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The Official Newsletter of the Canadian Council on Ecological Areas

## . . . from the CCEA Chair

*Ed Wiken*

**V**aluation! It seems strange that now protected areas have to be subject to a valuation process – not because values were ignored in the past but instead because they were used. Historically, parks were established around places with unique and outstanding values. Wildlife areas were created to protect critical habitats. Ecological reserves were meant to protect rare and representative communities. The values for which protected areas were selected seem all too self-evident to be questioned today. However, the scorecard and the competition have changed.

### *From plenty to the remaining*

When vast spaces of wilderness have existed, there have been few objections, few questions posed about setting aside areas for parks, reserves and sanctuaries. The surrounding landscapes/seascapes provided ample opportunity for other types of land uses. The

our native grasslands, and vast parts of our Carolinian forests? The shrinking character of wildland areas places pressure on the continuing efforts to both conserve ecosystems and to capitalize on their resources. Competition reigns high for the last of the least. This has introduced different yardsticks and broadened the veracity of measures.

### *Intrinsic to measured values*

Intrinsic values have become like tarnished silver dollars. They are still valued as heirlooms, but their use as common currency is lost. Measured values (delivered goods and services) have been drawn into the forefront. Even in the stricter sense, it is a misnomer to believe that people only thought of protected areas for their environmental values. Their social and economic importance have also played a role from the beginning. Perhaps it is only the precision applied to such types of values that has changed.

Many views on values arise. What are the true ecological assets (genetic stocks, life support systems, potential commercial species)? What are the costs to society of losing known or potential assets? What is their value in providing measures for sustainability and means to renew impacted ecosystems? What is their role as early warning systems and benchmarks in monitoring systems? What is their literal dollar value for tourism and recreation? How do you value ecological integrity? How are values in protected (i.e. breeding areas for waterfowl) and non-protected areas (i.e. hunting areas) linked?

This move towards refined forms of valuation is often cumbersome, but it has moved protected area achievements away from a mode of 'preserving the past' to 'preserving the future.' ❁

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*Historically, parks were established around places with unique and outstanding values.*

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harvesting of trees and fish, the extraction of minerals and oil, and the conversion of wildlands to farms could proceed in a rather harmless fashion.

The influence and extent of human activities have greatly changed in Canada and around the globe. Our vocabulary often expresses this. Expressions like 'wilderness frontiers' are commonly replaced by phrases such as 'remnant natural areas.' Wilderness areas have shrunk quickly over the last few decades. Where did half of our original wetlands go, most of

# Measuring the Benefits of Protected Areas: A Critical Perspective on the IUCN Guidelines

by Dick Stanley

In February of 1996, Lee Thomas and Frances Grey, released a draft of the *Guidelines for the Measurement of Benefits of Protected Areas* for review. They were seeking critical comment from the economic community and protected area managers and planners. They also hoped to encourage managers to undertake pilot studies to test the methodologies described in the guidelines. I was asked by Parks Canada to review the guidelines and offer comments to the authors, as part of Parks Canada's contribution to the guidelines' development. This paper describes the conclusions of that review.

To understand what is right and what is wrong with the guidelines, it is useful to start with a fundamental question: why do we want to measure economically the benefits of protected areas? The reason is that if entrepreneurs and managers are to make rational decisions about whether to invest in or continue to maintain a protected area, they must compare the costs and benefits. In this way they can ensure that they only invest in those projects where the benefits exceed the costs. It is fairly easy to estimate the costs, both direct administrative costs, and the economic value foregone because various forms of natural resources can no longer be exploited. The calculation of benefits, many of which are indirect or even intangible, is much more problematic. Hence, the guidelines.

For example, if an entrepreneur sees that the cost of some undertaking is \$12 million, and the revenue to be expected is \$ 15 million, then it makes sense to do it. If cost is \$12 million and revenue is only \$6, then it makes no sense to do it. Of course, this simple example ignores the many complicating factors such as the duration of the investment and the wait for revenues, and the risk. However, the basic decision criterion used is that benefit must exceed cost.

When a public agency decides to protect an area, it generally does not expect enough revenue (from users, concession fees, etc.) to equal or exceed costs. That is, in fact, why it is usually public agencies which protect natural areas. But the investment criterion with public money should be the same as with private money: the benefit must exceed the cost. If there is not enough revenue to counterbalance costs, then the question becomes: where else can we look for benefits

to justify the public cost of the protected area?

Usually the first thing to come to mind is economic impact. Whenever a public agency spends money, suppliers of goods and services in the local area receive the money as income. They, in turn, re-spend some of that money to pay employees and purchase more stock from other suppliers to replace what they have just sold to the public agency. These other suppliers also spend some of the money they receive on their own employees and on additional goods and services. The original expenditure can thus go through many rounds of re-spending, creating beneficial economic activity in the local economy which would not have been created without the public agency spending on the protected area. The sum of this spending and re-spending is called economic impact. But all expenditures, no matter what they are for or who makes them, have this impact. If it can be used to justify the investment in a public project that has insufficient revenue to make it profitable, why did the private sector entrepreneur not use it to justify his/her investment in the project that was not expected to bring in sufficient revenue? The obvious answer is that the private entrepreneur does not receive any of the impact; it accrues only to third parties: the local suppliers of goods and services and their employees, for example. The reason that the government (public agency) can claim the impact as a benefit is that the recipients of the re-spending are the constituents of the public agency, so any benefits accruing to the recipients accrue in some sense to the public agency that represents them and is supposed to be promoting their interests.

