

CPAWS' Wilderness Conservation Vision and Approach

The Canadian Parks and Wilderness Society (CPAWS) is Canada's pre-eminent, community-based voice for public wilderness protection. Since our founding in 1963, we have played a lead role in establishing over two-thirds of Canada's protected areas including such iconic provincial and national parks as Temagami, Nahanni and Kluane.

In 2005, CPAWS adopted a national conservation vision and plan to guide its work over the next decade.

CPAWS' vision:

That Canada will keep at least half of our public land and water forever wild for the public trust.

The rationale behind the vision:

Canada is the second largest and one of the most prosperous nations on earth. We are stewards of an estimated 20% of the world's last great wilderness which has long since vanished from other parts of the world like Europe, Asia and Africa.¹

Our wild forests, wetlands, mountains, rivers, lakes and oceans act as the lungs of the planet and a critical buffer against climate change. Our country is home to a significant amount of the world's unfrozen fresh water.² In short, we are responsible for safeguarding some of the most critical remaining ecosystems that support all life on earth.

But our wilderness remains by default rather than design. As human industrial development spreads faster and further north than ever before, we stand at a great crossroads. It is on OUR WATCH that decisions will be made about whether our wilderness will disappear, or whether we will protect it for generations to come.

"At least half"

CPAWS' aspirational vision of protecting at least half of Canada's public lands and waters is designed to set a new paradigm for "thinking big" in order to protect the vital ecosystem services and other benefits they provide. By setting a target of "at least half", given Canada's relative size, we are setting the most ambitious target in the world for large landscape wilderness conservation.

Conservation biologists have concluded that percentage targets set in the last century for protecting wilderness - for example the commonly cited 12% goal that emerged during the 1990s "Endangered Spaces" campaign -- are not high enough to secure a system of protected areas that will conserve resilient, fully functioning ecosystems, especially in the face of massive global stresses such as climate change.

More than 1,500 international scientists have called on Canada to protect at least half of our Boreal forest - which covers over 60% of our land mass.³

CPAWS' vision is informed by the research of Noss and Cooperrider and other leading conservation biologists. They have defined the following as critical elements for protecting native biodiversity:⁴

¹ Sanderson, E. W., M. Jaiteh, et al. (2002). "The human footprint and the last of the wild." *BioScience* 52(10): 891-904.

² According to Schindler, globally, boreal lakes are estimated to contain as much as 80% of the world's unfrozen freshwater supply. Schindler, D. W. (1998). "A dim future for boreal waters and landscapes." *BioScience* 48(3): 157-164.

³ <http://www.borealbirds.org/scienceletter.shtml>

⁴ Noss, R.F. and Cooperrider, A.Y. (1994) "Saving Nature's Legacy: Protecting and Restoring Biodiversity". Island Press.

1. Represent all native ecosystem types in a system of protected areas
2. Maintain viable populations of all native species in natural patterns of abundance and distribution;
3. Maintain ecological and evolutionary processes;
4. Manage landscapes and communities to be responsive to short-term and long-term environmental change.

To achieve this, they have concluded that:

“At all scales, the key to making land conservation effective is to expand our thinking in space, time and ambition – that is to think big.”

CPAWS has taken this instruction to heart and embodied it in our vision of protecting “at least half” of Canada’s public land and water”. Our goal in articulating this vision is to both establish Canada as the world leader in nature conservation, and to make a hugely significant contribution to the planet’s future health.

“For the public trust”

Unlike many other countries in the world, Canada’s landscapes and seascapes are largely within the public domain. More than 95% of our lands and all of our waters are publicly owned. These “Crown” lands and waters are held by various federal, provincial and territorial governments *in trust* for the aboriginal peoples of Canada and the Canadian public.⁵ As a result, our public lands and waters should be managed in a manner that conserves opportunities for reconciliation with aboriginal peoples and future generations of the Canadian public and in a manner that reflects the Canadian public’s priority for conservation of environmental values.⁶ Given the priority and frequent coincidence of conservation as both an aboriginal and a public value, setting a goal of conserving at least half of public lands and waters for public purposes is fair and reasonable.

