

December 2008 • Vol. 16, No. 6

AWA



# A WILD LANDS ADVOCATE

THE ALBERTA WILDERNESS ASSOCIATION JOURNAL



*Cardinal River, Foothills Natural Region* PHOTO: C. OLSON

LEOPOLD REVISITED – WILDERNESS AS A LAND USE / 4

THE LONG ROAD TO WILDLIFE RECOVERY IN ALBERTA / 10

HUNTING FOR CLARITY – DEFINITIONS AND USES OF “TRADITIONAL USE” / 13

CHRONIC WASTING DISEASE POISED TO CROSS SPECIES BARRIER / 23

# CONTENTS

DECEMBER 2008 • VOL. 16, NO. 6

## FEATURES

- 4 LEOPOLD REVISITED – WILDERNESS AS A LAND USE
- 7 WILDERNESS AND CREATIVITY – REFLECTIONS FROM THE WHALEBACK
- 8 A CRITICAL LOOK AT THRESHOLDS – DEFINING ACCEPTABLE CHANGE ON ALBERTA LANDS
- 10 THE LONG ROAD TO WILDLIFE RECOVERY IN ALBERTA
- 12 HUNTING FOR CLARITY – DEFINITIONS AND USES OF “TRADITIONAL USE”
- 14 HEADWATERS POLICY WORKSHOP HELPS IN MANAGING THE COMMONS

## WILDERNESS WATCH

- 16 UPDATES
- 18 ALBERTANS’ CRY SAVES WOLVES
- 19 BIGHORN RESEARCH HIGHLIGHTS RECREATIONAL CONCERNS
- 21 CHRONIC WASTING DISEASE POISED TO CROSS SPECIES BARRIER
- 23 EXPECT THE UNEXPECTED – MULTIPLE HUMAN STRESSORS OF ALBERTA’S MOUNTAIN LAKES
- 25 CAMELOT IN THE ROCKIES – SAVING SOUTHERN ALBERTA’S BEST-KEPT SECRET

## DEPARTMENTS

- 27 LETTERS
- 29 FEDERATION OF ALBERTA NATURALISTS
- 30 INSPIRATION THROUGH ANIMATION – THE YOUTH ANIMATION PROJECT
- 31 ASSOCIATION NEWS & EVENTS

## COVER PHOTO

Christyann Olson’s photo of the Cardinal River depicts a scene typical of the Foothills Natural Region: clear mountain water and rolling hills, with the front range of the Rockies in the distance. Unfortunately, this natural region is gravely under-represented in the Alberta protected areas network. While at least 12 percent protection is recommended to maintain healthy ecosystems, less than 1.4 percent of Alberta’s foothills is protected. One reason for this may be its resource wealth: thick forests, rich coal, and abundant petroleum.

## FEATURED ARTIST

Born and raised near Beaverlodge, Alberta, Robert Guest has spent many summers on isolated fire lookouts, where he sketches and paints *en plein air*. He is a charter member of the Alberta Foundation for the Arts and has taught design and art history at Grande Prairie Regional College. He was also involved in founding the Prairie Art Gallery in Grande Prairie, the Peace Watercolour Society, and the Grande Cache Watercolour Society. In 1995 he completed his first book, *Trail North*, a survey of the historic Hinton Trail together with a collection of 74 paintings. His work is represented in public and private collections in Canada and abroad, including the collection of Her Majesty, the Queen.

AWA respects the privacy of members. Lists are not sold or traded in any manner. AWA is a federally registered charity and functions through member and donor support. Tax-deductible donations may be made to AWA at Box 6398 Station D, Calgary, AB T2P 2E1. Ph: (403) 283-2025 Fax: (403) 270-2743 E-mail: awa@shaw.ca www.AlbertaWilderness.ca

**Editor:**  
Joyce Hildebrand

**Editorial Advisory Board:**  
Pam Asheton, Julie Black, Sarah Crook,  
Andy Marshall, Sharon McIntyre

**Graphic Design:**  
Ball Creative

**Printing:**  
Colour printing and process is sponsored  
by Topline Printing



## ALBERTA WILDERNESS ASSOCIATION

*“Defending Wild Alberta through Awareness and Action”*

Alberta Wilderness Association is a charitable non-government organization dedicated to the completion of a protected areas network and the conservation of wilderness throughout the province. To support our work with a tax-deductible donation, call (403) 283-2025 or contribute online at AlbertaWilderness.ca.

*Wild Lands Advocate* is published bi-monthly, 6 times a year, by Alberta Wilderness Association. The opinions expressed by the authors in this publication are not necessarily those of AWA. The editor reserves the right to edit, reject or withdraw articles and letters submitted.

**Please direct questions and comments to:**

Joyce Hildebrand  
(403) 283-2025 • awa.jh@shaw.ca

Subscriptions to the *WLA* are \$30 per year. To subscribe, call (403) 283-2025 or see AlbertaWilderness.ca.



## ALBERTA WILDERNESS ASSOCIATION

Box 6398, Station D,  
Calgary, Alberta T2P 2E1  
(403) 283-2025

Toll-free 1-866-313-0713  
www.AlbertaWilderness.ca  
awa@shaw.ca





PHOTO: N. DOUGLAS

## WILDERNESS FOR TOMORROW

---

As we close this year and look forward to 2009, we have not achieved our vision, much less our greatest goal – protection for critical wild spaces – yet we are encouraged with the progress we have collectively made. We have struggled with threats, broken promises, and wanton disregard for wild places and beings, as humans race to harness the last vestiges of nature. We remain encouraged as our members and supporters continue to be steadfast, helping us remember the value of smaller goals achieved along the road to the ultimate goal of a province-wide system of large, connected protected areas. We know that hope lies in the deeds of solitary individuals who build for all.

For the past four decades, we have stayed true to our roots, constantly taking stands for what we believe in. Archimedes said, “Give me a place to stand ... and I will move the world.” AWA knows the importance of taking a stand. We also know how rewarding it is. We know the power of the people, of solitary individuals and grassroots revolutions, and we know we can move the world.

Taking a stand means that despite difficult and discouraging realities, we choose to keep on trying, to believe things can change, and we keep the vision of our wilderness legacy clearly in our minds. This year we asked you to show the power of the people on a number of occasions. None of those times was more vital and significant than the call to demand that wolves be protected. The research into predator-prey relationships that would see wolves killed and sterilized to reduce the stress on their intended prey was terminated, and it was because we took a stand. People like you made the difference, and the world was moved.

This year, after years of tenacious work and taking a firm stand, we celebrated the dedication of Hay-Zama Lakes Wildland Park. Together, representatives of the Dene Thá First Nation, the Alberta government, and Dalai Lake National Nature Reserve in Inner Mongolia twinned the two Ramsar sites. In April, indigenous leaders from the Peruvian Amazon met with us when they came to Calgary to tell two oil companies that they oppose drilling in their tropical rainforest homelands. The delegation, representing the Achuar people of northeastern Peru, took weeks to make their way from their remote village. We can only begin to imagine the courage it took for these people to take a stand, travelling thousands of miles and telling company executives that their plans for exploration were not acceptable to the Achuar people.

Through AWA’s 43 years, many have taken a stand and made it possible for us to celebrate our achievements and to find the resolve to carry on. As you read this issue of the *Wild Lands Advocate*, you will learn about our current challenges and the outstanding people who are the staff and volunteers of AWA. As we welcome 2009, we will continue to take a stand and defend Wild Alberta.

I’m inviting you to take a stand and help AWA. The back cover shows some of the ways you can make a difference. We are well recognized for the work we achieve with so few resources, and your gift will help us continue with financial security. We have the best team of staff, board members, volunteers, and members that an organization could want. I truly believe you couldn’t possibly make a better investment to secure wilderness for tomorrow. I look forward to hearing from you.

*Christyann*

– Christyann Olson, Executive Director



## LEOPOLD REVISITED – WILDERNESS AS A LAND USE

*By Joyce Hildebrand, AWA Conservation Specialist*

British scientist Richard Dawkins tells the story of his six-year-old enjoying the wildflowers during a country drive. When he asked her what she thought the flowers were for, she replied, “Two things. To make the world pretty, and to help the bees make honey for us.”

A thoughtful answer from a child, but an answer that belies the human-centred view of the universe that still dominates our culture, a stance referred to as “anthropocentrism.” Trees exist to build our homes, gas to heat them. Soil is there to grow crops, water to irrigate them. As noted by environmental philosopher J. Baird Callicott, even the common term “natural resources” implies that nature is “a self renewing larder, existing for our consumption” (“Contemporary Criticisms of the Received Wilderness Idea,” 2000).

With some regret, Dawkins told his daughter that she was mistaken. If pressed, most of us would likely agree. It took about 17 billion years for the universe to produce *Homo sapiens*, who appeared some 400,000 years ago, and for more than four and a half billion years our planet got along without humans! It is surely time for us to let go of the illusion that the universe was just setting the stage for all those millennia, waiting for the star species to appear; it’s time to step out of the centre and acknowledge that we are one species among many, all using the same planet. The difference in our species is that we can make conscious decisions, as individuals and as a society, about how we use the planet, and we can plan that use in advance. As Canadian ethicist Margaret Sommerville says, “We are unique in that we have two roles with respect to nature: we are both an integral part of it and, because we alone have the power to destroy it, we must be its protector” (2006 CBC Massey Lectures).

Alberta’s Land-Use Framework and the Water for Life initiative may be indicators that we are finally thinking of using our planning ability. While



*Alberta’s native grasslands are dotted with evidence of centuries-old human use, as indicated by this tipi circle in the Suffield National Wildlife Area. PHOTO: D. OLSON*

this may not represent a shift from anthropocentrism to biocentrism, and while past cycles of land-use planning have failed to produce the network of protected areas needed to ensure species biodiversity, so far in the process, there is reason for cautious hope.

With this in mind, it may be time to revisit Aldo Leopold’s idea of “Wilderness as a Form of Land Use.” In his 1925 essay of that name, Leopold argues that wilderness should be preserved because it is useful to humans: “wilderness is a resource, not only in the physical sense of the raw materials it contains, but also in the sense of a distinctive environment which may, if rightly used, yield certain social values.”

My own first exposure to the idea of wilderness as land use came only a year or so ago as I listened to Dr. Brad Stelfox’s presentation on land use in Alberta. To my surprise, Stelfox listed “protected areas” as a land use, along with agriculture, urban development, transportation, forestry, oil and gas, and so on. Protected areas, a land use? I’d always thought of wilderness protection as representing a lack of human use, as articulated in the U.S. Wilderness Act

of 1964: “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.” It struck me as anthropocentric to think of protecting land exclusively for human use.

But perhaps that 45-year-old idea of wilderness is as outdated as the language used to express it. In the interest of conservation, the concept of “using” wild places may be worth exploring and updating. Whether we think of wilderness as our playground, a scenic backdrop for our adventures, our source of income, even our cathedral of worship, we may as well admit that our attitude toward it is more often than not utilitarian. And since relatively few people use wilderness directly, the support for its protection tends to be weak compared to support for activities such as resource extraction that lead to its loss in exchange for economic gain.

One example among many occurred in October during the hearing into EnCana’s application to drill 1,275 wells and build 220 km of pipeline in the federally protected Suffield National Wildlife Area in southeastern Alberta. Underlying much of the testimony at



the hearing was the unspoken question “What is the value of wilderness?” EnCana repeatedly emphasized that the gas under the wildlife refuge would heat 80,000 Canadian homes for a decade. Both the environmental coalition and Environment Canada argued that the integrity of this remnant of North America’s endangered grasslands, home for numerous species at risk, must not be compromised.

Environment versus economy. Wilderness conservation versus human comfort, even survival. How do we as conservationists, most of whom heat our homes with gas, respond to EnCana’s statement? In a time of economic uncertainty such as we now face, how can we advocate for the survival of the endangered burrowing owl and Ord’s kangaroo rat when it’s presented as a them-or-us choice?

We could argue that wilderness has inherent value independent of human use; that the rights of nature should be enshrined in our constitution, as they are in Ecuador’s new bill of rights for nature: “Nature ... has the right to exist, persist, maintain and regenerate its vital cycles, structure, functions and its processes in evolution.” I hope I’m wrong, but I suspect most Canadians, particularly Albertans, aren’t there yet.

Or we could argue that grassland ecosystems – with their complex interactions of soils, fungi, mosses, lichens, grasses, insects, birds, and mammals – are beautiful and that beauty must be protected for the benefit of future human generations, as are magnificent cathedrals or famous masterpieces. But some Albertans may see gas wells, pipelines, roads, and fields of invasive smooth brome as beautiful. Arguments based on aesthetics may convince a few, but they probably won’t change our land-use priorities.

Perhaps some would be convinced by the argument that it is unethical to destroy what is left of the natural world for our own gain and that there are still many other options open to us. Maybe someday we’ll be desperate enough to degrade, domesticate, and eliminate the few wild places that remain in order to squeeze out every drop of gas, but we’re not there yet, and with political will and engaged citizens, we could avoid that situation.

All of these defences of wilderness

have merit, but maybe the argument with the most traction at this point in Alberta’s history is that wild places are useful to humans. Notwithstanding industry’s faith in reclamation, few would argue with Leopold’s claim that wilderness is a non-reproducible resource, that it can’t be built at will, “like a city park or a tennis court.” Large, wild, roadless areas should therefore be conserved because they bring benefits to humans and because once they’re destroyed, they’re gone for good, at least within the time frame most of us can conceive of.

But what exactly are the benefits of wilderness to humans? Historically, as articulated in Leopold’s essay, its usefulness has been seen mostly in terms of recreation or spirituality. This is in part true even today. In BBC’s recent *Planet Earth* series, Anglican Archbishop Rowan Williams cites wilderness as useful because it provides us with a sense of transcendence. Margaret Sommerville agrees: “Contact with the natural allows us to appreciate that as humans we are part of a much larger order of being.”

These uses are valid and important, but as Callicott writes, “Wilderness areas have a higher calling in these desperate days.” As wilderness is disappearing around the globe, even in the world’s vast oceans, we are becoming increasingly aware of the web of life upon which our own lives are based, of our utter dependence on the ecological services of the earth’s ecosystems. We are coming face to face with the increasing “ecological debt” that we continue to

incur, with global shortages of everything from food to fresh water to clean air. Large wilderness areas function to sequester carbon dioxide; store, purify, and filter water; and provide habitat for a variety of flora and fauna, all of which interact in ways that sustain these areas as wilderness.

We can no longer pretend that wilderness is useful only to those who scale its peaks or paddle its rivers. It is essential for our very survival. While we may be reluctant to use writer Chris Wood’s metaphor of humans as parasites on the earth, “clearly we have to stop destroying our host; saving as many of Earth’s functioning biological factories as possible is a good place to start” (*The Walrus*, October/November 2008).

Much has changed in Alberta since Leopold’s day. Stelfox predicts that in this province, “human populations, and the footprints associated with the energy sector and transportation will increase by at least three-fold by the year 2100,” and he lists the numerous services we are asking the landscape to provide: “biological and physical services, production of water, biotic carbon, hydrocarbon, wood, agricultural resources, aesthetic appeal, and homes and infrastructure for people.” Equating economic growth with progress has brought us overpopulation and overconsumption, along with massive increases in resource extraction activities, urban (and rural) development and sprawl, agriculture, and recreation. The result has been loss of wilderness,



*The calm waters of McClelland Lake north of Fort McMurray provide humans with opportunities for spiritual renewal and enjoyment, but they also supply ecosystem services such as water filtration and storage.* PHOTO: C. WEARMOUTH



*"Indian Graves near Grande Cache, Moonlight" 16x20 inches, acrylic ©R. GUEST*

wildlife, and biodiversity.