If, for example, the federal government spends money in Newfoundland to develop and operate a national park, then the citizens of Newfoundland obviously benefit. Since it is the mandate of the federal government to create benefits for its citizens, the benefits it creates for the citizens of Newfoundland can be put against the costs of developing the park.

But the money spent in Newfoundland came from somewhere. It came from taxes on the rest of the citizens of Canada. When the taxes were taken from somewhere else in Canada, a reverse impact took place in that somewhere else, dollars removed from the taxpayers were not spent in their local economy,

so local suppliers of goods and services received less revenue than they would have. They hired fewer workers and bought less stock in trade. The suppliers' suppliers similarly received less revenue and bought less in their turn. Therefore, for every dollar of impact gained by Newfoundland, there is a dollar of impact lost somewhere else in Canada. This is why the impact cannot count to balance against the cost, at least in the view of the public sector manager.

So the next thing we typically try to use as a benefit is tourism expenditure. The protected area will draw visitors (or what we loosely call tourists, lumping local visitors in with those who come from long distances away, because it makes a bigger number and makes our argument look better) who will spend in the local area and bring the kind of "impact benefits" that we thought government spending would bring. They, at least, are spending their own money and not taxes.

Unfortunately, tourists come from somewhere too. If they are visiting Newfoundland and spending money, they are not spending it visiting somewhere else, or spending it on entertainment at home. So again, Newfoundland's gain is someone else's loss. This is true of tourists from other parts of Canada, but fortunately, tourism is a little more complicated than that. Not all tourists come from other parts of Canada. Some come from other countries, and some would have left Canada to travel to other countries in the absence of the attractive protected area. So it is valid to count as benefits the expenditures produced by some of those tourists, that is, those tourists who would not otherwise have come to Canada, but came because of the protected area, and it is also permissible to count those who stayed in Newfoundland (or the rest of Canada) but would otherwise have left the country had it not been for the existence of the protected area (PA).

In practice, of course, it is quite difficult (although not impossible) to determine which tourism spending is legitimate to count and which not. However, if we are trying to make rational and informed decisions about major investments, it is irresponsible not to make the effort to get the true benefits, instead of fooling ourselves by not acknowledging that many of the benefits claimed are merely a redistribution of economic activity that would have taken place anyway.

So we now have two items to put into the benefit account: direct revenue that the PA will generate, and some tourism spending. The IUCN guidelines suggest a number as well. They suggest a series of things for which they believe real private market equivalents exist and therefore which will be credible to the public

and private sectors and politicians. Because there are market equivalents of these benefits, it is possible to find equivalent market values for them.

1. The first benefit identified is tourism and recreation. This has already been discussed in some detail, and some of the issues and pitfalls in measuring this benefit correctly have been outlined. Unfortunately, the guidelines in the current draft do not acknowledge these issues and pitfalls. They suggest that all tourism expenditure and associated impacts be counted as benefits. This part of the guidelines therefore gives us nothing new to put into the benefit account.
2. The next benefit identified is natural services. This is the benefit produced by various natural phenomena which occur thanks to the PA. Examples are pollination of crops by bees who live in the PA. If they did not exist, farmers would have to pay pollination services to bring bees in to pollinate plants. There is a private market for this, and so the value that the PA generates can be evaluated credibly.
3. Water production is an important benefit that protected areas provide in many places in the world. A protected area can act as a natural reservoir, holding water from a rainy season for slow release through the rest of the year when needed. It also acts as a filtration plant, purifying the water. Dams and filtration plants have clear costs, so if downstream cities are saved from having to invest in such things because of the existence of a PA, then the PA is clearly providing substantial benefit.
4. PAs can mitigate natural disasters. PAs retain water to prevent flooding. We only have to consider the millions of dollars spent every year by the US Army Corps of Engineers to control flooding in the Mississippi basin to realize that some forested PAs in the place of the cultivated prairie grasslands would mitigate flooding and save money.
5. The guidelines identify fish breeding and spawning as a benefit. Protecting shorelines and rivers preserves the breeding grounds of fish, which can support a fishing industry. Failure to protect these areas can lead to destruction of the fishing industry. The classic example of this is the Aswan Dam. When it was built on the upper Nile, ostensibly to bring economic benefits to Egyptian agriculture, it wiped out the shrimp fishery on the eastern Mediterranean.
6. The next benefit identified is food and fibre

hunting and gathering. This is the sustenance that, for example, native peoples draw from the PA. It is not commercial (or the area would not be considered protected) and it is typically not intensive. In Canada's National Parks, hunting and gathering must generally have been a traditional activity of native peoples to be permitted. It is nonetheless real, and, in its absence, the hunters and gatherers could well be obliged to purchase equivalents in a market.

7. The next benefit, commercial activities in PAs, has to be understood properly. Obviously, a mine or logging operation which takes place in a PA produces economic benefits. However, in most cases, it is no thanks to the protected area that it takes place. In fact, commercial activities are generally considered to be antithetical to PAs. If the commercial activity is to be considered a benefit, it must itself benefit from the protected area. For example, only if the protected area's conservation programs or effects permit a sustained yield of forest products could the benefits created by forestry be in any way attributed to the PA.