CPAWS has chosen to focus its efforts on protecting public lands and waters because this is Canada’s best opportunity to conserve large landscapes and seascapes with resilient, fully functioning ecosystems.

“Forever wild”

By “forever wild” we mean “a specifically delineated area designated and managed to achieve the conservation of nature and the maintenance of associated ecosystem services and cultural values through legal or other effective means, where industrial activity is not allowed”.⁷ To remain forever wild, lands and waters must exclude industrial activities.

Scientific research regarding a national conservation goal

⁵ Hunt, C. D. (1981). The public trust doctrine in Canada. *Environmental Rights in Canada*. J. Swaigen. Toronto, ON, Butterworths.

⁶ Nadeau et al (2007) Public views on forest management in New Brunswick; Bath, A.J. 2006. *Attitude and knowledge study of Newfoundland residents on understanding forest management issues on the island portion of the province of Newfoundland and Labrador*. Newfoundland and Labrador Department of Natural Resources, St. John’s, NL. 29 p.; Robinson, D., Hawley, A., and Robson, M. 1997. *Social valuation of the McGregor Model Forest: assessing Canadian public opinion on forest values and forest management. Results from the 1996 Canadian forest survey*. Mc Gregor Model Forest, Prince George, BC. 177 p.; Kennedy, E., Beckley, T.M., Mcfarlane, B.L., and Nadeau, S. 2007. Rural–urban differences in environmentally significant behavior, attitudes, beliefs, and values. *Rural Sociology*: submitted., Ontario Forest Research Institute. 1995. *Vegetation management in Ontario’s forests: survey research of public and professional perspectives*. Vegetation Management Alternative Program, Ministry of Natural Resources, Sault St. Marie, ON. 70 p.

⁷ Forthcoming IUCN definition of “protection”, presented at the Almeria Categories Summit, 2007

There is an array of science-based estimates of appropriate targets for protected areas networks in both the terrestrial and marine contexts (Table 1). This science, despite the variance found within it, recommends a much more ambitious goal than the current 12% government-mandated “norm” for terrestrial conservation. Science tells us that Canada’s widely-accepted target of protecting 12% of our land base is insufficient to secure fully functioning ecosystems, particularly in the face of mounting threats from climate change and other land use pressures.⁸ Indeed, the science suggests that a goal of protecting at least half of Canada’s public lands and waters is justified and may well be a minimum, rather than the maximum that we should be striving to achieve within the next decade (See, for instance, Price and others (2007)).

The reason for adopting a goal of protecting at least half of Canada’s lands and waters is tactical - to motivate conservation gains. Past experience shows that the best science, in isolation from the sort of effective public engagement that an aspirational vision can generate, has not lead to adequate conservation outcomes.⁹

Our approach:

Creating large-scale protected areas linked into networks

“For close to a hundred years after Canada’s first national park was established at Banff in 1885, most people assumed that protected areas were safe for all time from the advancing tide of human development.”¹⁰ Today, scientific study concludes that protecting “ecological islands” that are disconnected from other areas of protected natural habitat is inadequate to protect Canada’s wilderness in the long term. To maintain healthy functioning ecosystems in perpetuity, large protected areas must be connected together in landscape or seascape-scale networks to protect species and ecosystems, especially as they shift in response to a changing climate.¹¹

It is for this reason that CPAWS has evolved from focusing on completion of “representative” national and provincial parks systems to a more ambitious conservation agenda of protecting large-scale interconnected wilderness ecosystems.¹²

Collaboration and advocacy

CPAWS works collaboratively with a wide range of other entities to achieve new protected wilderness area designations. Supported by over 50 dedicated staff and hundreds of volunteers among our 13 chapters across Canada and a national office in Ottawa, we engage with governments, First Nations, local communities, progressive industries and other environmental organizations on a regular basis to negotiate “wins” for conservation.