Finally North American society is picking up Leopold's thread, but with a twist. Increasingly, science is confirming what some cultures have known for millennia: that all human uses of the land are ultimately dependent on maintaining a certain level of biodiversity – the assemblages of and interactions among thousands of the earth's species – to prevent total collapse of the earth's systems. The problem is, we don't know where the tipping point will be. But we do know that protecting wilderness helps maintain that biodiversity, while also providing ecological benchmarks for comparison with similar areas where human activity is occurring, offering opportunities for research of natural ecosystem components and processes, and providing for economic activities, recreation, and spiritual and emotional nourishment.

As Albertans move into a new planning mode with the Land-Use Framework, it is essential that wilderness conservation be a priority land use, not an afterthought trailing behind development. In the past, many protected areas were chosen for their recreational or scenic values, leaving us with isolated, unconnected islands surrounded by human development. We now know that many non-human species need more than this: without a connected network of wild spaces large enough to support significant

populations of a variety of species, they are doomed to extirpation and extinction. And as keystone species such as grizzly bear diminish, ecosystem functions are disrupted and other species eventually go down with them. Surely John Muir, born in 1838, was ahead of his time when he wrote those well-known words: "When we try to pick out anything by itself, we find it hitched to everything else in the Universe." And humans are part of that hitching, part of "everything else."

It's important to note that certain human activities in wilderness areas are compatible with protecting biodiversity. We have the tools and knowledge to determine what is an acceptable human presence in areas set aside with the priority of conserving biodiversity. While petroleum development in endangered landscapes like Rumsey and Suffield most certainly is not acceptable, that does not mean that economic health, and even growth, in some areas, particularly less urban areas, must suffer because of conservation. In fact, the opposite may be true.

In Alberta, many small communities could capitalize on their proximity to wilderness areas that are still relatively undisturbed. Communities such as Lac La Biche, Fort McMurray, and Drumheller could expand their roles as "gateways" for human activities compatible with maintaining the wilderness values of areas like Lakeland, McClelland Lake

watershed, and the South Saskatchewan River valley. If truly protected, these areas could be used in perpetuity to attract people looking for liveable places with the "amenities" afforded by well-protected wilderness.

Eighty-three years ago, Leopold wrote: "To preserve any land in a wild condition is, of course, a reversal of economic tendency, but that fact alone should not condemn the proposal." Good land use is a matter of "wise adjustment between opposing tendencies." But even the conflict between conservation and economic growth is now being challenged, as ecological economics gains a foothold, calling for full-cost accounting and the placing of economic values on wilderness and its services.

While many do not have the privileges that allow them to directly experience wild spaces, or choose not to, wilderness is still a "public good," necessary for the well-being of humans and non-humans alike. We must, therefore, adequately justify our interventions in those places. In Margaret Somerville's words, "Nature and the natural deserve respect from an anthropocentric perspective. Harm to them can harm important aspects of human life." But she hastens to add: "I want to emphasize that nature and the natural deserve respect in their own right, not just because they are of benefit to us."

The Government of Alberta appears to be recognizing that good stewardship of the province's land and water is essential for human well-being, although words have yet to translate into action. In a talk at the Alberta Association, Canadian Institute of Planners conference in October, Ted Morton, Minister of Alberta Sustainable Resource Development, referred to the Stelmach government's preoccupation with CO<sub>2</sub> emissions. "The most immediate and tangible impact of both population growth and industrial development is not on CO<sub>2</sub>," he said, "but on land and water that Albertans live on and drink on a day to day, week to week basis."

It's up to us to hold Minister Morton, and the rest of our representatives in government, accountable to those words and to insist that Alberta's remaining wilderness areas be connected and protected – for our use and for their inherent value. 🌲





## WILDERNESS AND CREATIVITY – REFLECTIONS FROM THE WHALEBACK

By Bob Blaxley

Many land-use discussions these days include the option of “protected areas.” Arguments advanced for protecting an area such as the Whaleback in southwestern Alberta are frequently limited to scientific concerns related to ecosystem function or socio-economic values such as the area’s attraction for tourism and recreation.

I have guided numerous groups through the area since the Whaleback was formally protected 10 years ago. I now feel that the aesthetic, creative, and artistic responses individuals have to untrammelled country are of great importance when considering the benefit of protecting landscapes. The conviction that people value wilderness for their sense of creative connection was brought home to me recently when I helped facilitate a writers’ workshop held in this area.

We start, as many pilgrimages do these days, from the parking lot. We travel north, crossing Bob Creek, and where the trail branches, we go uphill to the east. We move into a higher valley with many a backward glance at the glory of the Livingstone Range dominating the southwestern skyline.

Near a pool dammed by beavers, we rest and acquaint ourselves with the grasses and the other plant folk. A rock-crowned ridge beckons with promises of new vistas. Shedding jackets, we toil upward. The day grows hot and we seek shelter in the shade of a centuries-old Douglas fir. It grows out of rock, anchored, firm, though many of the limber pines beside it are dead or dying. I attempt to tell their tragic story and find that I’m unsteady, distracted, and overwhelmed with sadness.

We move on up the ridge, heading north. Near the top we turn west and gain the ridge top. The day is spectacular for late September, warm and breezy, and the country spreads out around us in wave after wave of hills and mountains and valleys.



*Fall in the Whaleback* PHOTO: R.V. RASMUSSEN – RAYSWEB.NET

Moving south now, I am hoping for a glimpse of Chief Mountain far off in Montana. Not today – it’s too hot and hazy. No matter, I’m in the rhythm of the country now. On rambles like this I can feel the land start to infiltrate my being, moving up from my feet into my legs, slowing down and lengthening my gait.

We stop on the last high point of the ridge, overlooking the valley of the Oldman River, and separate from one another to spend time alone. I find a perfectly shaped depression in the shade of a Douglas fir and doze.

I’m about as comfortable as in the living room at home, but I’m more alert and aware. A game trail passes my spot, and I’m scanning for bears. For me, that is one important difference in wilderness – we’re not the masters. As I’m not in control, I have to be aware of what’s happening; that heightened awareness helps keep me safe and allows me to perceive the precious beauty of the land.

We regroup and descend the ridge. Halfway to the valley floor we pay our respects to an ancient lightning-blasted limber pine. More than 700 years old, this matriarch is still healthy despite its upper charred limbs. We continue down along

the valley and cross the creek back to the parking lot.

This day was what many would describe as just a walk in the park, but comments that evening from all involved revealed that all had felt a profound connection to the landscape, and that connection had opened doors and windows within themselves. Clearly, the experience of nature in an environment “protected” from the distractions of the modern world releases and nourishes the wellsprings of creativity.

I believe that these intangible factors are important in decisions about protected areas. I urge everyone involved in land-use decisions to spend quality time in the areas they are considering in order to comprehend fully the landscape’s beauty and significance. 🐾

*Bob Blaxley, author of The Whaleback: A Walking Guide, has roamed the landscapes of southern Alberta for more than 35 years. Completing his environmental design masters degree in the early 1990s led him into an intimate relationship with the Whaleback.*



## A CRITICAL LOOK AT THRESHOLDS – DEFINING ACCEPTABLE CHANGE ON ALBERTA LANDS

By Peggy Holroyd

*This article is adapted from Peggy Holroyd's thesis produced for her Masters in Environmental Design, University of Calgary, 2008. To view this document, entitled Towards Acceptable Change: A Thresholds Approach to Manage Cumulative Effects in the Southern Foothills of Alberta, please contact the author at peggyh@pembina.org.*

There are indications that ecological change in Alberta may have already exceeded ecological limits or social acceptability. In northern Alberta, the Athabasca Chipewyan First Nations, Mikisew Cree First Nations, and Oil Sands Environmental Coalition have ceased participating in the Cumulative Environmental Management Association because it has been ineffective in managing the cumulative impact of oil sands development. Landowners in the southern foothills and elsewhere, concerned with the changes they see to the land, are becoming increasingly politically active.

Land management in Alberta over the past several decades has been shaped by the philosophies of integrated resource management and multiple use. Yet land-use policies have failed to recognize that tradeoffs must be made among environmental, social, and economic factors. A multiple-use approach assumes we can have everything, everywhere, all the time and includes no measurable objectives or goals to guide land-use decisions and to determine the appropriate levels of cumulative impact.

In 2006, the government announced its intention to develop the Land-Use Framework (LUF), led by Alberta Sustainable Resource Development, with the cooperation of six other government ministries. The 2007 draft LUF acknowledges that “today’s rapid growth in population and economic activity is placing unprecedented pressures on Alberta’s landscapes” (p. 1).

In recognition of the failure of the current project-by-project approach, the LUF will provide the backdrop to the policy framework for regional planning on both private and public land in six regions in Alberta.

At the core of the draft LUF is a cumulative effects management approach. In what is termed a “results-based approach to environmental sustainability,” the government proposes to have objectives for environmental quality set geographically at different spatial scales across the province. The objectives are akin to the concept of thresholds and would be based on knowledge about the environment, impact of human activities, and social values.

The government’s proposed results-based approach is dependent on identifying thresholds (also called “standards” or “criteria”) that quantify acceptable limits of change in order to achieve a desired end state. Thresholds are a proven approach to managing cumulative effects of multiple human activities and help achieve society’s objectives for a landscape, provided they are implemented within a cumulative effects management framework. They can help to clarify the scale, timing, and amount of development that is acceptable.

### **Thresholds: Theory and Practice**

The concept of thresholds comes from ecological science, in which a threshold is a particular tipping point after which there is an abrupt and/or irreversible ecosystem change. The term has since been used in the field of resource management and impact assessment to determine the point at which significant cumulative environmental impacts on an indicator occurs.

However, for many things in nature, there may not be a detectable tipping point, and environmental quality may continue to degrade in a linear fashion. For example, water quality may



*Sheerness Coal Mine, 160 km northeast of Calgary. The use of thresholds in land-use planning may be one way to control the cumulative effects of human activities.*

PHOTO: L. FITCH

decline continuously in response to the accumulation of pollutants. The point at which the decline in animal population or environmental quality has become unacceptable is up to us to decide. So although thresholds may be based on science, when they are applied to management of cumulative effects, they are ultimately reflective of human values and are therefore social and political decisions. Thresholds may be defined socially as the maximum deviation from protection that is acceptable.

Thresholds may be based on physical, chemical, or ecological characteristics, or they may be land- and resource-use related. Governments develop many physical or chemical indicators and thresholds to protect human and wildlife populations. The most common examples are air- and water-quality guidelines. A water-quality guideline can be based on the levels of nitrogen, phosphorus, or sedimentation, for example. The guideline may refer to the point at which the water is no longer potable or to the



level of quality that will support a fish population.

Ecological thresholds and indicators measure habitat conditions, biodiversity, the abundance of a particular species, communities and guilds, and risk of species loss. Land-use indicators are used to measure human disturbances. Such indicators may include access density (total length of roads, pipelines, seismic lines in an area), area of cleared/disturbed land, core area, edge area (specified area around linear disturbance), number of stream crossings, and riparian area cleared (Antoniuk & Ainslie, Appendix 1, *Cumulative Effects Indicators, Thresholds, and Case Studies, Vol. 2*, 2003).

### Implementing Thresholds

Successful implementation of thresholds occurs where there exists a strong regional planning process and supporting legislation and policy. Thresholds-based cumulative effects management is best applied through regional planning. The thresholds can then provide guidance to decision-making at the local and project levels.

At the project level, a threshold acts as a basis for decision-making and

a measure against which planners and regulators can judge incremental projects. If a project exceeds a threshold, it may be denied or be required to implement some form of mitigation in order to stay below the threshold.

### Overcoming Barriers

While the government and the public may recognize the cumulative impact of human activities and limits to the ecosystem, implementing thresholds faces numerous challenges (see table).

Lack of scientific certainty about exact threshold values can be overcome by using an adaptive management system. Threshold values may be set at precautionary levels and monitored to determine if land-use activity is having the anticipated cumulative effects. Adaptive management provides a systematic process of testing assumptions and policies and learning from the results.

Often thresholds are perceived as a restriction to development. In many cases this may be true; however, scenario modeling can remove the mystery of thresholds-based management by allowing stakeholders to project potential development trajectories for a range of possible futures to anticipate the

impact of setting thresholds to other environmental, social, and economic factors.

To manage cumulative effects, it is necessary to integrate decision-making among government ministries and at different levels of decision-making, from sub-surface rights issuance to project-specific reviews. A cumulative effects assessment and management framework is needed in which cumulative effects are managed at both the project and regional levels, and considered in the issuance of mineral rights. Thresholds could be set through regional planning and then be used to gauge the significance of project-specific impacts.

### Conclusion

Threshold setting and implementation is a promising approach to managing cumulative effects on a regional basis in Alberta, and there is potential to implement thresholds through the Alberta government's Land-Use Framework and regional planning processes.

Identification of thresholds can help determine the significance of cumulative effects and meet land- and resource-management objectives. Thresholds may be based on measurable land-use, ecological, or population indicators, and can identify the point at which indicator changes become unacceptable.

Land-use planning should provide an opportunity for stakeholders to look at the end result of land-use change and to discuss possible "bottom lines" for the degradation of ecosystem components. Through the application of thresholds, we can address not only where development should occur but how much should occur. This is the opposite of current land-management practices, in which the continued decline of ecological indicators has not been tested against social values. An effective process for setting thresholds should consider science, public values, and a clear understanding of the ecological, economic, and social tradeoffs of different threshold levels.

*Peggy Holroyd is the Director of the Pembina Institute's Arctic Energy Solutions. She works with Aboriginal organizations, governments, and companies on a variety of projects related to cumulative effects assessment, and land- and resource-use planning.*

Category	Barriers	Strategies
Technical	<ul style="list-style-type: none"> <li>Lack of scientific certainty about cause-and-effect relationships</li> </ul>	<ul style="list-style-type: none"> <li>Acknowledge that setting thresholds is based partly on social and political decisions.</li> <li>Monitor and use adaptive management.</li> <li>Model a range of possible futures rather than one most likely future.</li> </ul>
Political	<ul style="list-style-type: none"> <li>Perception that thresholds are barriers to development, infringe on property rights, etc.</li> <li>Differences of opinions on how cumulative impacts should be managed</li> <li>Concern that thresholds will be set by one interest group</li> </ul>	<ul style="list-style-type: none"> <li>Model alternative scenarios of development to understand the implication of setting thresholds.</li> <li>Use a multi-stakeholder approach to decision-making.</li> <li>Create a legal framework for thresholds implementation, clarifying roles and responsibilities.</li> </ul>
Administrative	<ul style="list-style-type: none"> <li>Thresholds favour operations that are approved early</li> <li>Lack of integration between government agencies</li> </ul>	<ul style="list-style-type: none"> <li>Tiered thresholds can make clear the actions associated with different threshold levels.</li> <li>Time-bounded thresholds may govern the rate of change and pace of development.</li> </ul>



## THE LONG ROAD TO WILDLIFE RECOVERY IN ALBERTA

By Nigel Douglas, AWA Conservation Specialist

Anybody who has seen the sad sight of a rattlesnake squashed on a dusty prairie road can appreciate the fact that, while roads may meet some of the immediate requirements of an animal, they are not necessarily a good thing for that species.

As Alberta becomes increasingly fragmented by industrial access, roads will play an enormous part in the future of wildlife, both endangered and common. Access management is increasingly being recognized as one essential tool in the management of species at risk in Alberta. It seems entirely likely that if it can ever be applied comprehensively, it will have an important role to play in the continued survival of a variety of species. But as that rattlesnake would attest were it in a suitable state to attest anything, it is important to keep in mind the whole picture.