The guidelines also identify three areas of economic activity which represent costs of protected areas.

8. The financial costs of PA development and operations are correctly identified by the guidelines as being a cost, and not a benefit. These expenditures are what are usually considered as creating an impact in the area local to the PA. As was discussed above, they are incorrectly considered a benefit. The guidelines point out, however, that when the funding for development and operation of the protected area comes from outside of the economy, as is the case when the protected area is a foreign aid project, then the recipient country can consider the administrative costs as a benefit, and hence include it and the resulting impact in the benefit account.
9. The guidelines identify natural phenomena causing damage as another cost of PAs. Wild animals who are sheltered by the protected areas and prey on neighbouring livestock are an example. The guidelines point out however, that careful study of the situation often reveals that the natural phenomena cause more damage in the imagination than in fact.
10. The last item which has to be included in the cost-benefit balance is the opportunity for benefit foregone because economic activities, such as natural resource exploitation, are prohibited in a PA. The loss of the opportunity to exploit

resources in the protected area should always be taken into account as a cost.

Of course, it is unlikely that any one protected area will have all of the benefits which the guidelines identify. The guidelines suggest that each type of benefit should be examined to determine which the protected area in question has. This, says the guidelines, is a task for the park manager or biologist/naturalist and the economist combined. Both knowledge of the natural processes of the park and the knowledge of the functioning of the marketplace are needed to identify and assess the benefit.

The IUCN guidelines help us to fill out the benefit account as well as making the cost account more complete. There are, however, a whole variety of benefits which the guidelines do not take into account. These are the benefits which the user of the PA gets but which he or she does not pay for, and the benefits which non-users get from the mere existence of the PA. They represent the non-quantified well-being that is created by the PA: the psychological, or spiritual benefits, and the enjoyment which the PA creates. These benefits are often the real justification for the PA.

The benefits include:

1. Consumer surplus: benefit the direct user gets from his or her experience of the PA above and beyond what is paid for. This is often captured through the question: "How much more would you have paid to have the experience you had today?"
2. Indirect use benefits: the benefits the non-user obtains by such activities as reading about the protected area or viewing it on television.
3. Existence benefits: the benefits obtained by knowing that the area is protected, for example, the pride in knowing that the nation's natural heritage, or the environment are being protected. This is closely related to bequest benefit, the benefit a citizen gets from knowing that future generations will still have the PA to enjoy.
4. Option benefits: these are the benefits the non-user gets from maintaining the options for future use of the PA. For example, the non-user may someday visit the PA, or society could someday benefit from the future discovery of a use of genetic or other material in the PA. This potential would be lost if the protected area is exploited.
5. There are a whole variety of further benefits to society at large which can loosely be called externalities, which include biodiversity, scientific and educational benefits, increased worker productivity and sense of social cohesion, and amenity benefits.

**TABLE 1. ECONOMIC BENEFITS OF PROTECTED AREAS**

	<i>Economic Effects of Protected Areas</i>	
	<i>True Incremental Benefits</i>	<i>Redistributed Economic Effects</i>
<b>Benefits to individuals using the area for activities compatible with its primary purpose</b>	Direct paid use benefit (= revenue) Direct unpaid use benefit (= consumer surplus)	
<b>Benefits to individuals using the area indirectly for activities compatible with its primary purpose</b>	Indirect use benefits (books, TV) Existence benefits Option benefits Bequest benefits	
<b>Benefits to individuals using the area for collateral purposes</b>	*Natural services *Water production *Mitigation of natural disasters *Fish breeding *Hunting/Gathering *Commercial activities Ecological functions Health effects *[Displaced activities] *[Natural disasters]	*Tourism spending and impact  *[Protected areas development and operations and impact]
<b>Benefits to society at large (externalities)</b>	Worker productivity Biodiversity Scientific, educational benefits Amenity benefits	

Notes: **bold** denotes those benefits for which a market exists and which can therefore be quantified with reference to market equivalents; \* denotes those benefits and impacts identified by the IUCN guidelines; [ ] denotes those benefits which are negative, that is a cost.

It is beyond the scope of this paper to explore all these benefits exhaustively. However, Table 1 attempts to put these types of benefits into an overall framework.

The main importance of this table is in the distinctions it makes in the columns and rows.

The columns make the distinction between benefits that are true incremental benefits and those which are benefits only to a limited group of people with a particular geographic perspective. The benefits listed in the first column represent an increase to the stock of society's well-being which would not have occurred at all if the protected area had not come into existence. Not all are additions to gross domestic product. Some cannot even be quantified or must be estimated indirectly, but they are all true benefits of PAs. The second column lists economic activity which the existence of the PA redistributes to the local area, but which would have taken place in any case. It is only a benefit if the evaluator takes the narrow geographic perspective of those who are receiving the economic activity and is willing to ignore the perspective of those who are losing the economic activity. This narrow perspective is frequently

adopted, quite rationally, by those who are promoting the development of a protected area for their region, but should not be accepted by those who are funding the protected area, since it almost inevitably means redistributing economic activity from some other part of the funding agency's jurisdiction.