Our collaborations range from working with local communities, First Nations and governments in a given area to achieve a specific protected area designation, to being an active member of national coalitions such

⁸ Soulé, M. E. and M. A. Sanjayan (1998). "Conservation targets: Do they help?" *Science* **279**: 2060-2061, Svancara, L. K., R. Brannon, et al. (2005). "Policy-driven versus evidence-based conservation: A review of political targets and biological needs." *BioScience* **55**(11): 989-995.

⁹ Robinson, J. G. (2006). "Conservation biology and real-world conservation." *Conservation Biology* **20**(3): 658-669.

¹⁰ Parks Canada Agency (2000) "Unimpaired for Future Generations? Protecting Ecological Integrity with Canada’s National Parks. Volume II, "Setting a New Direction for Canada’s National Parks." Report of the Panel on the Ecological Integrity of Canada’s National Parks. Ottawa, ON

¹¹ See for example, Parmesan, C. (2006). "Ecological and evolutionary responses to recent climate change." *Annual Review of Ecology, Evolution, and Systematics* **37**(1): 637-669.

¹² By “representative” protected areas, we are referring to the protection of “islands” within ecosystems that represent their diversity of life.

as the “Green Budget Coalition” with other national ENGOs to advocate for federal spending on strategic wilderness conservation programs (such as national parks and marine protected areas).

We are also founders and active participants in most of Canada’s large landscape-scale “umbrella” conservation organizations -- including the Canadian Boreal Initiative, the Yellowstone to Yukon Initiative, Two Countries One Forest, and Sea Choice.

In some cases, particularly in eastern Canada, we work with private landowners as well as governments and industry on land use plans to maximize nature conservation outcomes.

Engaging the public

CPAWS believes that public support is a critical element in protecting Canada’s wilderness. Our membership and regular contact list consists of approximately 40,000 people. In 2008, we are joining with Mountain Equipment Co-op to launch The Big Wild, Canada’s Wilderness Protection Movement, to extend public engagement in the cause of wilderness conservation beyond our current contact base.

Our Priorities:

CPAWS has chosen to prioritize its conservation work in the geographic regions of Canada where it has the most experience and expertise, and where there remain opportunities for large-scale wilderness protection gains. The areas of CPAWS’ concentration are: Canada’s Boreal, the Yellowstone-to-Yukon corridor, the Eastern Woodlands and our oceans and great freshwater lakes. There are other important large-scale wilderness conservation opportunities in Canada, such as the high Arctic where CPAWS does not have “bench strength” at this point in time.

We also give priority to protecting the long term ecological integrity of Canada’s existing parks network. This latter is essential because while Canada has world-leading national parks standards for protecting ecosystems, we need to remain vigilant in ensuring that they endure. And in many provinces, the standards for managing parks are not as strong, creating real dangers to their long-term ecological health.

Tracking towards our vision

The current state (2008)

The most recent Government of Canada statistics (2005) indicate that just under 10 % (98 million ha) of Canada’s lands and less than 1% (3.3 million ha) of our waters (marine areas and great freshwater lakes) have been set aside in protected areas.¹³

Over 95% of Canada’s land is in the public domain. All of our marine areas and great freshwater lakes (100%) are in the public domain.

The required steps

Protecting public lands and waters in Canada requires that **governments** (including First Nations) legislate that no industrial activity occurs on them, or that in the case of public lands leased to industries (such as forestry tenures or oil and gas exploration leases), **private companies** agree to set aside lands from any industrial activities including harvesting or exploration. Government protected areas can include parks and other forms of conservation designations that are protected from industrial development.

¹³ Government of Canada (2006). Canadian Protected Areas Status Report, 2000-2005.

Of the 9.9% of Canadian land identified as protected, 8.6% is in permanent protected areas and 1.3% has interim protection)

Where there is clear public support for new protected areas, we have seen results. A recent example has been the success in convincing the federal government in 2007 to protect the NWT's South Nahanni watershed following a multi-year campaign led by CPAWS and supported by MEC to engage Canadians in pressuring for the Nahanni's protection.

