approaches and their functional role in maintaining biodiversity within protected areas of the Boreal Forest

Pierre Drapeau, Yves Bergeron and Alain Leduc, Université du Québec à Montréal

Over the past two decades, the scientific community has shown quite clearly that the functional role of protected areas with regards to the maintenance of biodiversity can be altered by management of the surrounding landscape. Hence functional links between remnant habitats within managed landscapes and protected areas are necessary to maintain biological diversity at regional scales. Recently, ecosystem-oriented approaches based on knowledge of natural disturbances and their effects on vegetation have been presented as an alternative to conventional management that is promising for biodiversity maintenance in managed landscapes. In this talk I will overview recent research developments about ecosystem management in the boreal forest with regards to reducing the gap between naturally disturbed and managed forest landscapes. More specifically, I will examine how this approach allows generating functional linkages between managed landscapes and protected areas that could maintain biological populations associated with forests.

Protecting 12 % by 2015 : How is Nova Scotia going to do it ?

David Mackinnon, Nova Scotia Department of Environment

In Spring, 2007, the Nova Scotia government passed the Environmental Goals and Sustainable Prosperity Act. The Act contained a goal which builds on Nova Scotia's 1992 commitment to complete a representative network of terrestrial protected areas. The 2007 goal is "to ensure twelve percent of the total land mass of the Province will be legally protected by the year 2015", up from the current 8.2%.

Besides setting an areal target and a deadline, the Province established a definition of areas to be counted as "legally protected". These areas are essentially equivalent to IUCN protected area management categories I, II, and III, and include land trust lands such as those of the Nova Scotia Nature Trust and the Nature Conservancy of Canada.

Land protection is particularly challenging in Nova Scotia, where 70% of land is privately owned, and 20% of provincial Crown land has already been protected.

This presentation will describe how the decision to protect 12% of the land base by 2015 came about, what steps are being taken to achieve it, and what progress has been made to date.

The île Bonaventure flora: A tool for landscape management

Marilou Bourdages, Université Laval

The creation of protected areas is a strategy used to counteract habitat destruction and the high rate of disappearance of species which we observe today. Nevertheless, the capacity of protected areas to preserve their ecological integrity greatly varies. In addition, many question the efficiency of small protected areas in preventing species loss and the introduction of invasive species.

Bonaventure Island, part of the Parc national de l'Île-Bonaventure-et-du-Rocher-Percé, in Eastern Quebec, is an excellent candidate to answer these questions. Its small area, combined with detailed floristic inventories carried out there in the past make it an excellent study area. With a goal to verify if the floral integrity on île Bonaventure has been preserved within the last 40 years, we have carried out a comparison between the present flora and the past flora. The dominant past flora was reconstituted from a variety of scientific articles, documents and herbarium specimens. Then, an exhaustive floristic survey was carried out during the summers of 2007 and 2008 to establish the island's present flora.

The comparison between these floristic evaluations is a precious tool in establishing the capacity of that protected area to conserve its indigenous species and prevent new exotic species to take hold over time. As well, this comparison allows the characterization of the island's habitat which have undertaken the most floral changes. Then, the habitats containing more rare or less common species can be identified, along with their sensitivity to disturbance. Finally, this inventory identifies invasive exotic species and those habitats where they become a problem.

This presentation will cover preliminary results from the

project as the present floristic composition has just been completed. Research to reconstitute the 1960's flora have revealed that 360 taxa had been identified on Bonaventure Island at that time. Field work in 2007 and 2008 has found 337 of those taxa. In addition, 52 new taxa, never mentioned before for this locality, have recently been found. Only one of the 23 taxa from the 2007-2008 survey is an exotic species. For the newly found taxa, the number of exotic taxa is the same as that of indigenous ones.

All this information is a valuable tool to evaluate whether the zoning of the park is well adapted to the local floral characteristics and to adopt protection measures aimed at improving the park's efficiency in protecting its flora or to resist invasive plants.