The relationship between roads and the endangered Ord's kangaroo rat played a lead role in the recent Joint Review Panel hearing into proposals by EnCana to drill 1,275 new gas wells in Suffield National Wildlife Area, north of Medicine Hat. Kangaroo rats have very specific habitat requirements: they need dry sandy soils with sparse vegetation cover, particularly active sand dunes. In the past, periodic fires and passing bison herds ensured that areas of suitable sand dune habitat were kept open. But as the bison were exterminated and fire suppression became a common practice, available habitat for kangaroo rats became increasingly overgrown.

And this is where the roads come in. Surely, EnCana scientists argued at the hearing, road construction in the dry grasslands of Suffield creates bare sandy areas alongside, and so they must be good for kangaroo rats. "It's clear that Ord's Kangaroo Rat require blown-out dunes as one aspect of their habitat," said John Kansas, a member of the EnCana panel (hearing transcript, October 15,



*The provincial Grizzly Bear Recovery Plan recommends a maximum road density threshold of 0.6 km/km<sup>2</sup> in core grizzly bear habitat. PHOTO: P. HOLROYD*

2008). "They also use edges of roads and steep banks along the river ... so any form of open sand adjacent to native prairie is fair game for Kangaroo Rat." Stephen Fudge, also an EnCana witness, took it a step further. Referring to levels of shallow gas activity, he said: "Perhaps from an Ord's Kangaroo Rat (*sic*), there's not enough."

Fortunately the Suffield Coalition, led by Alberta Wilderness Association (AWA), refused to allow these comments to pass unchallenged. Biologist Cleve Wershler pointed out that "[t]he COSEWIC (2006) status report indicates the trend toward increasing use of anthropogenic habitats (specifically roads in the National Wildlife Area), appears to be a threat to this species by providing low quality 'sink' habitats in which mortality exceeds recruitment" (hearing transcript, October 15, 2008). Although roadside bare sand may meet some immediate habitat requirements of kangaroo rats, any benefit is outweighed by the fact that rats from surrounding areas get killed on the road.

Environment Canada biologist Olaf Jensen also pointed out that kangaroo rats' poor survival and reproduction rates in roadside habitat are in part due to soil characteristics of such human-created habitat and lower food quality along roadsides. In Alberta's Middle Sand Hills,

this species is at the extreme northern edge of its North American range, making it particularly susceptible to population fluctuations. It's not unusual for kangaroo rats in Suffield to lose 90 percent of their population during the winter. High habitat quality is therefore extremely important to their survival (hearing transcript, October 22, 2008).

This conflict between roads and habitat has also recently surfaced in the province's on/off grizzly bear recovery process. This past fall, AWA was involved in one more in a seemingly endless series of Alberta government "stakeholder processes," this one looking for suggestions into how access management can be used in grizzly bear management. (Interestingly, there are very mixed messages coming from the department of Sustainable Resource Development as to whether the government is working towards grizzly *recovery* or grizzly *management*. Although the province has a *Recovery Plan* and, until recently had a *Recovery Team*, the word *recovery* is notably absent from recent releases.)

The 2008 *Grizzly Bear Recovery Plan* states unequivocally that "human use of access (specifically, motorized vehicle routes) is one of the primary threats to grizzly bear persistence." It goes on to say, "In the Alberta Central Rockies



Ecosystem, 89% of human-caused mortalities were within 500 m of a road on provincial lands, and in National Parks 100% of human-caused mortalities ... were within 200 m of a road or trail.”

In a sign that the government may just be beginning to show a willingness to grasp the bull by the horns and actually begin to deal with the problem of access in grizzly habitat, a series of maps has been produced, showing draft boundaries for core and secondary Grizzly Bear Conservation Areas in the province (though maps themselves do nothing to benefit grizzlies, of course). As recommended by the *Recovery Plan*, maximum open route densities of 0.6 km per km<sup>2</sup> would be set for core areas, though as yet there is no mechanism to implement these targets.

But there is more to the concept of “open route densities” than meets the eye. Reminiscent of the anti-gun-control lobby statement that “guns don’t kill people: people do,” industrial representatives in the grizzly recovery process argue that “roads don’t kill grizzly bears: human access does.” The argument goes that roads do not actually harm grizzlies:

### Roads as Barriers

Animals being killed directly on roads is only part of the problem of the province’s booming transportation network. Twinning of the Trans-Canada Highway through Banff National Park in the 1990s, for example, came with associated wildlife fencing, which effectively reduced the numbers of animals being killed on the highway. But it also formed an almost impermeable barrier to movement for the numerous wide-ranging species that need to disperse and migrate across the highway. Wolves, grizzlies, cougars, and wolverines all move great distances, particularly as juvenile animals disperse to set up their own territories. And so wildlife crossings – bridges and underpasses – have been developed as integral parts of some road construction projects, and are beginning to address this issue. Unfortunately Banff, being a national park, is the exception to the rule: most transportation projects do little to address wildlife mortality or wildlife movement.



*Creating roads in sand hills such as those in Suffield National Wildlife Area creates habitat for the endangered Ord's kangaroo rat, but research shows that it is “sink” habitat and results in population decline.* PHOTO: A. TEUCHER

in fact, they create grizzly bear habitat. What kills bears is human use of access: the more chance there is of people and grizzlies meeting, in any of a variety of ways, the greater is the likelihood of bears ending up dead.

To some extent this is true. A dense stand of forest is not particularly good habitat for a grizzly, whereas a road is effectively a long thin forest clearing, allowing the growth of grasses, sedges, and berry-bearing bushes, all of which can be good food sources for grizzlies. But roads bring people, and people mean dead bears.

From an industrial perspective, this argument has been drawn out to suggest that limitations on future industrial access into grizzly bear habitat will be unnecessary if only those roads can be closed to public access. The physical roads will be there, but the access will not. In many cases, forestry or oil and gas companies do not want the liability and the responsibility for maintaining operational roads so that they can be used by recreational users.

While changing the default on new industrial access roads so that they became closed to public use would be a step in the right direction, there is no reason to think that it would be sufficient. Experience has shown that in the absence of effective enforcement, locked access gates will continue to be pulled out, and locks cut. Outside of specifically designated areas (protected areas or Forest Land Use Zones, for example), it is not illegal to be driving a vehicle on the other side of a locked gate. If it is physically possible to drive around the gate through the bush, then it is not illegal to do so.

It is also important to bear in mind that human access, particularly motorized access, impacts bears in a number of ways, not just through direct mortality. In the fall, grizzly bears are 100 percent focused on finding food. It takes a lot of roots and berries to keep grizzly bears going, and if they can feed effectively, they have a good chance of building up the fat reserves to survive the winter. If feeding is curtailed, their chance of survival diminishes. The same applies to females building up sufficient resources to produce cubs. The fact that grizzlies in southern Alberta produce less cubs less often than anywhere else in North America is partly due to habitat issues – they don’t have the super-rich fall food sources like salmon or whitebark pine seeds that other grizzlies have. But it may also partly be a function of being continually disturbed, or “displaced,” so that they go into hibernation in less than optimum condition.

While stakeholders in the access management meetings came from a diverse range of sectors, there was almost universal agreement that what is needed more than anything is a legislative framework to enforce access regulations, as well as the enforcement staff to ensure compliance. Both are currently desperately lacking. As with so many recent government stakeholder processes, participants left with cautious optimism that important issues were finally being recognized and discussed, tempered with a realization that it is only when these discussions begin to translate to real, measurable landscape changes that wildlife will begin to see any benefits. 🐾



## HUNTING FOR CLARITY – DEFINITIONS AND USES OF “TRADITIONAL USE”

By Chris Wearmouth, AWA Conservation Specialist

“Traditional use” is a term that has been gaining ground in recent years in discussions of land management and planning. It is increasingly used by parties in industrial consultations and the decision-making process for development, but its meaning is hard to pin down. It seems to have vague attachments to activities such as hunting and trapping, gathering medicinal plants, or using Aboriginal ceremonial sites – activities that often take place in natural settings and have been handed down from generations past. Beyond these loose boundaries, the term becomes nebulous.

With the first two Land-Use Framework (LUF) regional plans to begin development in early 2009, it is important that Albertans agree on a common language for our land-related values and interests. “Traditional use” seems poised to become part of that language, but we need a common understanding of the term in order to identify when it is being used inappropriately and how much weight traditional use should be given in land-use decisions.

Tom MacDonald is a member of the Aseniwuche Winewak Nation of Canada, a community of 400 from settlements around Grande Cache, Alberta comprising status, non-status, and Métis people. He defines the term as “an activity performed by a person according to their customs and traditions.” For most Albertans, this term is associated with the customs and traditions of Canada’s Aboriginal Peoples, a connection that has been reinforced by frequent usage in government websites and publications; this is generally how industrial sectors use the term. Yet what it entails is almost never clearly defined, despite its frequent use.

In 2005, Alberta adopted the *Government of Alberta’s First Nations Consultation Policy on Land Management and Resource Development*. The policy states, “Rights and Traditional



*Should off-road motorized recreation be labeled “traditional use”? As Albertans arrive at a common definition of this term, limits to its appropriate application will have to be set. PHOTO: A. FORD*

Uses includes uses of public lands such as burial grounds, gathering sites, and historic or ceremonial locations, and existing constitutionally protected rights to hunt, trap and fish and does not refer to proprietary interests in the land.” According to Cory Enns, director of Aboriginal consultation with the Ministry of Aboriginal Relations, this is the only definition the Government of Alberta has for traditional use at this time.

This policy lumps rights and traditional use together, with the latter connected to specific locations used for specific cultural activities. “Rights” refers to traditional activities such as hunting, which are legally protected for First Nations through treaties and the Canadian constitution. It should also be noted that this consultation policy focuses solely on First Nations and does not address either Métis or other Aboriginal groups.

The difference between rights and tradition needs to be examined further. Presently, deeming an activity or place “traditional use” does not grant it any particular legal or protected status. However, many currently equate

obstructing a traditional land use with an infringement on one’s heritage and culture, indeed one’s identity. Applying the term therefore often grants a sense of entitlement since it can be perceived as equivalent to a legal right. This perception can strengthen arguments for the activity’s continuance. It is vital, then, for Albertans to decide if and how traditional use is separate from legislatively protected rights.

While at present the common understanding of “traditional use” is in terms of Aboriginal Peoples, it is also being employed by others who practice activities or use locations with a long history. Should the term be extended to those not of Aboriginal descent? Clearly, Alberta’s European descendants also have a strong tradition of activities such as hunting and trapping, and have their own share of important historical and cultural sites.

Presently, the Government of Alberta views traditional use as applying only to Aboriginal people, says Enns. However, Tom MacDonald believes that “it’s appropriate for all people to use the term ... if they’re referring to their society’s country of origin and its customs and traditions.” And what of activities and locations that developed out of the mixing of cultures? What about made-in-Canada traditional use that began since the birth of the nation?

Many Albertans believe traditional use should encompass these as well. During public consultation on the LUF, 3,128 individuals and organizations submitted completed workbooks to the Government of Alberta detailing their views on the framework. Approximately 7.9 percent of respondents described their primary land-use activities as being “traditional land use.” When asked to further specify these activities, the usual suspects such as trapping and berry-picking were present. However, some of the answers given as a traditional use are surprising, such as mountain biking, off-road motorized vehicle recreation, and



photography. Identifying traditional use with such diverse interests exemplifies the need for clarification and agreement on the appropriate use of the term. While these may be legitimate land uses, calling them “traditional” raises another question: how long a history must an activity have for it to become traditional? In Alberta, most land uses by those other than First Nations have only occurred over the last 250 years. With such a short history, setting a cut-off point too far in the past could lead to the loss of certain activities or sites in certain areas because they are not deemed to have heritage status.

Take, for example, a 50-year-old trapper’s cabin still being used today. If a development came along that necessitated its removal, we would lose this piece of our heritage because we didn’t allow the cabin to age, which would have increased its worth as a traditional use. On the other hand, we must be careful not to extend traditional use to an activity that is clearly outside the term’s appropriate application. In the LUF survey, 27 people identified off-road motorized vehicle recreation as a traditional use even though modern off-highway vehicles (OHVs) such as quads have only been widely used for the last 25 years. Is one generation long enough for enthusiasts to claim the weight of traditional use? Cal Rackach, technical director of the Alberta Off-Highway Vehicle Association, sees quads as just the newest incarnation of a tradition that has been long-standing. “The boys have been wandering around out there for 70 years, ever since there were motors,” he says, adding that in the past people often used tractors and homemade vehicles to explore and build roads into the wilderness.

This brings us to the question of the evolution of traditional use: should the term only be used for activities carried out or places visited in the same manner as in times gone by? Trapping is a long-established land use in Alberta, one that in fact opened our province to Europeans. While the activity itself has continued through many generations, the methods employed to carry it out have changed. In Alberta, OHV use is allowed for trapping in areas where it is otherwise restricted. Although OHVs may make it easier to work a trapline, do they remove the activity from the realm of traditional use? Jim Mitchell, trapper and public



*The skeleton of a sweatlodge on the Kootenay Plains in the Bighorn. Both the sweat and the Kootenay Plains are important to Aboriginal peoples and can be considered traditional use. PHOTO: B. FORD*

education coordinator for the Alberta Trappers Association, recognizes that “trapping has changed tremendously over the years” but believes that trapping is a traditional use of the land regardless of method.

MacDonald agrees: “All historical and current activities or sites change over time; nothing stays the same. Ongoing practice of custom or tradition regardless of *how* should be considered traditional use of land.”

However, new ways of doing old things can mean that traditional use no longer equals traditional impacts. The impacts to the environment can be quite different if trapping is carried out using snowshoes versus a snowmobile, for instance. Using a motorized vehicle for hunting can allow one to cover more ground more quickly, allowing for the possibility to harvest more animals than if done on foot or horseback.

Since many of the issues surrounding traditional use may affect wilderness conservation, it is vital that those concerned with the increased pressures on the province’s wild places participate in clarifying the definition of traditional use. To begin, we must recognize that in the past, it was often hunters, trappers, and anglers – in other words, traditional users – who spoke the loudest for the protection and appropriate management of wilderness. These men and women seemed to be fully aware that their

enjoyment of these activities depended on maintaining the wilderness values of the places in which they carried them out.

Simply put, if we lose wilderness, we will lose the activities that take place in it. We must recognize that the environment supersedes our use of it and that our human realm is smaller than the land upon which it unfolds. In order to ensure the continued longevity of traditional activities and places, we need to protect the larger setting for these uses. In MacDonald’s words, “Societies that believe the natural environment sustains their traditional way of life will have a set of principles that respect and protect the ecosystems.”

While respecting the customs and traditions of those who have lived before and those who still follow tradition today, we must ensure that traditional use is grounded in the natural environment in which it emerged. We must ensure that traditional use, indeed all human use, does not come to exceed the ecological limits of the landscape. As the term “traditional use” gains strength in land-management decisions and is used in arguments to further Albertans’ interests and values, a common and clear understanding of the term and the appropriate limits to its use will become increasingly critical. 🍄



## HEADWATERS POLICY WORKSHOP HELPS IN MANAGING THE COMMONS

*By Carolyn Campbell, AWA Conservation Specialist*

On November 5 and 6, 2008, 100 decision-makers from government, industry, and non-government organizations gathered in Cochrane for a workshop entitled “Managing the Commons: Our Place in the Headwaters.” The goal was to consider recent scientific research and associated policy options for the North and South Saskatchewan headwaters – the heights of land in the mountains and foothills from which most Albertans’ drinking water originates.