The rows distinguish between the different kinds of users. The first row identifies the benefits that accrue to the direct users of the protected area who enjoy its resources in a non-consumptive way, for example, by hiking. The second row identifies the benefits that accrue to those who do not use the area directly at all, but benefit from the non-consumptive use of its resources at second hand, say by reading about them. The third row identifies the benefits that accrue to those who actually use the resources or the effects of those resources in a consumptive way, although the uses may be sustainable. Finally, the fourth row identifies the benefits that accrue to society at large from the existence of the PA, whether they use it or not. An example here is the benefits we all gain from the increased productivity of workers who use the protected areas to vacation in and who are, as a result, more relaxed.

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The guidelines do not address these benefits, reasoning that they do not have market equivalents, so they are not credible. In recent years, however, great strides have been made in their measurement, through the development of contingent valuation and revealed preference techniques. Although these values may not be as credible to all observers as benefits for which a direct market equivalent can be found, they are nonetheless gaining credibility in North America, following the findings of the NOAA panel of experts in the USA.

No manager will find all benefits present in a particular PA. Nor will the manager, when framing arguments in support of the establishment or maintenance of the PA, necessarily want to use all benefits that are to be found. It would, however, be useful to the manager to have the complete range presented, so the choice of the most appropriate and convincing ones can be made in the light of individual circumstances.

The conclusion that can be drawn about the IUCN guidelines is, therefore, that they highlight an important set of real benefits which protected area managers should examine when seeking to justify their PAs. The guidelines are however very misleading about tourism: what groups of visitors to count and which group to leave out because they do not represent an incremental benefit to the economy. Nor do the guidelines do anything to correct the major error in benefit assessment, confusing impacts and benefits. In the guidelines, even the language is somewhat confusing.

Furthermore, the guidelines are not comprehensive, in that they do not put the important benefits they do treat in the context of the complete set of benefits. While this is not a fatal criticism, there is sufficient confusion in the field of benefits measurement that any guideline aiming at a general audience ought to put the subject matter into a general context. ❁

## Environment Canada and Canada's Ecozones

CPRC has assisted Environment Canada in producing part of a set of twenty folded posters covering each of Canada's fifteen terrestrial and five marine ecozones. A colourful illustration on the front of each poster provides a composite of key features in each ecozone -- a visual aid for teaching about Canada's ecosystems. CPRC has been particularly involved in the production of the prairie vignette poster displaying information about landforms, climate and wildlife in the prairie ecozone of Canada. The twenty-poster set is now available in both English and French. It can be ordered from:

Government of Canada: North America - 1-800-734-3232; International - 1-613-954-5791; Internet - <http://www.ec.gc.ca>

Royal Canadian Geographical Society: North America - 1-800-267-0824; Fax - 1-613-744-0947; e-mail - [merch@cangeo.ca](mailto:merch@cangeo.ca); Internet - <http://www.cangeo.ca/> ❁

## New CCEA Publication:

### **A Perspective on Canada's Ecosystems: An Overview of the Terrestrial and Marine Ecozones**

*by Ed B. Wiken, David Gauthier, Ian Marshall, Ken Lawton and Harry Hirvonen*

This report offers a broad perspective on Canada's ecosystems, both terrestrial and marine. It describes, as of 1996, Canada's major ecosystem -- the ecozones. All of Canada's ecozones are not "natural." Many of the southern ecozones are very much human modified/dominated ecosystems. However, each ecozone is distinct, containing its own particular sets of abiotic and biotic characteristics. Some of the defining features of ecosystems may be associated with economic resources (i.e., timber species, productive grassland soils), others may be linked with specific geological, climatic or physical features. Still other defining features are found in the peculiar types of wildlife and vegetation or the human activities that exist within an ecozone. In general, ecozones are described holistically according to a range of characteristics -- some biological, some physical, some structural, some process and relational. Copies can be obtained from the CCEA office. ❁

# A Success of Partnerships

*The 1996 Joint National Conference of CCEA and CSLEM*

*Caring for Home Place: Protected Areas and Landscape Ecology*

*John Vandall*

The "Home Place Conference" held last September 29 to October 2, 1996, in Regina, represented the 15th Annual General Meeting of the CCEA. The conference theme "Caring for Home Place" was meant to integrate the concepts of sustainable development, landscape and ecosystem management and protected areas. The theme embraced the need for sustaining "healthy ecosystems" in which biophysical, social, cultural and economic considerations are in close agreement. Registrants, presenters and keynote speakers considered the conference to be a resounding success. Over 250 delegates -- professionals, students, academics and interested public -- participated in the two-day conference that included a wide diversity of papers, posters, displays and workshops.

The range of views presented and discussed at the conference about what "Home Place" is and how it should be managed was indeed remarkable. Over 60 papers were presented during four concurrent sessions, dealing with urban and rural landscapes, farmscapes, watersheds and wetlands, protected areas, GIS technology, human values, urbanization of parks, wetlands, ecosystem inventorying, planning, public participation and monitoring, archaeology, ecotourism, biodiversity conservation, forest management, environmental education, fire, landscape linkages, restoration, and data management. The proceedings, due for publication this year, will be distributed among both organizations as well as made available as widely as possible.