Overview of the conference

Nathalie Zinger, Nature Conservancy Canada

Two days of diversified conferences, rich in examples with lots of information, examples from across the country

Boreal Forest

- Open vs closed
- Ecozones of Canada, Major Ocean Drainages = Integrated Regional Planning Units
- Terrestrial carbon "bank account" on the planet

Leadership/Responsibility - Canada

- World state-alarming (Nikita Lopoukhine, Harvey Locke)-climate change, species extinction, resource depletion, human population increase
- Role model-do well, do more

Approaches-models for the establishment of protected areas

- Formal/informal, local-scale / landscape-wide, small and large PA
- Pro-active, evolving
- Community/grassroot driven (Wemindji, Edézhie)-government driven (Mistissini)
- First Nation treaties and land claim agreements
- Regional (comprehensive) land use planning (Dehcho)
- PA agency planning (QC, NWT, YK, NS)
- Cross disciplinary research and involvement with communities (Beacon, McGill, Laval, UQAM, Alberta, Ottawa, CEF)-important role of science
- Biosphere reserve, World Heritage site (Pimqchiwin-Aki)
- Buffer to sacred sites (Ddhaw Ghro YK)
- Collaborative management (Innu, coastal conservancies in BC) (planning and in operations)
- Negotiation-joint planning with forestry industry (Essipit/Akumunan/ Mauricie)
- Cooperative eco-tourism (Ni'iinlii/Njik Park)

- Acquisition (DU in NWT, NS)

Not only one way

Learning - sharing

- Traditional knowledge, land use
- Transfer knowledge/expertise (tools, guidelines, publications, Web sites, story telling, exchange program, training, learning opportunities, capacity building, Youth/Elders)
- Cross cultural initiatives
- Balance
- Protection, cultural values, community wellbeing, sustainable economic
- ENGO advocacy-government process-community involvement-public support

Timescale - time frame

- Natural processes, First Nations' presence on the land/stories
- Decision making (government, First Nations)
- Long term commitment (Nahanni, Dumoine)
- SYNERGY
- ENGOs, First Nations (community, tallymen, hunting-fishing-trapping association), governments (local, regional, provincial, territorial, federal), resource-based industry, Institutions, local people, general public

Valuation, respect, recognition, reconciliation

- Different worldview of the land: systemic (science, species, ecosystem, representation, boundaries)/sacred (story telling, use value - pragmatic, change, identity)
- Time, patience, trust
- Leadership/engagement: planning, design, management
- Meaningful partnerships-meetings, listening, go on the land

Connectivity - transboundary approach

- Protected areas within a larger landscape-managed matrix
- North-South
- Terrestrial-marine
- Also East-West

New trends

- Culture/Nature
- Renewed Conservation Matrix-Ecological benchmarks/additional reserves/adaptive management areas
- Human Footprint-presence and activities, altered landscapes, anthropogenic disturbances, accelerated world (and Canadian) population growth
- Differentiated approaches to PA agenda; leadership role-First Nations, ENGOs;

- Management of remaining portion of the landscape (TRIADE approach, certification, complementary status-biological refuge, fire regime and impact of exploitation type, habitat alteration through time and spatially)

Other challenges - practical implementation

- Stewardship (ecological and cultural integrity, adaptability)-Parks Canada: within PA and within broader surroundings (critical habitat of Caribou, forest exploitation)
- Development pressure-Mining (hydro, oil and gas)
- Climate change and associated disturbances
- Cross societal vision and large-scale goal

Establishment - from one area to a network of protected areas

- Exponential increase in 20th century and renewed efforts after 2000-increased rate of establishment (Québec, NWT, Ontario)-need to continue
- Island syndrome, big but not big enough (large mammals)-got to scale up in conservation
- Assessment of PA and PA network (gap analysis, ecological benchmarks-system and sliding scales) -beyond representation, include First Nations values -expansion, connectivity
- Percentage goal (8, 12 worldwide, 50+ Boreal Forest Conservation Framework Vision)-more must be done