Alberta Wilderness Association, the Bow River Basin Council, and Water Matters (formerly Bow Riverkeeper) launched the project more than a year ago. Representatives from the M.D. of Bighorn, Cochrane Environmental Action Committee, Alberta Sustainable Resource Development (SRD), and Alberta Environment joined in organizing the workshop. Thanks to generous sponsorship by the Calgary Foundation and the masterful work of a Program Committee led by Bob Sandford, the headwaters workshop featured excellent presentations and discussions.

The evening keynote speaker was renowned water policy advisor Henry Vaux, Jr., chair of the Rosenberg International Forum on Water Policy. Vaux noted that Alberta decision-makers will preserve a wider range of management options by attempting to understand and address headwaters issues now; delays will mean increased constraints imposed by environmental conditions. He recommended five key “principles of the science of integrated water resource management” for source water protection.

First, develop good data about water quality and quantity. Second, manage for hydrology facts: for example, recognize that groundwater and surface water are closely connected and that groundwater quality and quantity are inseparable. Third, acknowledge that water is scarce, that all water not



*The distinguished policy panel at the Headwaters workshop consisted of (L to R) international water policy advisor Henry Vaux, Jr., Calgary alderman Brian Pincott, and Hon. Ted Morton, Alberta Minister of Sustainable Resource Development.*

PHOTO: C. WEARMOUTH

allocated to consumptive use is allocated to environmental uses, and that the price of water should be greater than zero to reflect this reality. Fourth, maintain ecosystem health, both for aesthetic reasons and for ecosystem services: water services and biodiversity are otherwise only available at great cost. Fifth, use science: communicate source protection science to managers and the public, and invest in new scientific research to help manage water problems.

John Pomeroy, a cold climate hydrologist at the University of Saskatchewan, noted that water is an essential part of the headwaters ecosystem, even if it receives less attention than large mammals! Mountain hydrology is more complex than that of warm climates, and more research is urgently needed to understand snow and water dynamics in the high country. Specialists are seeing more rain and less snow in their research areas, as well as changes in water runoff quantities related to forest cover and forest density.

Uldis Silins, a forest hydrologist at the University of Alberta, discussed research related to water quantity and quality in forests recovering from disturbances. A range of disturbances – roads, fires, salvage logging – produce

different water quantity and quality effects in the short and long term. He noted that water treatment infrastructure is costly compared to water services provided by ecosystems. Future source water protection work should further characterize the vulnerability of a particular source region, assess risks, and adapt management strategies accordingly.

Cathy Ryan, a groundwater and surface water quality specialist at the University of Calgary, discussed the critical importance of alluvial aquifers – groundwater in direct connection to rivers. Our prairie and parkland towns and cities are almost all built on alluvial aquifers. We now know that land use above such aquifers has a direct impact on surface water. Ryan described the Elbow River alluvial aquifer, noting that this small river supplies half of Calgary’s drinking water. A beneficial legacy to future generations would be to protect its alluvial aquifer land from further development pressures.

Brad Stelfox, a cumulative effects land-use expert, documented the intense pressures on southern Alberta’s water from land use. Agricultural cultivation profoundly affects water quantity and quality. Population growth raises water demand directly and indirectly



via increased commodity demands. Sprawling settlements threaten to swallow up our watershed lands. Energy development further pressures the grassland landscape. The trend is for decreased water quantity and quality, and reduced natural grasslands. There's a pressing need to internalize natural capital values into our land-use decisions.

Dave Sauchyn of the University of Regina synthesized two years of peer-reviewed research on Alberta's vulnerability to climate change. Overall, we must dispel two myths: that our water is abundant and that our current hydrology situation is static. For the near future (2020s), climate models predict conditions outside the current range of natural variability, with warmer temperatures and more precipitation. By the 2050s, climate change effects will include more precipitation in winter/spring, and less in summer when it's most needed. On average, surface and soil water will be reduced, but annual variability will continue. The difficulty for policy makers will be to anticipate and manage the *low* precipitation points in the cycle. In Alberta, we have a great capacity to deal with water scarcity, and two policy frameworks – Water for Life and the Land-Use Framework – have the potential to help.

Bob Sandford of the Western Watersheds Research Collaborative presented research findings regarding the effects of climate change, in addition to other impacts, on the Bow Valley's water situation. Reduced snow pack and reduced water availability will give rise to demands for a shift in water license allocations so that all communities can meet their needs. Likely the greatest pressures will bear on the agricultural sector. Managing existing and potential mountain protected areas across jurisdictional boundaries could moderate climate change effects. Pine beetle devastation could be a bridge to proactive forest restoration. Decision-makers might consider limiting population growth in the Bow River basin until we can better define climate change effects and what is sustainable. Good watershed management may be our most important adaptation to climate change effects. Sandford reminded us that the creation of national parks in the Rockies reversed the direction society was taking at the time, because decision-makers realized there



*Oldman River. The importance of protecting the "water towers" that supply Alberta's human population and ecosystems with adequate water is only likely to increase as our population continues to grow. PHOTO: N. DOUGLAS*

was higher value by going in another direction, to protect what was most important in the western landscape. We should take similar bold steps now.

To open the afternoon policy panel session, Henry Vaux, Jr. summarized key policy options presented in the morning session in terms of his five key principles. Then City of Calgary Alderman Brian Pincott added his perspectives, stating that the provincial Land-Use Framework will be important in overcoming jurisdictional boundaries for watershed management. Calgary is moving to integrate its own water, land use, and transportation decisions. Yes, it is important to translate headwaters research into policy, but the implementation piece is also crucial, designing associated actions and aligning the policy across government departments.

Alberta SRD Minister Ted Morton noted that the current Alberta government either has adopted or is heading toward all five of Vaux's principles. There is total acceptance that what happens in the Eastern Slopes is vital to water quality and quantity downstream. He supports further research such as Silins' Southern Rockies Watershed Project and Stelfox's Upper Bow Basin cumulative effects study. By December 2009, Regional Advisory Councils for northeast Alberta and the South Saskatchewan River basin region will draft integrated land-use plans for public consultation. In his view, society hasn't yet assigned costs to environmental damage or benefits to good stewardship; once that is done, markets do a good job of allocating resources accordingly.

During a lively question-and-answer session, Minister Morton noted that regional land-use plans will be the vehicle through which other policies such as water and energy will be brought forward. Regional watershed plans will be integrated into the land-use plans, but the exact process has yet to be determined. Regional land-use plans must be agreed upon by Cabinet before they are binding. Once these plans are in place, responsibility for implementing them will be local, involving municipalities and the Calgary and Edmonton Regional Partnership Plans. There will be no central agency for implementation.

Regarding protecting upland watersheds, Brian Pincott was asked whether the City of Calgary was prepared to buy private land upstream to protect its watershed. He replied that the City is not prepared to do that right now; he has faith in the Calgary Regional Partnership Plan to help out. Pincott acknowledged a policy gap regarding the Elbow River and the need to value ecosystem services. Calgary has started to address its own water and land use within its boundaries. With regard to watersheds, any action must be taken jointly with municipalities and the province.

With respect to public lands legislation and policy, Minister Morton noted that recreation and watershed management are the highest priorities of the Eastern Slopes. Science-driven rethinking of forest policy and practices may be required, but the Alberta government remains committed to a sustainably managed forest industry. The government is, however, concerned about fragmentation, grizzly habitat, and the effects of off-road vehicles on the landscape and is considering ways of alleviating these pressures. With these thoughts, the workshop wrapped up.

A Legacy Committee is forming to carry out projects in order to advance the ideas that emerged from the workshop. This group will ensure that headwaters science and related policy options reach a wider range of decision-makers and will support the course of workable recommendations through to implementation. If you have ideas or resources to contribute to this project, please contact Carolyn Campbell at [awa.cc@shaw.ca](mailto:awa.cc@shaw.ca). 🐾

## Land-Use Framework Speeds Ahead

Officials with Alberta Sustainable Resource Development (SRD) say they have never seen a government process move as fast as the Land-Use Framework (LUF). Whether this proves to be the process that successfully fills the planning vacuum in the province remains to be seen, but the government is intent on pushing it forward.

Six Regional Advisory Councils will be formed over the coming year, corresponding to the six regions identified in the spring 2008 draft LUF. Each will be given just a year to produce a thorough implementation plan for that region: a tall order indeed!

The Government of Alberta asked the environmental community, through Alberta Environmental Network, to submit three nominees for the position of environmental representative on each of the first two teams. My name was submitted as one of the nominees for the southern team. Somewhat bizarrely, nominees await a government decision on which of the three will sit on the team. Whoever is chosen will have the job of representing the whole environmental community in Alberta.

The final version of the LUF document was to be released in November 2008 but has not appeared as we go to press. Results of the LUF 2008 public survey are also yet to be released.

AWA has invested considerable effort in the Land-Use Framework, and we recognize what a crucial document it could turn out to be, if only there is political will to implement the on-the-ground changes that are so desperately needed.

– Nigel Douglas

## Open Spaces Process Anything but Open

In March 2008 Alberta Sustainable Resource Development (SRD) withdrew one of the two portions of the Open Spaces program due to public pressure. Under the Hunting for Habitat component, landowners would have received 10 to 15 percent of the province's elk hunting tags to sell to hunters. The public reaction was virtually

unanimous: this is unacceptable because it is paid hunting and a step toward privatizing wildlife.

What is left of Open Spaces is the Recreation Access Management Program (RAMP), which proposes to pay agricultural landowners for allowing access to their land for hunting and fishing. The pilot program is to run from 2009 to 2012 and will cover a huge triangle of prairie sweeping south from Lethbridge to the U.S. border.

SRD will administer the program and will pay each landowner a maximum of \$2,000 per year per section of land for allowing public access and for retaining wildlife habitat. For large landowners with 10 or 20 sections of land, this could add up to a substantial amount.

On November 5, SRD told AWA that the draft RAMP proposal went through a “public consultation” process, which consisted of sending it to selected hunting groups and landowners, for comment, with a deadline of September 30. No conservation groups, including AWA, were contacted. While we were told that anyone could have requested the draft proposal and provided feedback, the SRD website contains no mention of Open Spaces. Accessing any current information takes considerable tenacity. SRD offered AWA an additional two weeks to comment on the new RAMP draft, which we have done.

There is no plan for additional public consultation on the RAMP pilot project, although SRD may gather “focus groups” to decide on the final details. A request will go to the Treasury Board for funding, and SRD hopes to begin the pilot in time for the fall 2009 hunting season.

Many questions remain. How much will this cost Alberta taxpayers and what are the benefits to those who are not hunters? Does this open the door to paid hunting and privatizing wildlife? Why has this entire process not been accessible to those who are paying for it? And most important, why is the Government of Alberta allowing the degradation of excellent wildlife habitat on public land while paying landowners for retention of habitat on private land?

– Joyce Hildebrand

## AWA Joins Lower Athabasca River Withdrawal Framework Process

Water withdrawals by oilsands operators from the lower Athabasca River and their potential impacts on the aquatic ecosystem have been issues of concern for several years. In February 2007, Alberta Environment and the Department of Fisheries and Oceans Canada (DFO) released an interim (Phase 1) water management regulatory system for lower Athabasca water withdrawals. In September 2008, AWA joined the committee working to develop the long-term, or Phase 2, management framework.

According to Alberta Environment and DFO, the framework's goal is to achieve a high level of environmental protection while balancing aquatic ecosystem needs with those of community and industry. With greater water withdrawals expected as more tar sands projects are permitted, Phase 2 will examine expanded research on the lower Athabasca River's instream flow needs, particularly in sensitive periods such as low winter flow times. It will also consider industry water management options and socio-economic objectives.

This is a multi-stakeholder process with a regulatory backstop date of January 2011. The committee will recommend a plan by December 2009, with review and formal consultation occurring in 2010.

AWA's interest in participating is to help achieve healthy aquatic ecosystem outcomes in the lower Athabasca and Delta regions. AWA has a longstanding interest in protecting key wilderness areas along the Athabasca River and has long advocated for ecosystem-based watershed management of all of Alberta's watersheds.

– Carolyn Campbell

## Government Dodges Caw Ridge Inquiry

In August, AWA called upon the provincial government to hold an inquiry into the public interests surrounding Caw Ridge, located northwest of Grande Cache, Alberta. The ridge offers exceptional wildlife habitat, including



for bighorn sheep, mountain goats, and grizzly bears. It also lies across the traditional migratory path of the Redrock–Prairie Creek caribou herd.

Unfortunately, Caw Ridge is also valued for its coal reserves. Grande Cache Coal Corporation, which holds the coal lease for the area, has consistently identified Caw Ridge in its long-range plan for mining. This past summer, the company commenced an exploratory drilling program for its No. 16 Mine, which includes Caw Ridge.

This provided the impetus for AWA to write to the Premier asking that he reactivate an inquiry process initiated in 1999 by the Energy Resources Conservation Board. In response, Sustainable Resource Development Minister Ted Morton stated that the corporation has obtained the right to coal in the area and that the government did a review of coal development in the Caw Ridge area in 2005. AWA will be responding to Minister Morton's letter to learn more about this review, which apparently did not include input from the general public.

– *Chris Wearmouth*

### **K-Country Sour Gas Application**

Many Albertans are keenly anticipating the decision by Alberta's Energy Resource Conservation Board (ERCB) about Petro-Canada's comprehensive sour gas well/pipeline proposal in Kananaskis Country. It is being seen as a test case for the principles of the future Land-Use Framework (LUF). The proposal would result in 11 new sour gas wells and a 37-km pipeline, all within the borders of Kananaskis Country.

The ERCB hearing in High River began on November 12, and at the time of writing, they look set to continue until early January. There has been considerable opposition to the development proposals from local landowners and environmentalists. Arguments have focused on a range of environmental impacts that would likely result from the proposed development, including the effects on native fescue grasslands and wildlife populations, and the increase in uncontrolled motorized access. The pipeline would involve almost 40 stream crossings, with major potential impacts on threatened native westslope cutthroat trout populations and critical habitat.

AWA's intervention at the hearing pointed to the province's LUF process and its promises to fix the problem of lack of planning that has so bedeviled landscapes across Alberta. AWA joined with the calls of the Pekisko Group of ranchers and landowners, who called for a moratorium on future development in the southern Eastern Slopes until the implementation of the LUF can correct some of the mismanagement practices of the past.

The final decision on the proposal is expected in February 2009.

– *Nigel Douglas*

### **Financial Meltdown Postpones McClelland Mining Project**

Citing a need to reassess mining and extraction costs, Petro-Canada announced November 17, 2008 that it would postpone a decision to proceed with its Fort Hills tar sands mining project until well into 2009. It also advised that the earliest date for producing bitumen from its leases would likely be 2013. The Fort Hills project is 60 percent owned by Petro-Canada and 20 percent by each of UTS Energy and Teck-Cominco.

AWA is particularly concerned with this project as it will destroy the ecological treasure that is the McClelland Lake wetlands complex. Fort Hills project proponents received ERCB approval in 2002 to mine the upper half of the McClelland watershed by pledging that a company-led Sustainability Committee would devise a plan to sustain the lower half of the watershed. No evidence has been generated to date by this committee that the complex hydrology of the peatland fens and lake can be maintained while destroying the upper water flow sources to those wetlands.

The original Fort Hills oil sands lease terms required production to begin by 2011. (Mining in the McClelland watershed was scheduled for the late 2020s.) Petro-Canada has stated that it is already in discussions with the provincial government to renegotiate the lease schedule. This presents an opportune moment for concerned citizens to object to the threats posed by the project. You can help by letting your elected officials know that sacrificing the McClelland wetland complex to oil sands development is unacceptable.

