



AWILDLANDS ADVOCATE

THE ALBERTA WILDERNESS ASSOCIATION JOURNAL



Winter on the Bow PHOTO: © D. OLSON

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Editor:

Ian Urquhart

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Marni Wilson

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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.

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Please direct questions and comments to:

403-283-2025 • awa.wla@shaw.ca

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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

COVER PHOTO

The headwaters of the Bow offer many stunning winter images for photographers such as the one captured here by Dan Olson. Is climate change likely to change these aesthetics? Please read on...

FEATURED ARTIST

In this issue of the *Advocate* we are very pleased to feature the work of Medicine Hat's Linda Carney. A graduate of the Bachelor of Fine Arts program at the University of Lethbridge Linda's work has been featured in solo and group exhibitions and may be found in public collections such as that of the Alberta Foundation of the Arts. She writes that: "The environment and the life it sustains are my subject matter. Paintings of feathers from native birds in their natural environment, combined with an interest in endangered species, has led me to pursue the expression of environmental concerns." Linda's work is available through Medicine Hat's Inspire Studio and Gallery www.inspireart.ca.

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CLIMATE CHANGE... TOO MUCH? TOO MUCH TO ASK FOR?

At first glance the *Canadian Geographic* poster map staring at me from across my desk looks very appealing. It's colourful, has six smart-looking little maps, and features a very cool diagram with information about trade, industries, health, water (including snow and ice), and ecosystems.

There is nothing cool, however, about the map's message. It details how climate change is expected to impact Canada over the course of this century. On closer examination the colour on the maps indicates thawing permafrost in the North, desertification in the Prairies, or increased fire risks in Ontario. The ecological face of Canada fifty years from now is likely to look much different from today's due to increasing temperatures and changing precipitation patterns.

This issue of the *Advocate* features a collection of climate-change related articles. Carolyn Campbell opens the discussion by acquainting you with the original and innovative climate change research of Camille Parmesan. Her research on butterflies demonstrates how climate change already is affecting some species. It has led her to a controversial recommendation – that efforts to preserve some species may require “assisted colonization” of those species into new habitats.

Nigel Douglas also draws your attention to some of the impacts climate change is likely responsible for now but does so in an Alberta context. He also uses climate change to highlight that adapting to global warming may be aided if we saw some changes in our political climate. Large protected areas networks may give species some of the space needed to help them migrate and try to adapt to a warming climate.

Alberta is front and centre in the articles by Michelle Morris and Barbara Janusz. Michelle tackles the vital issue of the increased water scarcity that is likely

to loom so large in coming decades. Our water future will be a very challenging one but one she believes does not have to be catastrophic. But again, the political climate needs to change. We cannot simply go on allocating water as we do today. For Barbara a hike celebrating the International Year of Biodiversity became her vehicle for exploring current and potential climate change impacts on biodiversity in the southern eastern slopes of the Rockies. She invites you, for example, to consider how climate change is affecting butterfly and raptor populations in the Rockies.

Temperatures are not alone when it comes to being on the rise these days. So too are the global and Alberta human populations. Does this matter with respect to the future of wilderness? This is the question Vivian Pharis and I debate in this issue of the *Advocate*.

With Christmas just a few days away it is perhaps fitting that the provincial government delivered two early gifts to nature in Alberta since the last issue of the *WLA* was published. Bill 29, the new, (certainly not) improved *Parks Act* has been withdrawn and the proposed sale of 16,000 acres of scarce native grasslands has been shelved – at least temporarily.

You might not want to share the following thought with your children or grandchildren; I believe these gifts show that sometimes you have to shout at Santa if you really want something. The criticisms of AWA and other ENGOs surely deserve some of the credit for these reversals of bad policy choices. Here's hoping these decisions may signal a shift in Alberta's political climate, a shift that will deliver in 2011 some important benefits to wild Alberta. Santa, are you listening?

- Ian Urquhart, Editor



Wild Ecosystems and Climate Change – the Seminal Work of Dr. Camille Parmesan

By Carolyn Campbell, AWA Conservation Specialist

I met biologist Dr. Camille Parmesan at a conference on ‘Collaborative Responses to Climate Change’ in April 2010. A professor at the University of Texas at Austin, she was one of the few academic scientists who attended the Copenhagen international climate change conference in December 2009. Four months later she was sharing her impressions of the Copenhagen climate change policy negotiations.