Notable highlights of the conference included the premiere showing of Bob Long's "Home Place" video series at the Royal Saskatchewan Museum and Reed Noss' keynote address on Conservation at the Ecosystem Level. The awards banquet recognized nine individuals or organizations for their efforts towards furthering the aims of the two organizations

and featured unique and outstanding local entertainment with the Regina Mandolin Orchestra and the Ukrainian Poltava Ensemble. Don Gayton, ecologist and writer, shared his experience with humour, to inspire and challenge us during the final luncheon. The participation of Stan Rowe (an eminent ecologist, teacher, former Saskatchewan resident and founding member of both organizations) throughout the conference was appreciated by all delegates, including friends, colleagues and former students.

The success of the conference is in no small part due to the various partnerships that developed throughout the planning stages. The conference was a partnership between two organizations -- CCEA and CSLEM -- whose founding members and many of their current members are instrumental in supporting both organizations. The organizing committee was also a partnership, not only of the two organizations but also the Saskatchewan Government (Environment and Resource Management), the Universities of Regina (Canadian Plains Research Center) and Saskatchewan (Extension Division) and NGO's (Nature Saskatchewan and the World Wildlife Fund Canada). Considerable financial support was provided from the oil and gas, mining, agriculture, film and communications business sectors; municipal, provincial and federal governments; conservation and research agencies. Lastly, many volunteers from the general public and groups represented on the organizing committee played a major role in delivering the conference -- from registration through to moderating. Proceedings of the conference are now being prepared as a joint effort of the Universities of Regina and Saskatchewan.

The organizers extend a sincere appreciation to all those who contributed to the success of the conference and we are looking forward to an exciting 16th AGM in New Brunswick in September 1997. ❁

## CCEA Homepage

The CCEA, in cooperation with the Canadian Plains Research Center, now has its own homepage. For up-to-date information on the CCEA, and to read the Newsletter online, check: <http://www.cas.uregina.ca/~cprc/ccea/>

# CCEA Awards

The first CCEA Awards were presented in 1987 at the fifth Annual Meeting in Winnipeg, Manitoba.

## 1987 Manitoba

- 1) Stewart D. MacDonald, National Museum of Natural Sciences Canada (Ottawa). Recognized for his original identification of Polar Bear Pass as a nationally important landscape, and establishing it as an IBP Site.
- 2) Wagner Natural Area Society, private group. Recognized for leasing a biologically important landscape (Wagner Bog, east of Edmonton) and managing its protection, scientific study and public awareness.

## 1988 Prince Edward Island (presented by Tom McMillan)

- 1) Honourable Don Sparrow, Alberta Minister of Tourism, honoured for conservation achievements when he was minister of Forestry, Lands and Wildlife.
- 2) Dr. Vladimir Krajina of B.C., honoured for his contribution to the protection of ecologically significant areas in B.C.
- 3) Prince Edward Island Nature Trust.

## 1989 Edmonton

- 1) World Wildlife Fund.
- 2) Dr. Stan Rowe.

## 1990 Ottawa

- 1) David Monro, first CCEA Chairman & work with IUCN.
- 2) Sylvia Normand, CCEA Secretariat, Canadian Wildlife Service.

## 1991 Campbell River

- 1) Yorke Edwards.
- 2) British Columbia Ecological Reserve Program.

## 1992 St. John's, Newfoundland

- 1) Newfoundland Wilderness and Ecological Reserve Advisory.
- 2) Robert Graham, honoured for his contribution towards marine ecological areas.

## 1993 Windsor, Ontario

- 1) Ontario Ministry of Natural Resources (Howard Hampton), in recognition of the centennial of Ontario's parks.
- 2) J. Bruce Fall (University of Toronto).

## 1994 Wolfville, NS

- 1) Jim St. Claire for the designation of MacFarlane Woods.
- 2) Bowater Mersey Paper Co. Ltd. -- Panuke Lake Nature Reserve.

## 1995 Calgary

- 1) Academic and Science category -- Jim Butler, University of Calgary.
- 2) Industrial Association category -- Canadian Association of Petroleum Producers.
- 3) Government Agency category -- Ian Marshall, State of Environment Reporting, Environment Canada and Scott Smith, Canada-Yukon Soil Survey.
- 4) Individual(s) category
  - Vivan Pharis, Alberta Wilderness Association.
  - Larry Simpson, Nature Conservancy of Canada.
- 5) Collaborative category -- Wabakimi Wilderness Area (Bruce Peterson, Environmental North; Ian Mettiam, Ontario Ministry of Natural Resources).
- 6) Government/Jurisdiction category -- Government of British Columbia (Premier Michael Harcourt).