– *Carolyn Campbell*

### **Next Step for Suffield**

The 18-day hearing for EnCana's proposed gas project in the Suffield National Wildlife Area (NWA) ended on October 31. The Joint Review Panel will issue a report by the end of January, which will include a recommendation to the federal Environment Minister. The Environment Minister's response is not subject to a set timeline.

The Suffield Coalition, led by AWA, argued for denial of the project. "It is our position that no further drilling should be allowed in the NWA, not now, not ever," stated Coalition counsel Jennifer Klimek. Coalition experts testified to the serious flaws in EnCana's environmental assessment and the weak monitoring and enforcement regime on CFB Suffield.

The Government of Canada held the position that EnCana's evidence does not support the company's conclusion that the environmental effects of the project are not likely to be significant. Environment Canada witnesses testified to the critical importance of protecting the many species at risk in the NWA.

Powerful testimony against the application came from Department of National Defence staff. EnCana has consistently resisted the Base Commander's authority; Suffield Industry Range Control, a subsidiary of EnCana, has given landowner consent to well applications on behalf of the Base without the Base's knowledge; and EnCana has a history of non-compliance in the NWA. The Base Commander emphasized that the results of this hearing could set a precedent for wildlife refuges across the country.

The next critical step for concerned Canadians is to contact Environment Minister Jim Prentice and Prime Minister Harper to express your views. AWA believes that further oil and gas development is incompatible with protecting this endangered ecosystem and the species that depend on it.

For transcripts of the hearing, go to [www.ceaa.gc.ca](http://www.ceaa.gc.ca). To view AWA's recently released video about Suffield, see [www.albertawilderness.ca/AWRC/Podcasts.htm](http://www.albertawilderness.ca/AWRC/Podcasts.htm). To make a donation toward the Suffield Coalition's legal costs, contact AWA at (403) 283-2025.

– *Joyce Hildebrand*

# ALBERTANS' CRY SAVES WOLVES

By Chris Wearmouth, AWA Conservation Specialist

People of Alberta, the wolves of Clearwater County must be howling their gratitude to you! In October, Alberta Sustainable Resource Development (SRD) halted plans to sterilize and slaughter the county's wolves in an experiment that was to have been carried out with the University of Alberta.

While researchers will continue to study the wolves using radio collars, the project's experimental phase, which was to begin this winter, stirred up such a cry from Albertans across the province that the government called together an advisory panel of seven wolf experts to review the project. Upon the panel's recommendation, the government denied the University of Alberta a research permit to kill or sterilize the wolves.

The research summary provided by the university and SRD states that low numbers of ungulates (especially elk) in the area prompted the researchers to develop the project. During the experimental phase, all members of the packs other than the alpha pair were to be killed. The alpha pair was to be sterilized and released in hopes that they would maintain their territory without repopulating it, thus keeping predation on ungulates low. But Albertans responded to the plan in spring 2008 through editorials, letters to editors, and even Internet discussions. "The plan is an abuse of wildlife," wrote Rick Zemanek, editor for the *Red Deer Advocate*. "Alberta government officials should condemn it, not endorse it."

Paul Paquet, an internationally recognized wolf expert who sat on the government's advisory panel, told reporter Cathy Ellis in March that the project was "destructive and morally reprehensible.... This type of research does not belong in a university ecology and biology department. This is 1950s wolf management that has been updated to include sterilization."

The outcry from citizens was prompted in part by the suggestion that the wolf project was being carried out in order to increase elk populations for those who hunt in the area. "I cannot



"Timberwolves at Deer Kill, Wapiti River" 8x10 inches, alkyd ©R. GUEST

imagine the mentality of allowing the natural predator population to be culled in order to leave more prey for human so-called 'hunters' to kill," wrote David Mathias in his letter to the *Red Deer Advocate*.

Government officials have since said the experiment was not about increasing elk numbers for hunters, although there still seems to be some confusion around the project's exact purpose. One SRD spokesperson told media that they still want to boost elk numbers in the Clearwater area, while another said the project was not aimed specifically at increasing elk numbers but at limiting the need for "wolf control," presumably a euphemism for "wolf killing."

To confound the issue further, it is possible that the objective elk numbers sought by managers are not historically accurate but a reflection of opening up the landscape by industry. Jim Pissot, Canada field representative for Defenders of Wildlife, told the *Rocky Mountain Outlook* that due to increased clearcutting during the 1970s, which produced exceptional habitat, elk numbers swelled. "The area probably supports all the elk it can right now if you look at the long-term

trends," Pissot said.

Another question remains: if elk numbers are lower than previous levels, could it not be a response to human disturbances and loss of habitat rather than "over" predation by wolves? That idea is one that will be explored in the absence of the wolf-eradication experiment. SRD's Darcy Whiteside told the *Rocky Mountain Outlook* that SRD will be considering access management, habitat enhancement, and decreases in elk harvest limits to boost ungulate numbers.

But wolves may not be out of the metaphorical woods yet. Whiteside's comments to the media had some ominous overtones. He spoke of promoting wolf hunting and of a past compensation program to hunters for killing the large canines: "We aren't shooting wolves now, but there's always that option available."

The need for vigilance remains, but for now, the wolves of Clearwater County have you, the people of Alberta, to thank for the reprieve. Let us hope that instead of shooting one species to increase another, we can manage our own impact so that wolves, elk, and humans can share Alberta's wild landscapes. 🐾



# BIGHORN RESEARCH HIGHLIGHTS RECREATIONAL CONCERNS

By Chris Wearmouth, AWA Conservation Specialist

This past summer marked the end of primary data collection for the Bighorn Wildland Recreational Trail Monitoring Project. After five years, Alberta Wilderness Association (AWA) has a good understanding of the impacts and trends of recreational use on a 76-km trail network located in the Bighorn area of west-central Alberta – an understanding that still causes us concern despite the efforts of government staff and local volunteers in minimizing the impacts of recreation in the area.

Over the course of this year’s field season, AWA staff made five trips to the Bighorn for the purpose of downloading data from traffic counters and surveying damage “hot spots.” Branching off from the Hummingbird Forest Recreation Area, trails run along several creeks that are part of the Ram River watershed, which eventually drains into the North Saskatchewan River. Trails are managed by Alberta Sustainable Resource Development (SRD) as part of the Upper Clearwater–Ram Forest Land Use Zone. The trail system is designated for both motorized and non-motorized recreation, the primary users being those on off-highway vehicles (OHVs) or horses.

Most of the trail network lies within the Prime Protection Zone under the *Eastern Slopes Policy*. Under this zoning, the objectives for the area should be watershed and wildlife management, and recreational activities such as

Trail	Recording Period	2004	2005	2006	2007	2008	4 Year Change
Onion Creek Trail	July 1 - Sept. 30	382	n/a	906	1712	2585	+577%
Canary Creek Trail	July 1 - Sept. 10	236	379	327	701	1040	+341%
Back Trail North	July 1 - Sept. 11	210	343	381	n/a	778	+270%

Summer traffic trends on designated trails showing the number of passes by OHVs

non-motorized trail use and primitive camping. However, with the opening up of the area to motorized recreation in 2002, it seems that the government’s own policy, developed after extensive public consultation, is no longer being followed.

To better understand the impacts of recreation, including the inconsistency of allowing OHVs within the Prime Protection Zone, AWA set out in 2003 to investigate (1) the willingness of backcountry users to abide by regulations, (2) the trends in motorized traffic, and (3) the extent of damage present on the trail network.

To meet the first two objectives, we buried eight electronic traffic counters along both designated and non-designated motorized recreation trails. The counters respond to disturbances to the magnetic field caused by large metal objects such as passing OHVs.

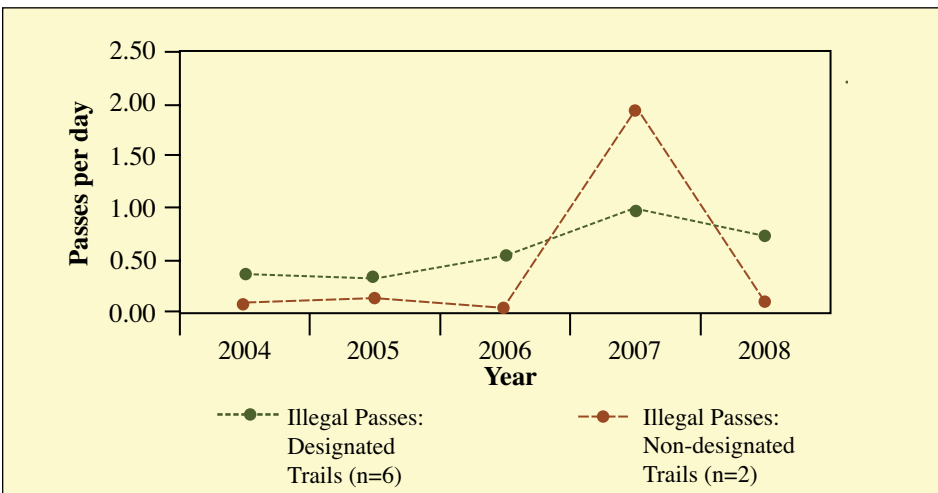
The number of vehicle passes recorded by the counters has increased significantly over the past five years,

leading to the conclusion that trail system use is increasing. For example, the Onion Creek Trail has seen an increase of 577 percent in the number of passes recorded. This increase could be explained in part by promotion of the area through government maps and local OHV clubs. As well, the reining in of rampant OHV use in other areas of the province could be driving people to the Hummingbird area.

Most designated trails have seasonal closures for motorized recreation from May 1 to June 30, with the exception of the Ranger Creek Trail, which is closed from May 1 to November 30. Information provided by the traffic counters allows us to determine if motorized users are staying off trails during the closures. As well, we placed two counters on non-designated trails, where motorized traffic is prohibited at all times.

During five years of monitoring, AWA has seen a rise in pass counts during the closures. The accompanying figure shows illegal passes on both designated and non-designated trails. While illegal traffic is down from last year, the trend of increasing illegal use over the past five years is clear. This past season, illegal traffic accounted for 15 percent of all traffic recorded in 2008. With such a high rate of infraction, it is apparent that more enforcement is needed in the area.

In order to assess the damage present on the landscape, AWA completed a survey of the trail network over several summers from 2003 to 2006. Damage sites included trail braiding or widening, erosion, inadequate water crossings, and random campsites. Our findings show that as of 2006, 20 percent of the trail system showed signs of damage.



Trends in illegal traffic on designated and non-designated trails shown by average OHV passes per day

We found that only 7 percent of water crossings had a formal structure and that the combined footprint of random camping sites was a staggering 50,574 m<sup>2</sup> – the equivalent of 32 NHL ice surfaces.

AWA is taking a second look at some of the “hot spots” – the damaged sections that have high potential to get worse. In summer 2008, we randomly selected 10 sites for resurveying, including damage sites, water crossings, and a campsite. Most sites showed damage equivalent to or slightly greater than when they were first surveyed. Our conservative conclusion is that the condition of sites observed has neither improved nor degraded, leaving the damage that was there in the past still present.

While completing our fieldwork, we made some anecdotal observations regarding the state of the area. SRD and local volunteers have installed new signs that advise users which trails are designated. We also stumbled upon a new trail half-cut higher up from the wet valley floor of Hummingbird Creek. As well, evidence suggested that one section of the back trail between Hummingbird Creek and Onion Lake received a fair amount of work recently, including resurfacing the trail and installing culverts at small creek crossings.

Despite these improvements, problems remain. Tracks show that signage is being ignored; in some areas, erosion from use has left deep ruts that are near impassable; and in the process of resurfacing the back trail, the workers dug a 13-metre-wide pit in the adjacent valley, presumably for surfacing material.

At present this sensitive landscape shows evidence that it cannot sustain motorized activity. Although further work on the network by government staff and local volunteers may help to address some of the problems, AWA believes that Alberta should not allow such activity within important wildlife habitat and within a headwaters area that is the source of drinking water for many Albertans.

While AWA completed primary data collection this year, we have decided to continue monitoring OHV traffic next year. We will also continue to resurvey identified damaged sections of the network to further understand trends in trail conditions. For more information on this project, download a copy of the final report at [www.AlbertaWilderness.ca](http://www.AlbertaWilderness.ca). 🌲

## My Introduction to the Bighorn

Daylight lingers long into evening in mid-July in the Bighorn. That’s a good thing: it’s 9:15 p.m. and AWA’s Chris Wearmouth and I have yet to set up our camp. But we have our campsite picked. It’s a spot on a sloping bench with a sweeping view of the Hummingbird Creek valley and within earshot of the gentle chuckle of that stream’s crystal waters.

Easing our packs off, we both glance at the western sky, where a thick black cloud is threatening to dump its contents on us. Hurrying now – me struggling with the tangle of my rented tent’s poles and Chris effortlessly erecting his Zoid 2 – we manage to get our temporary wilderness homes up before Mother Nature lightly sprinkles our campsite. As the sun dips to the horizon, creating a rainbow in the eastern sky, I think to myself, “That’s the only streetlight we need right now.”

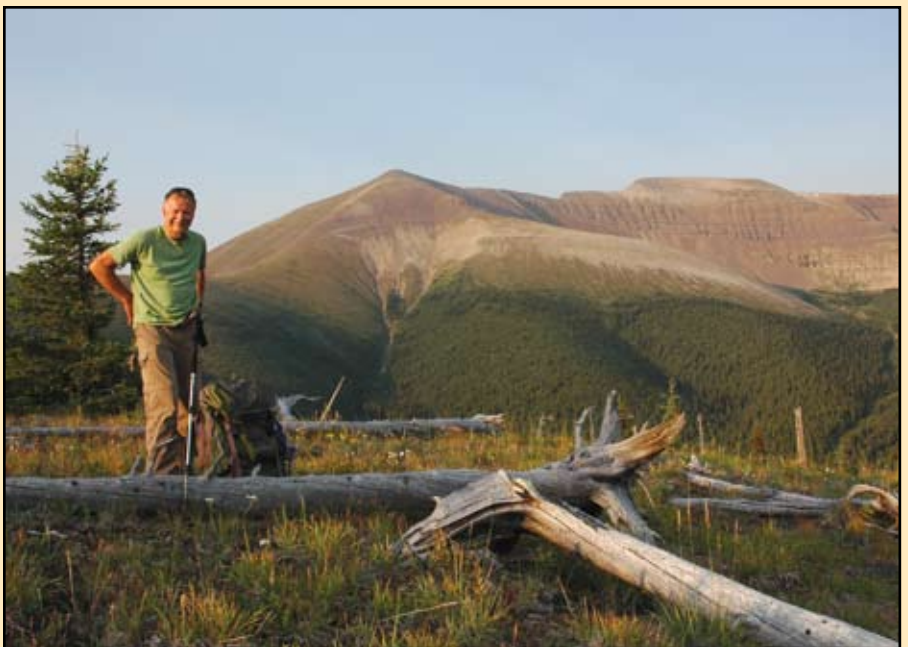
An hour later, stretched out beside a crackling campfire with bellies full of boil-in-a-bag sustenance, we’re finally able to relax after an afternoon of hustling our packs along the Hummingbird – more bushwhacking than trail walking. Under Chris’s leadership, we were surveying trail damage “hotspots” for AWA. As an area that is still relatively wild and unspoiled, the Bighorn is receiving special attention from conservation groups, and I feel genuinely privileged to be playing my own small part in this effort.

As the shadows of night creep up on our site, our weary eyes spot movement. Something big is out there, skirting the bush on the far side of the valley. Their red-brown coats just visible in the rapidly fading light, two elk briefly show themselves and then melt from view. Will such a wild and unscripted event be possible in 10, 20, or even 50 years? I certainly hope so.