Shift in paradigm build on, not erase)/reversed matrix

- Land is being developed, identify what can be set aside for protection

- All land protected, what should be developed (Jean-Paul Gladu, Fiona Schmiegelow's Team, Harvey Locke)

No longer why protect, beyond what is being protected or only choose the best and rescue the rest

- Converted landscapes-How much conservation area is enough
- Intact landscapes-How much is too much development activity

Extensive interconnected network of protected areas, sustainable management of the surrounding areas and ensure resilience to short-term and long-term environmental change

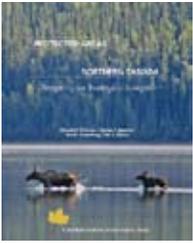
Back to leadership

- Ontario's announcement and M. de Launay's presentation
- Concerted effort all across the boreal forest

Big land, big opportunity

Think BIG ! (Elvis Gratton)

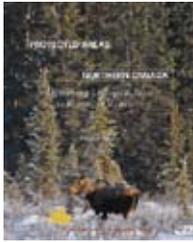
Recent Publications Now Available...



Protected Areas in Northern Canada: Designing for Ecological Integrity (NPA 1).

This report reviews and assesses science-based approaches appropriate for the design of protected areas in northern Canada. It contains results of a pan-Canadian survey of protected area agencies and practitioners. A central thesis of this report is that large protected areas with inherent ecological integrity are cornerstones in

efforts to conserve wildlife and the ecological processes necessary to sustain them. 110 pgs, CCEA 2005



Protected Areas in Northern Canada: Identifying Ecological Areas to Represent Mammals (NPA 2).

Building on the conclusions of NPA1, this report is a case study of the Western Canadian Mammalian Province, which is largely coincident with Canada's boreal ecozones east of the cordillera. The focus of this casestudy is

the testing of an optimization model for representing disturbance sensitive mammalian species in protected areas large enough to maintain species diversity. This paper contains potential applications by protected area agencies and ENGOs conducting gap analyses throughout this region. 45 pgs, CCEA 2007



Canadian Guidebook for the Application of IUCN Protected Area Categories

This guidebook has been prepared by experts from protected area agencies across Canada to provide further explanation to the World Conservation Union (IUCN) Guidelines of 1994, an international system to categorize and report on protected areas at the global level.

This guidebook reflects current Canadian thinking on the IUCN classification system and provides a common tool for all Canadian jurisdictions to improve consistency in classifying protected areas and encourages cooperation in protected areas assessment and reporting. 66 pgs, CCEA Occasional Paper #18 2008 (English or French)

To order these publications:

1) Please indicate quantity of copies required:

_____ *Protected Areas in Northern Canada: Designing for Ecological Integrity (NPA 1). \$20.00*

_____ *Protected Areas in Northern Canada: Identifying Ecological Areas to Represent Mammals (NPA 2). \$15.00*

2) Include your name and mailing address:

Name: _____

Address: _____

Please make cheque or money order payable to Canadian Council on Ecological Areas and send payment to:

*CCEA Secretariat
c/o Robert Helie
Environment Canada
3-351 St. Joseph Blvd.
Hull, QC K1A 0H3*

HELP WANTED!

I want to help support the work of CCEA by making a pledge/contribution for 2009. Please find enclosed my pledge/contribution for:

\$25 \$50 \$100 \$250 Other _____
Name: _____
Address: _____
E-mail: _____ Phone: _____

Please specify if the funds are to be applied to either:
_____ The Stan Rowe Home Place Memorial Fund or
_____ CCEA's general operations

Forward your pledge/contribution to:
CCEA Treasurer
C/O John Vandall
3325 Rae Street, Regina, SK, S4S 1S5

Cheques should be made payable to CCEA of Canadian Council on Ecological Areas. A charitable tax receipt will be issued as soon as the funds are received.

To donate online or by credit card please visit our website at www.ccea.org/en_donations



CCEA is a registered charity serving the protected areas community and has traditionally been funded through projects and the support, both financial and in-kind, from federal, provincial and territorial jurisdictions. There are no membership fees. You can personally support the work of CCEA by making a donation today.