## 1996 Regina

- 1) Peter and Sharon Butala -- in recognition and appreciation of their outstanding personal commitment to the protection of Saskatchewan's grassland ecosystem.
- 2) Ducks Unlimited Canada, Nature Saskatchewan and the Saskatchewan Wildlife Federation -- in appreciation of their joint efforts toward the cooperative protection of Saskatchewan's ecosystems.
- 3) Ecological Land Classification Committee (Saskatchewan) (a partnership of the Government of Canada, Government of Saskatchewan, Canada-Saskatchewan Green Plan Agreement, Canada-Saskatchewan Partnership Agreement in Forestry and University of Regina) -- in recognition of its outstanding contribution in developing the ecoregion map of Saskatchewan.
- 4) Harold R. (Hal) Hinds -- in grateful recognition of his scientific leadership and commitment to the conservation of protected areas.
- 5) Mark Koenker -- in appreciation of his initiatives and commitment to the designation of Saskatchewan's parks and other protected areas.
- 6) Ken Lozinsky -- in recognition of his long-term commitment and leadership towards the designation and protection of Saskatchewan's Park Lands.
- 7) Pacific Estuary Conservation Program (a partnership of Department of Fisheries and Oceans and Environment Canada, the BC Ministry of Environment, Lands and Parks, Ducks Unlimited Canada, Wildlife Habitat Canada and the Nature Trust of BC) -- in recognition of their outstanding cooperative work in protecting valuable coastal ecosystems of British Columbia.
- 8) World Conservation Monitoring Centre -- for their long-term commitment and leadership in promoting the conservation of species and ecosystems world wide. 🌿

# CCEA and the NAFTA Commission for Environmental Cooperation

A new report will be released shortly presenting a standardized classification of ecological regions of North America. CCEA has played an integral role in the development of this new North American perspective.

The North American Free Trade Agreement (NAFTA) between Canada, Mexico and the United States outlined the commitments of the three governments to new policy thrusts to manage resources prudently and to encourage sensitive environmental decision making. A cornerstone behind the Agreement was to examine environment-economy relationships more closely at a continental scale. This required purposeful actions to think, act and plan in terms of ecosystems. The member countries needed to move away from an emphasis on individual environmental and socio-economic elements and shift towards a more comprehensive approach – not just on assessments trade and environment relationships, but on the underlying monitoring and reporting activities as well.

A continent-wide ecological framework was required to provide a common perspective between the three countries. To be most useful, that framework would follow a standardized approach and portray units at multiple scales from large continental ecosystems through to broad country level units. The framework would also provide a common base for developing a dialogue, enhancing communication and improving reporting between the different countries, jurisdictions and disciplines.

The CCEA was the initial group that was requested to lead and coordinate the development of a North American ecosystem framework in response to the Tri-Lateral Committee on Environmental Information. The Tri-Lateral Committee was established to foster ways to apply an ecological approach to common environmental concerns in North America. Its work was guided by existing national efforts to characterize and report on the sustainability of ecosystems. Work was supported by federal departments, universities, non-government groups and institutes in each country. As the project goals were in keeping with the mission of the NAFTA

Commission for Environmental Cooperation (CEC), core support and funding were offered by the CEC with support from the CCEA and other organizations.

This continental ecological framework has been developed to enhance the capability of both governmental and non-governmental organizations to assess and report on the nature, condition and trends of the major ecosystems in North America. The framework has evolved from previous national efforts and cross-nation projects that were designed to support initiatives focusing on the sustainability and conservation of resources. The notion of resources is by necessity broadly interpreted. It embraces the traditional ideas of resources (i.e., timber, arable soils, water), but it also includes the ecosystems of which they are a part.

This version of the Terrestrial Ecological Regions of North America was built through a process of consultation, collaboration and compromise. Members of the original Tri-Lateral Working Group and the CEC Working Group have been fairly consistent. It was comprised of professionals from the CCEA, Environment Canada, British Columbia Ministry of Environment, Lands and Parks (BCMELP), Environmental Protection Agency (US-EPA), U.S. Geological Survey, U.S. Forest Service, Instituto Nacional de Ecologia (INE-SEMARNAP), Instituto de Ecologia, A.C. (IdeE), Instituto Nacional de Geografia e Informatica (INEGI) and Centro de Ecologia of the Universidad Nacional Autonoma de Mexico (CE-UNAM).

Continental and national ecological frameworks evolve as knowledge is gained and ecological concepts and perspectives change. As with country-level ecological frameworks, each product will encourage further refinements to be made. In the future, this framework will be revisited to reflect our growing understanding of the ecology of the North American landscape. Perhaps most importantly, we will further understand our relationships within the context of the continent's ecosystems.

Please continue to monitor the CCEA Web site for information on the release date of this important North American report. ❁

# Protected Areas and the Bottom Line



## 1997 Conference and Annual General Meeting

Canadian Council on  
Ecological Areas



### CONFERENCE ANNOUNCEMENT

#### **PROTECTED AREAS AND THE BOTTOM LINE**

#### **ANNUAL MEETING OF THE CANADIAN COUNCIL ON ECOLOGICAL AREAS**

September 15-17, 1997  
Sheraton Inn, Fredericton, NB  
(note change in venue)

#### **INTRODUCTION:**

The theme of the Sixteenth General Meeting of the Canadian Council on Ecological Areas (CCEA) is "Protected Areas and the Bottom Line". It will explore the relationship between protected areas, biological conservation and sustainable development, given the interdependence of the ecological and economic bottom line. The New Brunswick Department of Natural Resources and Energy is hosting the event, on behalf of the CCEA. The CCEA is a national, non-profit organization which is committed to establishing a network of ecological areas to protect Canada's terrestrial and aquatic diversity in perpetuity.