Later, snuggled in my sleeping bag in the velvety darkness, my thoughts linger briefly on the events of the day and the pleasure of traveling through this pristine wilderness, unencumbered by the usual details that clutter so much of daily life. And then, lulled by the murmur of running water, I’m asleep, preparing for the next day’s mini-adventures in that backcountry jewel, the Bighorn.

– Paul Sutherland

*Paul Sutherland is an AWA member who helped with the Bighorn Wildland Recreational Trail Monitoring Project this past summer. We are extremely grateful for his assistance and look forward to working with Paul in future seasons.*



*Paul Sutherland on a Bighorn trail-monitoring trip* PHOTO C. WEARMOUTH





## CHRONIC WASTING DISEASE POISED TO CROSS SPECIES BARRIER

By Vivian Pharis, AWA Board Member

With many chronic problems facing us, few will want to know of another, but since Canada's epicentre of chronic wasting disease (CWD) is Alberta and Saskatchewan, it may pay off to be alert, especially to dirt.

CWD, which infects cervids (deer, elk, moose, and maybe caribou), and its cousin sheep scrapie are both transmissible spongiform encephalopathies (TSEs). TSEs are produced by misshapen small pieces of protein called prions. Different prions are responsible for producing related diseases such as mad cow (BSE) and the human Kreutzfeldt-Jakob and kuru diseases. All these diseases result in wasting of the nervous system and are incurable.

Chronic wasting disease was first detected in North America in 1967 on a research facility in Colorado, appearing in a mule deer that had been kept in proximity with sheep, some of which carried scrapie. By 1996 CWD had been found in farmed elk in several U.S. states including South Dakota. That same year it was detected in the wild in Nebraska, as well as on a Saskatchewan game farm amongst a herd that had come, in part, from South Dakota.

Like wildfire, by 1997 CWD had spread to 19 Saskatchewan game farms, requiring the subsidized destruction and incineration of 3,500 elk. An additional 5,000 elk were slaughtered and incinerated on infected Saskatchewan game farms in 2001. The first CWD case in the Canadian wild turned up in 2000 in a Saskatchewan mule deer near Lloydminster, on the Alberta border. By 2004, 40 game farms in Saskatchewan and three in Alberta had incurred CWD, and it was now in the wild in three parts of Saskatchewan.

In 2004 game farms reached a high in both provinces, with 800 farms (60,000 fenced animals). Although some persist and continue to contribute diseases such as CWD, many have folded – anyone



Fenced elk on an Alberta game farm PHOTO: J. SWITZER

who travels Alberta's back roads will find deer fences but no deer. Unfortunately, to get actual numbers of remaining game farms and animals is politically difficult.

The natural atrophy of game farms is due mainly to export bans on meat and velvet antler because of CWD. The sad thing is that even if all remaining farms were to fold tomorrow, they have already inflicted a terrible blight on our native wildlife that may well have become uncontrollable and increasingly dangerous.

We are told CWD cannot infect us, so why the concern? Apart from the toll it is taking on our wildlife and the possibility of its spread to species like moose and caribou, there are disturbing new reasons for humans to be vigilant for their own safety.

Velvet antler, full of blood and nerve tissue, was the lucrative product of Canada's game farms, marketed mainly to South Korea for medicinal uses. But Korea, which had taken 86 percent of Canada's velvet antler, said no to Canadian velvet in 2000 after CWD was discovered on game farms in Saskatchewan. Since then it has been a downhill slide for the game industry,

which is now largely upheld through penned hunts in Saskatchewan and government subsidies in both provinces.

What remains of the industry is making a desperate bid to sell velvet within North America, and plenty of websites extol its medicinal virtues. Since its efficacy has never been shown scientifically despite decades of research, the sales pitch has broadened from humans to the pet market. Type in "deer velvet" and "pets," and hundreds of websites appear trying to sell velvet cures for Fuzzy and Fido's various ills.

### CWD Infection

Nerve and blood are among tissues where CWD disease agents known as prions can be found. Even though the related mad cow disease (bovine spongiform encephalopathy, or BSE) was not at first considered dangerous to humans, it did "cross the species barrier" into non-bovines such as cats, mink, and humans. Some scientists warn that if CWD reaches a critical exposure mass, it too might jump to new species. It has already been found in a moose in Colorado. Now new soil studies are showing how that critical exposure mass may be accelerated



*Deer hunters in certain Wildlife Management Units in Alberta are required to submit the heads from all deer “harvested” for CWD testing. Fish and Wildlife freezers are located within and near the target areas. PHOTO: C. OLSON*

and compounded in ways that sound more like science fiction than fact.

The pace of CWD infection startled scientists and lay people alike. Between 2001 and 2005, 68 cases of CWD were found in wild Saskatchewan mule and white-tailed deer. Alberta began mass slaughtering along the Saskatchewan border in a bid to lower the deer population and detect CWD. It wasn't until 2005 that the first wild case appeared in Alberta. Hunters had been required to submit the heads of deer taken along the eastern border for several years, and extra deer permits were issued to try to reduce the population. As well as the hunter kills, Alberta sponsored government culls of thousands of deer in the suspect region.

In 2007 and early 2008, more than 5,000 deer were killed by hunters and another nearly 3,500 through culls in wildlife zones that lie roughly between Wainwright and Empress. Twenty-one mule and three white-tailed deer were found with CWD, bringing the total in the Alberta wild to 53 cases since first detected just over two years earlier. In 2008 the first wild Saskatchewan elk were found with CWD.

A January 2008 Alberta government bulletin tried to put a positive spin on the situation, claiming that because the number of new CWD cases remains “low,” their culling programs are effective in their “aim to reduce and eventually eliminate CWD in Alberta.” AWA seriously questions such optimism in light of research which increasingly indicates that once contamination of soils occurs, CWD will persist and will spread from the environment to animals. Its

expanding range in the U.S. wild despite hunter and official culls, and even the banning of game farms in some states, fuels our fears.

A new live-animal test being trialed in 2008 on captured elk in Colorado's heavily elk-populated Rocky Mountain National Park indicated an astounding CWD infection rate of 11 percent, or 13 of 117 animals. The area's typical disease rate is 1 to 2 percent. CWD appears thoroughly ensconced in Colorado's wildlife and has even crossed the Continental Divide to the west.



*The red areas show CWD-infected wild cervid populations. The grey provinces and states are those where CWD has been found in captive populations. As of August 2008, three captive herds were infected in Alberta, 40 in Saskatchewan, and 39 in the U.S. Map last updated August 26, 2008.*

MAP: CHRONIC WASTING DISEASE ALLIANCE

### The Dirt on Dirt

Transmissible spongiform encephalopathies (TSEs, which include CWD and scrapie), mad cow disease (BSE), and Kreutzfeldt-Jakob and kuru diseases all result in wasting of the nervous system and are incurable. But only the two TSEs can be transmitted either from live animal to live animal, or from animal to environment to animal. Thus, TSEs are truly insidious because of their ability to persist in the environment and be transmitted.

Two years ago, AWA reported on a group of Wisconsin molecular and soil scientists who found that CWD prions not only can survive in soils but also have a chemical affinity that allows them to attach to clay particles (WLA, June 2006). We already knew from studies in Colorado that soils could harbour infective CWD agents for five or more years. Now the Wisconsin team has released 2007 information indicating that common soil particles like bentonite, kaolin, and silica are able not only

to attract and hold CWD and scrapie prions but also to magnify their oral infectiveness by up to a whopping 680 percent relative to unbound agents. The soil particles appear to increase disease penetration and shorten incubation periods in infected animals.

The researchers, who released their findings in *PLoS Pathogens* (July 2007), postulate that “enhanced transmissibility of soil-bound prions may explain the environmental spread of some TSEs despite the presumably low levels shed into the environment.” Work by a California group appearing in *The Journal of Infectious Diseases* (July 2008) indicates the likelihood that the “transmission of disease among herbivores may occur through the consumption of feces or foodstuff tainted with prions from feces of CWD-infected cervids and scrapie-infected sheep.” Prions may enter soil through decay of infected carcasses, saliva excretions, and possibly urine and feces.

The world outside our Alberta and Saskatchewan backdoors has gotten scarier. And it's looking more likely that Alberta government attempts to eradicate CWD from the wild through deer culling have about as much hope of success as does a deer that eats dirt-clinging prions.

If your heart rate is still normal, then extrapolate from the conclusion of the Wisconsin group's paper, and you may feel your hair stand on end. The group realized that all three soil types that act to enhance the effectiveness of TSE prions – bentonite, kaolin, and silica – are common food additives in our Western diet. They are used as fillers and stabilizers in everything from pills to puddings. In their words, “Our data suggest that the binding of [TSE prions] to dietary microparticles has the potential to enhance oral prion disease transmission and warrants further investigation.”

We again call on concerned Canadians to contact elected representatives, federally and provincially, and to press for an end to game farming. Continuing to fuel an already bad situation with constant new infection is dangerous to our wildlife, and perhaps even to human health. 🍄





## EXPECT THE UNEXPECTED – MULTIPLE HUMAN STRESSORS OF ALBERTA’S MOUNTAIN LAKES

By Rolf Vinebrooke

Scientists often convey an air of certainty when predicting the future impacts of global change on the world’s ecosystems. After all, science is meant to empower researchers with the ability to reduce any environmental phenomenon down to its root cause.

Unfortunately, the impact of not only single, but rather multiple, human-related environmental stressors (e.g., introduction of exotic species, air pollution, climate warming) typically determines the impacts of global change. In fact, the ecological effect of one stressor is often unknowingly dependent upon the presence of other stressors, thereby generating “ecological surprises” that do not add up based on our existing knowledge of individual effects. Co-dependence among multiple human stressors causes their net environmental impact to either exceed (a synergistic impact) or fall below (an antagonistic impact) the sum of their anticipated individual effects.

To date, little environmental research has been performed on the cumulative effect of multiple human stressors despite their ecological surprises being the largest source of uncertainty surrounding predictions of the future impacts of global change. So, what happens to our scientific confidence in forecasting the cumulative impacts of global change when the net effect of multiple stressors does not equal the sum of their already known single effects? If unpredictable ecological surprises become the norm rather than the exception, then ecological worries will arise regarding the future of our planet.

Naturally species-poor ecosystems are among the most sensitive to the impacts of multiple stressors because they contain little biological insurance against the effects of species loss. Specifically, biological insurance refers to the presence of tolerant species that can compensate for more sensitive species. Since relatively few species are



*The Devon Lakes, in the northeast corner of Banff National Park* PHOTO: P. THOMPSON

top predators, multiple stressors tend to shorten simple food chains from the top down. In Alberta, excellent examples of these highly sensitive communities are found in alpine environments.

A common stressor of lakes of our national mountain parks during most of the twentieth century was the introduction of exotic sportfish. For example, numerous lakes were stocked with invasive non-native trout species, which fed more heavily on prey items than did native fish such as the bull trout. As a result, overfeeding by these exotic predators caused substantial biological impoverishment of lake food webs, especially in alpine lakes that were already naturally species-poor. Consequently, many of these introduced fish species died out following over-exploitation of their food supply, leaving behind only those very small plankton species that they had failed to visually detect. Due to the remoteness of these “islands in the sky,” many now-fishless alpine lakes remain biologically impoverished because few species have been able to colonize them by dispersing from the few pristine lakes.

More recently, the impact of global warming has begun to potentially compound the effect of past fish-stocking on mountain lakes. Rapid climate warming results in more variable local

weather conditions, especially in high-elevation environments. In turn, extreme weather events such as pronounced summer heating, heavy rainfall, and snowstorm events are becoming more common throughout both the Canadian Rockies and European Alps.

It is difficult to predict the net impact of invasive fish and future extreme climate events on mountain lake ecosystems. On the one hand, biological impoverishment of mountain lakes by introduced sportfish could have reduced the probability of there being tolerant species that can cope with the increasing effects of global warming. This type of scenario where one stressor weakens the resistance of an ecosystem against other stressors represents an example of stress-induced sensitivity. In such a case, the combined effect of the multiple stressors will exceed the sum of their individual effects, thereby resulting in a greater-than-expected synergistic impact. A human analogy is how HIV weakens the immune system, thereby increasing a person’s susceptibility to other viruses.

On the other hand, invasive fish selectively feed on and often eliminate large prey species, which are typically very susceptible to other environmental stressors. The loss of large prey species then releases smaller organisms from predation and competition, enabling



these more environmentally tolerant inconspicuous organisms to flourish in fish-stocked lakes. Therefore, exotic sportfish may indirectly increase the overall tolerance of lake ecosystems to future global warming. This scenario represents an example of stress-induced tolerance where exposure to one stressor suppresses antagonistically the subsequent effects of other stressors. As a result, the net effect of exotic fish and rapid climate change on a mountain lake ecosystem might be less than expected based on the sum of their individual effects. It is like the old saying “what doesn’t kill you makes you stronger.”

Another human stressor increasingly impacting mountain lakes is air pollution. Specifically, nitrogen concentrations are rapidly rising in rainfall throughout western North America as a consequence of increasing use of combustion engines and agricultural fertilizers. Nitrogen is often the key nutrient that regulates the growth of plants on land and algae in water when phosphorus is in adequate supply. Unfortunately, many small alpine lakes and ponds along the eastern front ranges of the Canadian Rockies appear highly sensitive to increased nitrogen inputs because they contain almost undetectable concentrations of nitrogen, yet sufficient amounts of phosphorus to support algal growth. Therefore, increased nitrogen deposition could fertilize these ecosystems to the point where they become clogged with nuisance plants and algae.

Could warmer temperatures amplify the effects of increased nitrogen pollution on alpine ecosystems? Well, plants and algae do first require energy before they can use much of the nitrogen contained in rainfall. They must convert the inorganic nitrogen into a more useable form using certain plant enzymes, which operate more quickly at warmer temperatures. So the writing appears to be on the wall – global warming could enable weedy plants and algae to respond more positively to nitrogen-polluted rainfall, degrading the habitat quality of otherwise pristine alpine environments. Most importantly, models predict that over the next 80 years, the most pronounced warming (+ ~4°C) of the Canadian Rockies will occur above treeline and at low latitudes near the U.S. border. Therefore, small alpine lakes and ponds could lose some of their transparency,

becoming more turbid with algae as they already have in places like California and Colorado.

Another climate-dependent factor affecting many alpine lakes is glacial activity. The melting of large glaciers and the complete disappearance of small glaciers is occurring rapidly around the world as a consequence of the twentieth century having been the warmest over the last millennium. Analysis of tree-ring growth data from treelines stretching from Banff to Jasper provides evidence for this climatic trend. Comparison of archival aerial photographs taken from above the Icefields Highway during the 1940s and 1990s also reveals that as many glaciers shrank, lakes receiving their glacial meltwater became less turbid and more translucent. Further, cores of sediment taken recently from many clear alpine lakes in Alberta reveal that they experienced a rapid shift away from cold and turbid conditions within a decade following the disappearance of small glaciers during the twentieth century.

Consider how the disappearance of glaciers might amplify the effects of a warming climate on alpine environments. Climate warming would obviously increase the temperature of clear, non-glacial mountain lakes by perhaps an average of a couple degrees over the next few decades. In contrast, climate warming together with the loss of cold turbid meltwater from glaciers would result in a much more rapid increase of several degrees, possibly within a couple of years following the disappearance of the glacier. Further, glacial meltwater contains eroded “rock flour,” which can act as a natural sunscreen for aquatic organisms by reflecting incoming solar ultraviolet radiation back into the atmosphere. Rock flour is what makes glacial lakes appear a sparkling milky turquoise.