Another example has been CPAWS- Manitoba chapter's success in 2007 in convincing Tembec, a forestry company, to set aside 26,000 hectares of Boreal forest in Manitoba from harvesting because of its value as woodland caribou habitat.

How long will it take to protect at least half of Canada's public lands and waters?

This is an aspirational vision, and it will take at least a decade to make major progress towards it. Across Canada, CPAWS is involved in more than 30 conservation campaigns that we expect will increase the amount of Canada's protected wilderness (lands and waters) within the next three years by at least two per cent. Given the size of Canada, and the fact that less than 10% of our landscape is currently protected, this will be a significant step in the right direction.

Table 1 – Bigger is better: A selection of identified science-based targets for the optimal extent of protected areas networks

Science-based targets	Nature of the study	Description	Source
>60%	Review of literature on extent of protection necessary to conserve ecological integrity (N=20)	<p>“Based on currently available, published, landscape-level, empirical studies, we conclude that certainty is high that maintaining representative habitats at 60% or more of total habitat will maintain ecological integrity because only a few studies found abundance thresholds at habitat levels above 60%. The science suggests that:</p> <ul style="list-style-type: none"> • Maintaining habitat at greater than 60% of total habitat therefore equates to low risk (i.e. a high probability that ecological integrity will be maintained)” (16). 	Price et al (2007)
>50%	Review of extent of protection prescribed, policy-based and science-based, in conservation assessments (N=24)	<p>“The frequency distribution of percentage estimates is bimodal (Figure 1). Estimates in the lower range generally reflect less ambitious goals, such as the representation of a single occurrence of an element within a region, whereas the upper range reflects broader conservation goals. The median lies above 50%, even though large-scale ecological processes and uncertainty have not been considered, except qualitatively in some cases. Clearly, targets necessary to meet conservation objectives far exceed levels considered in most politically-determined conservation plans” (2).</p>	Schmiegelow et al (2006)
50-70%	Review of science-based protected areas planning tools	<p>“The conservation areas designed to achieve these targets and to promote the persistence of biodiversity processes often cover very large percentages of regions (50% to 70%) and present substantial challenges for implementation” (131).</p>	Sarkar et al (2006)
1-99%	Simulation of the amount of habitat required to avoid population extinction	<p>“An important prediction from these simulations is that there is no common threshold value across species (see also Lande, 1987; With and King, 1999). Thresholds ranged from less than 1% habitat to over 99% habitat, depending on the parameter values” (70).</p>	Fahrig (2001)
32-60%	Nova Scotia	<p>“Collectively, these biodiversity considerations indicate that ~60% of Nova Scotia, including 32% in core areas, should be managed for conservation objectives to maintain genes, species, and ecosystems over time”</p>	Beazley et al (2005)

Science-based targets	Nature of the study	Description	Source
50%	Protecting marine ecosystem processes	"In 2003, the world parks congress, an intergovernmental body that meets once a decade to set the agenda for protected areas, recommended that at least 20 to 30 percent of all ocean habitats be included in a network of marine reserves. Others have called for an even more precautionary approach, suggesting that up to 50 percent of the sea should be protected to conserve viable marine populations, support fisheries management, secure ecosystem processes, and assure sufficient ecological connectivity"	Allsopp et al (2007)
20-30%	Protecting marine biodiversity	"Most recent studies indicate that at least 20-30% of each habitat type should be included in highly protected areas in order to ensure fisheries benefits (e.g. Bohnsack <i>et al.</i> , 2003; Roberts <i>et al.</i> , 2002; Botsford and Gaines, 2001; Lindholm <i>et al.</i> , 2000; Bohnsack, 2000). Although there is no clear agreement on how much habitat should be protected in order to preserve biodiversity (Cabeza and Moilanen, 2001 and Sala <i>et al.</i> , 2002), the 20-30% figure might provide a good starting point within the context of adaptive management, provided that it is applied as part of an overall framework for management of marine and coastal biodiversity, as discussed in section 1 of this paper. It should be noted, though, that each area and situation is unique, and that there is no one-size-fits-all solution for the percentage of area that should be set aside in highly protected areas (Agardy <i>et al.</i> , 2003)" (55).	Vierros (2004)
>20-30%	Review of the extent of protection needed to preserve marine biodiversity and strengthen the resilience of marine ecosystems in the face of climate change impacts	"...at least 20–30 per cent of the area of marine ecosystems should be designated for inclusion in an ecologically representative and effectively managed system of protected areas" (21).	Schubert et al (2006)
20-30%	International guidance for the establishment of	"The best available scientific information tells us that, to protect biodiversity and manage resources, we must establish representative	IUCN (2007)