#### **CONFERENCE OBJECTIVES:**

The purpose of this meeting is to consider the ecological, cultural and economic role of protected areas in maintaining biodiversity and fostering sustainable development. It will also explore the options available to ensure that biodiversity values are addressed in policies, practices and standards related to land-use planning and natural resource management. These topics will be examined from theoretical and operational perspectives, including:

- Global economic trends (marketplace issues)
- Forest & marine conservation (science/policy)
- Ecosystem management (theory/practice)
- Public & corporate initiatives (partnerships)
- Reconciling multiple values (integrated planning)

The program is organized around 6 questions that will be directed to presenters and participants:

- What is the value of biodiversity?
- Are there risks to biodiversity resulting from current land-use practices in the Northeast?
- Do we have the expertise to manage the land/seascape & maintain native biodiversity?
- What is the role of protected areas in conserving biodiversity?
- How do we integrate conservation planning with resource management?
- Who will ensure that goals and objectives for biological conservation are incorporated into policies for sustainable development?

#### **CONFERENCE STRUCTURE:**

The conference will include a day of presentations by invited speakers such as Michael Soulé, followed by a day of concurrent presentations and workshops, and culminating in the CCEA Annual General Meeting on the last day. Field trips have been organized to illustrate the conference theme, using examples of current management issues in New Brunswick. An itinerary of self-guided day-trips will be distributed with the registration package and available at the conference desk during the event. **Please see our website for conference updates and related costs.**

#### **PARTICIPANTS:**

The conference is relevant to anyone who is interested in the role of protected areas in the maintenance of biodiversity and the integration of conservation values with land-use planning, resource management and public education.

#### **PRESENTATIONS:**

Presentations will address the following topics, from a terrestrial or marine perspective:

- I. The role of protected areas in conserving biodiversity: scientific and ecological aspects.
- II. Costs and benefits of protected areas: valuing environmental services.
- III. Intangible values in conservation: respecting spiritual, ethical and aesthetic concerns.
- IV. Implementing a protected areas system: technical and operational considerations.
- V. Responsibilities of landowners in conservation planning: corporate and private aspects.

Please contact the Organizing Committee regarding the venue, displays (posters or exhibits) and registration, and the Program Committee about the agenda (topics, format, scheduling). Note: fees will be charged for exhibit space. All inquiries should be directed to the following address:

**1997 CCEA Conference**  
**c/o Forest Recreation & Heritage Branch**  
**Department of Natural Resources and Energy**  
**P.O. Box 6000**  
**Fredericton, New Brunswick, Canada**  
**E3B 5H1**  
**Ph: 506-453-2730 Fax: 453-6630**  
**<http://www.gov.nb.ca/dnre/ccea.htm>**  
**E-mail: [CCEA97@gov.nb.ca](mailto:CCEA97@gov.nb.ca)**

# Les zones protégées - Connaître le courant



## Conférence et réunion générale annuelles de 1997

Conseil canadien des  
aires écologiques



### ANNONCE DE CONFÉRENCE LES ZONES PROTÉGÉES -- CONNAÎTRE LE COURANT

Du 15 au 17 septembre 1997  
Sheraton Inn, Fredericton (N.-B.)  
(veuillez noter le changement de location)

#### INTRODUCTION:

La 16<sup>e</sup> Assemblée générale annuelle du Conseil canadien des aires écologiques (CCAÉ) se déroulera sous le thème « Les zones protégées -- Connaître le courant ». Elle se penchera sur le rapport entre les aires protégées, la conservation biologique et le développement durable, compte tenu de l'interdépendance qui existe entre la santé écologique et la santé économique. Le ministère des Ressources naturelles et de l'Énergie du Nouveau-Brunswick agit comme hôte de l'activité au nom du CCAÉ. Le CCAÉ est un organisme sans but lucratif national qui s'est engagé à établir un réseau d'aires écologiques afin de protéger la diversité terrestre et aquatique du Canada.

#### OBJECTIFS DE LA CONFÉRENCE:

Cette rencontre vise à susciter un examen du rôle écologique, culturel et économique des aires protégées dans le maintien de la biodiversité et l'encouragement d'un développement durable. Elle explorera les options qui s'offrent pour assurer que les politiques, les pratiques et les normes touchant la planification de l'utilisation des terres et la gestion des ressources naturelles protègent les valeurs de la biodiversité. On examinera ces points selon des perspectives théorique et opérationnelle, en s'attardant notamment sur :

- les tendances économiques mondiales (questions liées au marché);
- la conservation forestière et maritime (sciences/politique);
- la gestion des écosystèmes (théorie/pratique);
- les initiatives publiques et privées (partenariats);
- le rapprochement de valeurs multiples (planification intégrée).

Le programme s'articule autour de six questions qui seront posées aux conférenciers et aux participants.

- Quelle est la valeur de la biodiversité?
- La biodiversité découlant des pratiques actuelles d'utilisation des terres dans le Nord-Est comporte-t-elle des risques?
- Possédons-nous l'expertise voulue pour gérer les terres ou les paysages marins et maintenir la biodiversité indigène?
- Comment intégrons-nous les aires protégées avec la gestion des ressources et la planification de l'utilisation des terres?
- Qui veillera à intégrer les buts et les objectifs de la conservation biologique dans les politiques visant le développement durable?