Would fish and other organisms be able to adapt readily to such a rapid state change from cold and turbid conditions to a warmer and high-ultraviolet environment? Most organisms that are native to cold, low-ultraviolet environments have become very specialized to these conditions as a result of centuries of adaptation. Therefore, resident populations would likely be unable to tolerate such a pronounced change in their local environment. In particular, resident coldwater top

predators (e.g., fish) in alpine lake food webs would be poorly adapted to warming water temperatures and not easily replaced by other fish species from warmer valley lakes owing to the lack of navigable headwater streams.

These three examples of the potential impacts of multiple stressors clearly highlight the sensitivity and vulnerability of alpine ecosystems. A third or fourth stressor could even further confound predictions of the joint impacts of the various pairs of stressors considered here. For example, stratospheric ozone layer depletion is also affecting alpine ecosystems by increasing their exposure to harmful ultraviolet radiation, thereby further complicating forecasts of the future impacts of global change on these relatively pristine ecosystems. The extreme sensitivity of these ecosystems, however, also makes them valuable as sentinels of the current and future impacts of global change across Alberta. So look way up to these rain barrels on mountaintops if you want to see clear signs of how changes in the atmosphere are affecting our planet. 🌱

*Rolf Vinebrooke is an associate professor in the Department of Biological Sciences at the University of Alberta. He has been researching the cumulative impacts of multiple human stressors on arctic, boreal, and mountain lake ecosystems, along with restoration strategies, for the past 15 years.*



*“Hazy Moon and Trees, Pinto Creek”  
8x10 inches, alkyd ©R. GUEST*



## CAMELOT IN THE ROCKIES – SAVING SOUTHERN ALBERTA’S BEST-KEPT SECRET

By Benjamin Freeland

Ask people the world over to describe their prototypical image of Canada’s wilderness, and chances are they will dream up something along the lines of southwestern Alberta’s Castle Wilderness. While Canada has few rivals when it comes to geological and biological diversity, no region is more visually spectacular or ecologically rich than the Canadian Rockies. And nowhere are the Canadian Rockies more spectacular than in Alberta’s southwestern corner, where the hypnotic grasslands to the east give way dramatically to the “Crown of the Continent.” The approximately 44,000-km<sup>2</sup> roof of North America encompasses southwestern Alberta, southeastern British Columbia, and northern Montana.

At the heart of this grand geological statement is the Castle Wilderness, approximately 1,000 km<sup>2</sup> of mountain wilderness just east of the B.C. border. With its serrated peaks, windswept ridges, crystalline alpine rivers and lakes, and abundant flora and fauna, the Castle Wilderness is the Canada that overseas visitors envisage – and that most Canadians take for granted and rarely experience for themselves.

The M.D. of Pincher Creek, wherein the Castle Wilderness is located, is essentially Alberta in a microcosm. With one foot firmly implanted in the prairies and the other in the mountains, its remarkable geographic and biological diversity is matched by its economic diversity, with virtually all of the province’s economic mainstays – agriculture, oil and gas extraction, and wind power – represented *par excellence*.

The Castle Wilderness, the M.D.’s wild western backyard, is a grand convergence of ecological regions: a realm of foothills, wetlands, mountains, river valleys, fescue grasslands, and montane and subalpine forests that is home to more than half of Alberta’s 1,600 plant species, including 130 provincially rare and 38 nationally rare species.



*Weed-pullers at work in a field of invasive non-native buttercups in the Castle*

PHOTO: E. KNOX

Among the 59 species of mammals in the Castle, virtually all of the province’s iconic animal species are represented.

This narrow ribbon of forested land serves as an important wildlife corridor for moose, elk, bighorn sheep, and other ungulates, as well as large carnivores such as wolves, cougars, and wolverines. The Castle is a particularly important sanctuary for the beleaguered grizzly bear, listed federally as a species of Special Concern. Together with the Flathead River region across the border in B.C., the Castle houses the largest population of non-coastal grizzlies in North America. After a long period of absence, wolves were spotted in the Castle in 1992 – at least one wolf pack is present in the area. The region has also long been of great significance to the area’s longtime human neighbours. For the Kutenai and Piikani (Peigan) nations, the Castle Wilderness, known in Blackfoot as I’tai sah kòp (“where we get the paint”), has long represented a place of spiritual renewal as well as a crucial

hunting and fishing ground, a status that it retains to this day.

What is perhaps most remarkable about the Castle Wilderness is that this confluence of wild flora and fauna has, so far, survived and flourished without any official protection from either the federal or provincial governments. While the area has been identified as an Environmentally Significant Area (ESA) by the Alberta government, less than one km<sup>2</sup> of the Castle, the West Castle Wetlands Ecological Reserve, has received legislated protection.

Today, because of its lack of protection, this vital wilderness corridor faces a familiar host of threats, including logging, petroleum extraction, residential developments, and off-road and recreational vehicles. These pressures are compounded by the threat of non-native invasive plant species, a particularly serious problem at this delicate ecological junction. While the sheer inaccessibility of the Castle has thus far protected it from irreparable damage, a burgeoning



adjacent human population coupled with outdated and inadequate land-use regulations threaten this and other wild land bastions in Alberta. This is no surprise in a province that has received a grade of F from Sierra Club Canada every year from 2000 to 2006 (the most recent report card) on its commitments made at the 1992 Earth Summit in Rio de Janeiro, except for the year 2000, when Alberta's grade dropped to an F-.

While Alberta's reputation within Canada as an environmental vandal is unfortunately well-founded in fact, evidence is afoot of a paradigm shift in the province, which bodes well for the future of the Castle. After decades of *laissez faire* development and thwarted land-use policies, the Alberta government has at last openly acknowledged the need for effective planning, and is championing the new Land-Use Framework (LUF), unveiled in early 2008. The LUF is being greeted with cautious optimism by environmentalists, who, while skeptical of the government's commitment to the environment, are encouraged by much of the language within the plan.

According to Nigel Douglas, a conservation specialist with Alberta Wilderness Association, which has long fought on behalf of the Castle Wilderness, the LUF is groundbreaking inasmuch as it is attempting to address cumulative rather than individual effects. "Up to now, we've had no mechanisms for dealing with cumulative effects," says Douglas. "The Castle faces numerous individual threats, such as motorized access, oil and gas and so on, but the combined effect is much more severe than any individual effect." Like other activists, he remains skeptical that the new plan will translate into actual change but grants that the proposals within it are promising.

Douglas also sees other promising changes that bode well for the preservation of the Castle. "Opposition to protection is less than it was in the past," he asserts, noting in particular that Shell no longer opposes protecting the Castle as it did for many decades. "Protection' is still a dirty word in much of Alberta, but a lot of people are interested in having the Castle protected, and there's a growing appreciation for it among landowners." But according to Douglas, an expatriate Englishman who



*A dragonfly soaks up the sun on the characteristic pink rock of the Castle region. PHOTO: N. DOUGLAS*

fell in love with southwestern Alberta while on holiday and chose to emigrate, the government has yet to show any real impetus toward such change. "The economy remains very much focused on the selling of resources," he explains. "You can't put a dollar value on hiking, on water resources, and so on."

On the local government level, however, there are telltale signs of shifting attitudes. In keeping with the LUF's emphasis on watersheds, the municipal council of the M.D. of Pincher Creek recently voted to change the name of the district to Castle River County, acknowledging the vitality of this key watershed to the region. While some might dismiss this as merely a cosmetic change, conservationists such as Dave Sheppard, founder of the Pincher Creek-based Castle-Crown Wilderness Coalition, another group active in the campaign to protect the Castle Wilderness, see a genuine paradigm shift afoot. "Ten or 15 years ago, the council was composed largely of pro-development advocates who saw little need for any additional protection for wild places," says Sheppard. "Today's council reflects much more of an emphasis on quality of life and the need to protect what we have, including the ranching way of life, the mountains, the rivers and wild places."

The region's population is indeed burgeoning like never before, and while this means increased strain on the area, it has at the same time brought about greater awareness of the region's ecosystem, drawing visitors, volunteer weed-pullers, and other benefactors in ever-greater numbers.

Douglas says the widespread misinformation about protection has proven detrimental to the efforts of AWA and other organizations involved in the campaign to protect the Castle: "There is this perception that protection means putting a fence around an area and kicking everyone out." But a protected Castle Wilderness, he contends, would be a patchwork of different levels of protection rather than a uniform blanket designation over the whole area. "The idea we propose involves areas to be used differently, with different designations such as provincial park, wildland, and ecological reserve."

While decades of neglect and human encroachment have taken their toll on the Castle, conservationists are more optimistic than ever that a turnaround is possible through official protection. "The provincial government has consistently let it be known that protection for the Castle would not happen without strong support," says Sheppard. "Ten years ago, that majority support was simply not there. My sense is that as more new people have moved into the area and the damage in the Castle has become evident to all, local attitudes may be changing."

Although ominous developments in adjacent regions cast a shadow over the region at large – a proposed coalbed methane extraction project in the North Fork Flathead region to the west and plans for clearcut logging west of the Crowsnest Mountain to the north – the Castle Wilderness appears to be finally getting the attention it merits, and the future of this Rocky Mountain Camelot is looking brighter than it has for a long time. 🌱

*Benjamin Freeland is an Edmonton-based freelance writer and photographer and a former reporter for the Pincher Creek Echo and Waterton Boundary. Formerly based in Japan, he has also written extensively on Japan's national park system and conservationist movement.*



### Response to the Draft Parks Planning Framework

Several Alberta outdoors organizations have taken steps toward forming an umbrella organization to represent the interests of hikers in the province. A steering committee, which included an AWA representative, was formed in the spring, and at a November 1 meeting in Red Deer, seven directors were elected. The directors have decided to use the name Alberta Hiking Association (AHA), replacing the earlier suggestion of Hike Alberta Society. The Grant MacEwan Mountain Club (GMMC) executive has endorsed the concept of the new organization and appointed two of its members to represent GMMC at AHA meetings.

The steering committee arranged hiker representation at two consultation meetings with Tourism, Parks, and Recreation about that department's draft Parks Planning Framework; the meetings were held in September. At that time, AHA (then Hike Alberta Society) had not yet developed policies, and thus was not in a position to make a written submission regarding the planning framework. To fill this gap, GMMC filed the following submission with Minister Cindy Ady on October 10.

The Grant MacEwan Mountain Club (GMMC) is a group of outdoor enthusiasts, based in Edmonton, Alberta, who organize trips for our members so that we can enjoy hiking, backpacking, skiing, snow-shoeing, climbing, and mountain biking together. Volunteers organize trips of all kinds, ranging from hiking to skiing to climbing to mountaineering, at all skill levels, from beginner to advanced. Trips are organized by volunteers from within the Club. (We are not affiliated with Grant MacEwan Community College.)

Many of our club activities take place within Alberta's provincial parks, and we naturally have an interest in the plans for those parks. We have reviewed the draft *Parks Planning Framework* as circulated and thank the Minister for this opportunity to comment on the framework from our perspective.

### Hikers in Alberta

At any one time, our club will have about 250 members, but our perspective as parks users reflects that of the many other Albertans who participate in the same activities, most of whom are not members of organized groups. The Alberta government's *Alberta Recreation Survey 2004* found that members of 93 percent of Alberta households walk for pleasure (compared to 11.6 percent of households in which one or more members used ATVs). Members of 69 percent of households walk on trails. In other words, seven out of 10 households participate in hiking.

The Alberta government report *How are we Doing? 2004* gives the results of the survey of users of provincial parks campgrounds; the second most common activity, after "resting/relaxing," was unguided dayhiking. Half of campers participated. Another 16 percent reported participating in backcountry recreation, such as hiking and camping, and 8 percent went on guided hikes or walks. If these figures represent the activities of all provincial park visitors, more than four million park visits involve hiking in parks in Alberta every year.

### What Hikers Want in a Park

Hikers go into the backcountry to be close to natural beauty. Undisturbed wilderness is the ideal; recognizing that our presence in itself is a disturbance in the wilderness, we accept the need for well-built trails to minimize the impact of foot traffic and the need to limit access in some ways. The presence of motorized off-road vehicles is sufficient to destroy the quality of the backcountry experience. Sharing a trail with ATVs or off-road motorcycles is out of the question for hikers, as the noise, dust, and danger of collisions quickly makes those trails unusable by foot traffic. Separate ATV trails create a heavy impact on the environment that also undermines the quality of the hiking experience. Any park area that is "shared" with motorized off-highway vehicles is no longer available for hiking.

These remarks also apply to other human-powered backcountry activities,

such as snowshoeing, cross-country skiing, or ski mountaineering, which are adversely affected by the recreational use of snowmobiles. This point of view is not ours alone: according to *Alberta Recreation Survey 2004*, 64 percent of respondents thought motorized off-road vehicles should not be allowed in provincial parks, while only 20 percent thought they should be allowed.

### Draft Parks Planning Framework

We are aware that the planning framework is being rewritten to reflect concerns raised at the Minister's forum. We believe the revised version should reflect the following requirements:

1. Conservation of the natural environment should take priority over recreational use. From our perspective, if the natural environment is not conserved, the quality of the recreational experience is drastically lowered. If access restrictions need to be in place to preserve the environment, so be it.
2. Parks and other protected areas do not need to meet *all* the recreational needs of *all* Albertans. Some recreational uses, particularly those involving motorized transport, can be met on other Crown lands.
3. All planning must distinguish between motorized and non-motorized access.
4. Measurement of achievement of goals must be frequent enough to provide useful feedback. Rather than the three-year reporting cycle in the draft report, a one-year cycle is the minimum useful frequency.
5. Goals must be measurable and diverse, going beyond user satisfaction surveys to include biodiversity measures and measures of other environmental damage or repair.
6. The planning framework should address procedures for increasing the size and number of parks and protected areas. One reasonable response to increased demand for parks is to increase the supply of parks.
7. Any change to access to any part

of a park or protected area should be based on a sound scientific understanding of the environmental impact of the change and on thorough consultation with stakeholders, including hikers, skiers, backpackers, snowshoers, and climbers.

The existing draft includes a list of priority actions. These appear to be premature in the context of a planning framework.

Thank you for your consideration.  
Sheila Sutherland, President  
Grant MacEwan Mountain Club

On November 25, Alberta Tourism, Parks and Recreation released a second draft of Alberta's Plan for Parks (formerly called Parks Planning Framework), in part to address the public's concern that the earlier document did not strongly commit to environmental conservation. AWA will review the draft and participate in the public process for this important document that will direct the future of Alberta's parks and protected areas.

**When "Balance" is Unbalanced**  
Or, "Balance" and Other Words that Begin with "B" (like Blarney, Baloney and B.S.)

Some find it encouraging when elected officials and resource managers talk about "balancing" the environment with the economy and other values or wants. This recent example comes from the *Globe and Mail*:

**For Prentice, handling Environment a fine balancing act**  
Canada's new Environment Minister, Jim Prentice, says his marching orders are to work with the United States, Europe and Canadian industry on climate change without inflicting further pain on an already weakened economy.

Maybe it's time to take a second look.

Colleague and Bow Valley Naturalists leader Mike McIvor shed some much-needed light on the seemingly noble aspiration of balance. Imagine a scenario (like the one here in the Bow Valley) where the needs of grizzly bears are "balanced" on Monday against the expansion of the Three Sisters development in an approved proposal, against the expectations of the Silvertip development on Tuesday, against an off-leash dog park on Wednesday,



*"Caribou Heads in Red and Black"*  
diameter 14 inches, acrylic ©R. GUEST

against the siting of the Peaks of Grassi neighbourhood on Thursday, and against the routing of a mountain bike skills trail on Friday.