Science-based targets	Nature of the study	Description	Source
	Marine Protected Areas networks	MPA networks across 20 to 30 percent of our seas and oceans" (3).	

Sources

- Agardy, T., P. Bridgewater, et al. (2003). "Dangerous targets? Unresolved issues and ideological clashes around marine protected areas." *Aquatic Conservation: Marine and Freshwater Ecosystems* 13(4): 353-367.
- Allsopp, M., R. Page, et al. (2007). *Oceans in peril - Protecting marine biodiversity*. Washington, DC, Worldwatch Institute: 56 pp.
- Beazley, K., L. Smandych, et al. (2005). "Biodiversity considerations in conservation system planning: Map-based approach for Nova Scotia, Canada." *Ecological Applications* 15(6): 2192-2208.
- CPAWS (2005). *Canadian Parks and Wilderness Society - Conservation plan (2006-2015)*. Ottawa, ON, Canadian Parks and Wilderness Society (CPAWS): 39 pp.
- Fahrig, L. (2001). "How much habitat is enough?" *Biological Conservation* 100(1): 65-74.
- Hunt, C. D. (1981). *The public trust doctrine in Canada*. *Environmental Rights in Canada*. J. Swaigen. Toronto, ON, Butterworths.
- Noss, R. F. and A. Y. Cooperrider (1994). *Saving nature's legacy : protecting and restoring biodiversity*. Washington, D.C., Island Press.
- Price, K., R. Holt, et al. (2007). *Representative forest targets: Informing threshold refinement with science*. Vancouver, BC, Raincoast Solutions Project and Coast Forest Conservation Initiative: 55 pp.
- Robinson, J. G. (2006). "Conservation biology and real-world conservation." *Conservation Biology* 20(3): 658-669.
- Sarkar, S., R. L. Pressey, et al. (2006). "Biodiversity conservation planning tools: Present status and challenges for the future." *Annual Review of Environment and Resources* 31: 123-159.
- Schmeigelow, F., S. Cumming, et al. (2006). *Conservation beyond crisis management: A conservation-matrix model. A discussion paper for the Canadian BEACONS project*. Edmonton, AB, University of Alberta, BEACONS Project: 7 pp.
- Schubert, R., H.-J. Schellnhuber, et al. (2006). *The future oceans - Warming up, rising high, turning sour. Special Report*. Berlin, Germany, German Advisory Council on Global Change (WBGU): 123 pp.
- Soulé, M. E. and M. A. Sanjayan (1998). "Conservation targets: Do they help?" *Science* 279: 2060-2061.
- Svancara, L. K., R. Brannon, et al. (2005). "Policy-driven versus evidence-based conservation: A review of political targets and biological needs." *BioScience* 55(11): 989-995.
- Vierros, M. (2004). *Some considerations on marine and coastal protected areas network design. Biodiversity issues for consideration in the planning, establishment and management of protected areas sites and networks*. SCBD. Montreal, QC, Secretariat of the Convnetion on Biological Diversity (SCBD): pp. 52-57.
- WCPA/IUCN (2007). *Establishing networks of marine protected areas - A guide for developing national and regional capacity for building MPA networks. Non-technical summary report*. Gland, Switzerland, IUCN: 16 pp.
- Wiersma, Y. (2007). "The effect of target extent on the location of optimal protected areas networks in Canada." *Landscape Ecology* 22(10): 1477-1487.