#### STRUCTURE DE LA CONFÉRENCE:

La conférence comportera une journée d'exposés présentés par différents orateurs dont M. Michael Soulé, suivie d'une journée d'ateliers et d'exposés concomitants, qui se termineront par l'assemblée générale annuelle lors du troisième jour. Des excursions illustreront le thème de la conférence au moyen d'exemples de problèmes d'aménagement courants au Nouveau-Brunswick. Les participants recevront un itinéraire des excursions sans guide avec la documentation d'inscription, ou encore pourront se le procurer au poste des inscriptions pendant la conférence. **Veuillez consulter notre site Web pour obtenir les mises à jour au sujet de la conférence et les coûts pertinents.**

#### PARTICIPANTS:

La conférence s'adresse à quiconque s'intéresse au rôle des aires protégées dans la conservation biologique et à l'intégration de ces valeurs de conservation avec la planification de l'utilisation des terres et la gestion des ressources.

#### INTERVENTIONS:

Les interventions aborderont les sujets qui suivent, d'un point de vue terrestre ou maritime.

- I. Le rôle des aires protégées dans la conservation de la biodiversité : dimensions scientifiques et écologiques.
- II. Les coûts et les avantages des aires protégées : évaluation des services environnementaux.
- III. Les valeurs intangibles de la conservation : le respect des intérêts spirituels, moraux et esthétiques.
- IV. L'établissement d'un réseau d'aires protégées : considérations techniques et fonctionnelles.
- V. Les responsabilités des propriétaires fonciers en matière de planification de la conservation : dimensions relatives aux sociétés et aux intérêts privés.

Veuillez communiquer avec le comité organisateur pour plus de précisions au sujet du lieu ou du mode de présentation (affiches ou montages) d'inscription, et avec le comité du programme pour plus de détails au sujet du programme des activités (sujets, forme, programmation). Nota: Des droits seront perçus pour la superficie d'exposition occupée. Veuillez envoyer toutes vos questions à l'adresse suivante:

Conférence du CCAÉ de 1997  
a/s de la Direction des loisirs forestiers  
et du patrimoine

Ministère des Ressources naturelles et de l'Énergie  
C.P. 6000

Fredericton (Nouveau-Brunswick) CANADA E3B 5H1

Tél. : (506) 453-2730 Télécopieur : 453-6630  
<http://www.gov.nb.ca/dnre/ccea.htm>  
Courrier électronique: CCEA97@gov.nb.ca

**CANADIAN COUNCIL ON ECOLOGICAL AREAS: CONFERENCE AND ANNUAL GENERAL MEETING, SEPTEMBER 15-17, 1997**  
*Protected Areas and the Bottom Line*

**SEPTEMBER 14: PRE-CONFERENCE FIELD TRIPS AND EVENTS**

All Day	1. St. John River Valley (remnant, ecosystems/private stewardship)
	2. Southern NB: Fundy Coast (coastal ecology/multi-use issues)
	3. Northern NB: Highlands or alternate (TBA) (forest ecology/Crown land management)
<b>EVENING</b>	4. Opening Night Reception

**SEPTEMBER 15: CONFERENCE AGENDA (TENTATIVE)**

<b>A.M.</b>	5. Welcome and Introductions
	6. Biological Bottom Line
	7. Economic Implications of Protected Areas (benefits/costs)
	8. Social Implications of Protected Areas
<b>LUNCH</b>	9. Focus on NB "Vision"
<b>P.M.</b>	10. Planning for Biological Conservation
	11. Balancing the Ledger: Approaches to Biological Conservation
	12. PANEL
	13. Summary and Wrap-up
<b>BANQUET</b>	14. Welcome and Introductions
	15. Retrospective: Resource Management and Biological Conservation in NB
	16. Awards

**SEPTEMBER 16: CONCURRENT SESSIONS**

<b>A.M.</b>	17. Introductions/Concurrent Themes for AM
	18. Spiritual/Ethical Values of Bio-conservation and PAs
	19. Costs and Benefits of Protected Areas
	20. Implementing a Protected Areas System
	21. Landowner Views/Responsibility for PAs
	22. Biodiversity and the Role of Protected Areas
<b>LUNCH</b>	23. How To Do More With Less
<b>P.M.</b>	24. Innovative Partnerships
	25. Sharing Resources (ecodata)
	26. Public Input to Conservation Planning
	27. Conservation and Multiple-uses in PAs
	28. How to Identify Bio-conservation Priorities
	29. Addressing Intangible Values in Planning
	30. WRAP-UP: Prep. for Panellists/Presenters
	31. PANEL: Review of Conference Themes
	32. PUBLIC LECTURE

**SEPTEMBER 17: ANNUAL MEETING**

<b>A.M.</b>	33. AGM Introduction
	34. Tabling of Budget and Workplan
	35. Jurisdictional Reports
	36. Closing of CCEA '97
<b>P.M.</b>	37. CCEA Board Meeting

*eco* is the official newsletter of the Canadian Council on Ecological Areas. Its purposes are to keep others informed about the work of the CCEA and to develop a community of discourse in the field of conservation and environmental protection.

Information for the newsletter should be submitted to Canadian Plains Research Center, University of Regina, Regina, Saskatchewan, S4S 0A2. Tel: (306) 585-4795; Fax: (306) 585-4699; e-mail: canadian.plains@uregina.ca. Design and production by Canadian Plains Research Center, University of Regina.

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