At the end of the week, we have five developments newly encroaching on the habitat and well-being of grizzly bears. All celebrated in the name of "balance." And with grizzlies losing a little bit (or a lot) each day. As Mike pointed out, each "balance" sees grizzlies lose more, and more, and more. Not really much of a balance, eh! And, of course, the "balancing" act goes on the next week. And the week after that. This perverse understanding of "balance" may be heralded as the best path. But try convincing grizzly bears, or any other species whose needs are repeatedly compromised.

A colleague once wrote that the environment is not merely one factor to be calculated in the decision-making equation; it is the context in which the entire calculation takes place. Balance that!

Or think of it this way. Next time you board a plane for a three-hour flight, imagine the pilot announcing he/she was going to "balance" your safety with the need to arrive on time, or with passenger comfort, or with the timing and temperature of your in-flight meal, or with the airline shareholders'

return on investment. Likely you wouldn't stay in your seat long. No, your safety in the air is *not* balanced with other factors: it's the airline's first and primary consideration (like "ecological integrity" is Parks Canada's "first priority" – but that's another story).

So it is with a healthy, productive, and nurturing environment (which, by the way, is *our* environment, not *the* environment – suggesting it's some external and alien thing "out there" somewhere).

Perhaps "reconcile" is a more helpful concept. Imagine the values sitting on a see-saw. Balance suggests some sort of equality or equity between the two values. And a balanced solution would find each value giving up (or securing) an equal amount so the see-saw sits level. But what if the values are not equally important to society? What if one is more important, more urgent, more critical. Balance doesn't allow us to weight the values. "Reconcile" opens the door to a more realistic and helpful consideration. And a more satisfactory outcome.

Balance has become a misleading buzzword. And we see more and more elected officials and resource managers hiding behind it, perhaps because they have forgotten everything they were taught in Ecology 101 (or even Ethics 101 or Econ 101), or they are mesmerized by the warm and fuzzy concept, or they fully understand that "balance" and "blarney" are just political synonyms.

So the next time someone stands up and talks about balancing your environment with someone else's short-term advantage, you might ask them what they're really up to.

A lot lies in the balance.

– Jim Pissot, *Canmore*  
Canada Field Representative,  
Defenders of Wildlife

## Federation of Alberta Naturalists Celebrates and Guards Alberta's Natural History

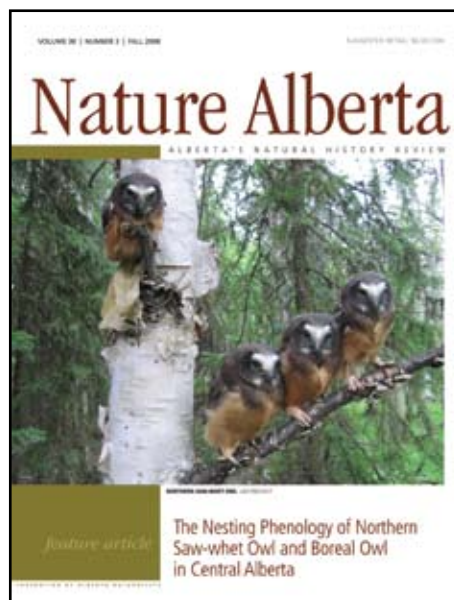
By Julie Black

*"Wilderness protection is a team sport and the larger the team the better."  
(Wilderness writer and activist Ric Careless)*

Collaboration and community partnerships are essential components of the work of Alberta Wilderness Association (AWA), as they are for many conservation organizations. AWA and FAN have a long history of cooperative efforts and worked together most recently as part of the Suffield Coalition. Throughout the years, each organization's work has supported that of the other; the inextricable link between appreciation and action underlies both organizations' efforts toward achieving our common vision of Wild Alberta.

FAN was founded in 1970 with six natural history clubs. A provincial affiliate of Nature Canada through a Memorandum of Understanding, the organization has grown into a provincial federation comprising 11 corporate clubs and 41 member clubs, representing more than 5,000 people. Almost 40 years after its beginnings, FAN's work remains rooted in what its website calls the essence of a naturalists' club: the acquisition of knowledge of the outdoors. The diverse clubs under FAN's umbrella include the Beaverhill Bird Observatory Society, the Fort Saskatchewan Naturalist Society, and the Wood Buffalo Wild Bird Club.

Offering a wealth of information and resources, FAN helps to tell Alberta's natural and wilderness story. Its publication service and website can connect people to resources as diverse as a biological database of 400,000 bird records and 30,000 plant records, public domain GIS maps, a simulator to explore the impact of land use on ecosystems, and monthly guides to the night sky. FAN's current partnership with the Royal Museum of Alberta is helping to bring a naturalist component to the museum's



*Subscriptions to Nature Alberta are \$30 per year or \$55 for two years. Back issues that are two years and older are available for free download from the FAN website: [www.fanweb.ca](http://www.fanweb.ca).*

renewed Wild Alberta natural history exhibit.

FAN's quarterly magazine, *Nature Alberta*, celebrates Alberta's natural heritage with informative, engaging articles and outstanding photographs. The magazine's main focus is natural history, says editor Dennis Baresco, with minimal attention to conservation issues. The readership is diverse and includes both professional academics and amateur naturalists.

But FAN itself is more than a birdwatching group, says Glen Semenchuk, FAN's executive director for the past 16 years. "Although it wasn't FAN's original intent," he says, "we were forced into becoming advocates because of the lack of environmental consciousness in the planning process in this province." FAN has been represented on five species recovery teams and has participated in parks planning processes and even in successful market action with the Victoria's Secret campaign. Currently FAN is contributing to the Land-Use Framework process, having been involved in designing the underlying principles through the original Integrated Land Management initiative.

Fuelling the organization's information services is a theory of change that sees knowledge as a precursor to action. "Increased understanding of our natural heritage will lead to increased appreciation and result in greater protection of it," FAN's philosophy proclaims. Knowledge is no guarantee of action, of course, but certainly we cannot steward or protect what we do not know.

FAN encourages and depends upon the community to be collectors of information, not just consumers of the story. The Alberta Plant Watch program counts on volunteers as the "eyes of science." One goal of the Alberta Bird Atlas Project was to involve the community in a conservation project while increasing public awareness and understanding of Alberta's natural history. For people not already convinced of the need for conservation, projects that depend so mightily on public participation can be an effective entryway into awareness and action.

One of FAN's objectives is to encourage the formation of natural history clubs. Semenchuk says that as an umbrella group, FAN encourages these local groups to take the initiative with regional and local issues. The services FAN provides to member clubs can reduce barriers to community organizing and encourage the proliferation of clubs and the engagement of more people across the province. These services include website hosting, sponsorship for charitable donations, and access to inexpensive directors' liability insurance. Volunteers can then put their time and effort where it matters most: strengthening knowledge, appreciation, and commitment to Wild Alberta.

AWA looks forward to continued collaboration with FAN. "We work very closely with CPAWS and AWA," says Semenchuk. "There is no formal agreement: we do it because there's a need and a level of trust that allows us to work closely together."

For more information about FAN's work and to subscribe to *Nature Alberta*, go to [www.fanweb.ca](http://www.fanweb.ca). 🐦



## Inspiration through Animation – The Youth Animation Project

By Nigel Douglas,  
AWA Conservation Specialist

One of the joys of working with an organization such as Alberta Wilderness Association (AWA) is the opportunity to work with dedicated individuals from an incredibly diverse range of backgrounds. For the past two years, AWA has been extremely proud to lend its support to the inspirational Youth Animation Project (YAP), whose participants could teach us all a lesson or two about how much can be achieved by working with grit and determination in the face of adversity.

The project, run by Quickdraw Animation Society (QAS), is a three-month full-time program for Calgary youth who are experiencing barriers to employment. Participants receive extensive training about animation techniques, with the aim of producing a short animated piece of work at the end of three months. But more than this, they receive training in a variety of other life skills such as team building, job interviews, and résumé production.

“The program works to empower youth through animation,” explains YAP Team Leader Filip Wycislak. “It allows them the opportunity to show that they can create something, and that



*A Youth Animation Project participant on a recent field trip in Kananaskis Country* N. DOUGLAS

they can finish something.” The students get considerable support from the staff, but also from each other. “We give the students a sense of purpose to help them through their journey,” says Wycislak.

An important component of YAP is community engagement, and this is where AWA comes in. When the project first started in 2006, QAS was looking for a community sponsor to give the trainees a focus for the animation projects, and AWA was happy to oblige. After spending an enjoyable afternoon talking to participants about watershed

issues in Alberta, and another day visiting Kananaskis Country to look at some of these issues on the ground, AWA took a step back to allow the students to work on their own ideas. At the end of their course, the participants hosted an evening showing of all of the completed animations, and the quality and creativity on show was absolutely breathtaking. The artistry, sophistication, and sheer roll-up-the-sleeves hard work that had gone into each of the pieces was truly inspiring.

“Animation is the carrot, but we’re doing more than animation,” says Wycislak. “For some students, it may be the first thing they have ever completed from beginning to end.”

AWA has been delighted to be involved with the YAP program ever since that first group. Another four groups have been through the program, each resulting in a superb selection of completed animations. More recently, AWA has concentrated on the theme of endangered species in Alberta. As interest in the program has blossomed, other community partners such as the Arusha Centre and the Calgary Police have been involved. Individual animation projects have been channeled more toward the work of the groups involved, with a focus on how animation can be used as an educational and outreach tool.

Each three-month YAP course ends with a gala public screening of the completed animation projects. The sense of achievement of the students on that evening is palpable. “Every video I’ve watched, people can’t believe how far these guys have made it,” enthuses Wycislak. “They are so proud of what they have done.”

It’s impossible not to share Wycislak’s enthusiasm. “I’ve never seen a project like this,” he says. “It’s easy to wake up in the morning and go to work!”

You can view animations produced by YAP participants at [albertawilderness.ca/AWRC/Podcasts.htm](http://albertawilderness.ca/AWRC/Podcasts.htm). AWA will also host a screening of the most recent YAP animated videos, along with a presentation by Filip Wycislak and YAP participants, on Tuesday, February 10, 2009. See page 31 for details. 🐾



*An image from Jonathon Sheffield’s animation, Save the Alberta Grizzly, available for viewing at [www.albertawilderness.ca](http://www.albertawilderness.ca)* PHOTO: J. SHEFFIELD

## ANNUAL LECTURE 2008

On November 14, AWA board, staff, and supporters joined in our annual evening of celebration to hear naturalist and longtime conservationist Mike McIvor. Mike gave the first Martha Kostuch Annual Wilderness and Wildlife Lecture, "Return Trip: At Home and Away in Wilderness," leaving everyone with a great deal to ponder! To listen to Mike's lecture, go to [albertawilderness.ca/AWRC/Podcasts.htm](http://albertawilderness.ca/AWRC/Podcasts.htm). An excerpt from the talk will appear in the February 2009 issue of the *Wild Lands Advocate*.

The same evening, Alberta Wilderness Defenders Awards were presented to Dave Sheppard and jointly to Diane and Mike McIvor. The awards, given annually since 2001, recognize the tireless efforts and many achievements of outstanding Albertans in the conservation of Alberta's wilderness, wildlife, and wild waters. Profile articles of award winners are posted at [events.albertawilderness.ca/Awards.htm](http://events.albertawilderness.ca/Awards.htm).

## BISON CONFERENCE

On November 17 and 18, AWA Executive Director Christyann Olson and Conservation Specialist Joyce Hildebrand attended the American Bison Society conference in Rapid City, South Dakota. The 46 sessions of the conference, entitled "Building Blocks for Bison Ecological Restoration," provided an important opportunity to discuss issues about bison conservation on the Great Plains of North America with many leading experts. Look for an article in the *Wild Lands Advocate* in 2009 summarizing the many issues surrounding bison restoration.



PHOTO: C. OLSON

## WINTER HIKE

**Pre-registration is required.**

Phone: (403) 283-2025

Toll-free: 1-866-313-0713

Online: [www.AlbertaWilderness.ca](http://www.AlbertaWilderness.ca)

\$20 AWA members; \$25 Non-members

Saturday, February 21, 2009

### **Bull Creek Hills – A Guided Winter Hike**

*With Nigel Douglas*

We all tend to do much less hiking in the winter, but winter hiking has much to offer. Snow-covered mountains offer a spectacular backdrop, and animal trails criss-cross the landscape, waiting for those who know how to read them.

Join us for a hike in the Bull Creek Hills in Kananaskis Country, west of Longview. The hike will be moderate, though there may be some walking in snow, depending on weather conditions.

## TUESDAY TALKS

The winter/spring 2009 Tuesday Talks series will cover everything from ecological economics to healing ecological despair. Join us for engaging evenings filled with images, discussion, refreshments, and friends new and old. See our full range of upcoming talks at [www.AlbertaWilderness.ca](http://www.AlbertaWilderness.ca).

Time: 7:00 to 8:30 p.m.

Place: AWA office,  
455 – 12 St. NW, Calgary

Admission: \$5 adults; \$1 children

**Pre-registration is advised for all talks.**

Phone: (403) 283-2025

Toll-free: 1-866-313-0713

Online: [www.AlbertaWilderness.ca](http://www.AlbertaWilderness.ca)

Tuesday, January 20

### **Economic Growth, Sacred Cows & the Wall Street Bull – Perspectives from Ecological Economics**

*With Dr. Brian Czech*

What is the role of citizens in developing a new economic policy? Join us for a discussion (via teleconference) of the trade-off between economic growth and wilderness conservation.



*"Night Campfire, Wapiti River"*  
10x8 inches, alkyd ©R. GUEST

Tuesday, January 27

### **"In Situ" Oil Sands Extraction – Impacts on Groundwater & Wild Lands**

*With Wallace King & Carolyn Campbell*

Below-ground oil sands developments are often seen as low-impact, but the effects on wilderness and groundwater may be far from benign. Learn about the water under our feet and the threats to Canada's largest aquifer from tar sands extraction.

Tuesday, February 10

### **Celebrating the Creativity of Calgary's Youth Animators**

*With the Youth Animation Project*

AWA is a community partner of the innovative and dynamic Youth Animation Project. Don't miss this unique opportunity to enjoy edgy, entertaining, and thought-provoking short films produced by young people from our community.

Tuesday, February 17

### **Willmore Wilderness Park – Visits with an Old Friend**

*With Ray Rasmussen*

Enjoy an evening of photographs and stories about this spectacular Alberta landscape, home to iconic species such as grizzly, wolf, and caribou.



# WILD ALBERTA

## YOUR GIFT FOR WILDERNESS

*Every winter, Alberta Wilderness Association asks members and donors to consider making a gift to help create awareness and increase protection of our wildlands, wildlife, and wild water.*



PHOTO: D. OLSON

### Will you help us this year?

Please consider the difference you can make by taking a stand and helping AWA. Here are some ideas.

- Send a cash donation by cheque, credit card, or online at <http://shop.albertawilderness.ca>.
- Ask your employer to match your donation to AWA.
- Support the *Wild Lands Advocate* by purchasing a subscription.
- Join Wilderness Partners and become a monthly donor.
- Purchase a gift membership for someone who cares about wilderness.
- Make a memorial donation in memory of loved ones.
- Make a gift of publicly listed securities and save capital gains taxes.
- Make a contribution to the Alberta Wilderness and Wildlife Trust – our legacy fund managed by the Calgary Foundation.
- Leave a gift in your will. Our charitable business number is 11878 1251 RR0001.



Every gift you make helps and is sincerely appreciated.  
For more information, call (403) 283-2025 or (toll-free) 1-866-313-0713.  
All charitable donations qualify for a tax-deductible receipt.

Return Undeliverable Canadian Addresses to:



**Alberta Wilderness Association**  
Box 6398, Station D  
Calgary, Alberta T2P 2E1  
[awa@shaw.ca](mailto:awa@shaw.ca)