Parmesan was pleased state leaders accepted the scientific consensus that a temperature increase limit of 2 degrees Celsius is needed to prevent dangerous human-caused interference with the climate system. But she was disappointed that a phrase about the need to minimize biodiversity loss and preserve ecosystem services was dropped from the negotiated text on the last day of negotiations. She thought the idea that ‘human society and health depend on healthy ecosystems’ was already accepted by decision makers – but it turned out that no, biodiversity and ecosystems were perhaps still perceived as a “special interest” agenda of conservation NGOs. It was not a high enough priority for the lawyers and policy people who advise the politicians. She thought scientists had a crucial role to play in informing the public and elected leaders about the current understanding of climate change science and impacts to inform today’s policy decisions.

At the break, I complimented her on her presentation and said I worked for AWA. She told me some of her work analyses wild ecosystems including some in Canada. Only later did I realize that I had met one of the world’s foremost authorities on the impacts of climate change on wild ecosystems. Not only has Dr. Parmesan co-authored several of the most widely cited papers on global warming, she has also appeared in many popular publications and on television, practising what she preaches about informing the public about climate change and possibilities for dealing with it. Here are some highlights of her

important research.

Parmesan’s PhD work initially was not climate change related; it started as basic research on the Edith’s checkerspot butterfly. But in 1991 significant biological evidence of global warming’s impact on species had not yet been established. Having already worked several years with the Edith’s checkerspot, including reviewing decades of historical records, she knew it was very sensitive to climate variability. As she told a ScienceWatch.com interviewer in early 2010, “this butterfly could be a bio-indicator of climate change. It could be more sensitive than a thermometer in some ways.”

“74 to 91 percent of the species that had experienced changes in their populations did so in accord with climate change predictions”

Parmesan obtained a NASA fellowship to study possible climate change impacts. Guided by historical records, she visited many Edith’s checkerspot sites from Mexico to Canada to assess whether or not its habitat was still suitable and whether or not known local populations still could be found. She discovered strong evidence that, over the past century, the butterflies were shifting their range northward and to higher elevations, even when much of their southern range habitat still appeared suitable.

That study was published in 1996 to wide acclaim. There were only two other studies that had been published by then on biological responses to climate change – one on marine invertebrates, the other on Swiss alpine plants. Her research helped convince both biological

researchers and climate scientists that there was biological evidence of a global warming signal.

Parmesan next worked with butterfly scientists in Europe, where there were distribution records over hundreds of years in Great Britain, Sweden, and Finland. She and her colleagues did field work on the southern edge of species’ ranges in Spain, France and northern Africa. They found very strong indications of a climate change signal, and published their results in *Nature* in 1999. At the northern ranges of habitat boundaries, 65 percent of the 57 species they studied had moved north of “their” historic ranges and were colonizing northward by 200 to 400 kilometres. The southern range populations were more stable but nearly a quarter of species were contracting northward and had been extirpated (become locally extinct) at their southern range boundary.

Parmesan accepted an invitation to contribute as one of the biologist experts on the Intergovernmental Panel on Climate Change (IPCC). Leading up to the 2001 report on climate change impacts, there were differences in opinions among IPCC scientists on how compelling the biological evidence of climate change impacts was. In response, Parmesan teamed up with U.S. economist Gary Yohe to produce a landmark study published in *Nature* in 2003 entitled “A globally coherent fingerprint of climate change impacts across natural systems.”

This 2003 study tested for a climate change influence or “fingerprint” using data evaluation methods that satisfied economists (and other non-biologists) about the rigour of the conclusions. Reviewing all suitable multi-species studies, Parmesan and Yohe found that the range limits of 99 species of birds, butterflies and alpine herbs had moved on average 6.1 km per decade northward or 6.1 metres per decade upward. They found a life cycle timing shift (to earlier spring timing) of 2.3 days per decade on average for 172 species of plants, birds, butterflies and amphibians.

Looking at less detailed and single species studies of 1,570 species, they found that 74 to 91 percent of the species that had experienced changes in their populations did so in accordance with climate change predictions. Not surprisingly to *Wild Lands Advocate* readers, Parmesan and Yohe concluded that land-use changes are probably the strongest driver of 20th century wildlife population changes. However, even after allowing for the flaws in long-term biological data, they found compelling evidence that climate change is a persistent, important driver for wild species population changes.

For the last two years, Parmesan's work and public outreach has included more controversial ideas about what actions should be considered to prevent extinction of those species most vulnerable to climate change. These are species with severe barriers to movement, such as mountain top species (some of which are discussed in the articles by Nigel Douglas and Barbara Janusz elsewhere in this issue). Led by Australian coral reef biologist Ove Hoegh-Guldberg, Parmesan and other scientists co-authored a paper published in *Science* in 2008 that proposed a risk assessment framework for relocating some of these vulnerable species into new range sites where they might have a chance to survive.

Their overall recommendation is that, in very specific cases, assisted colonization, also known as assisted migration or managed relocation, should be considered as part of a broader conservation strategy in a region. The best candidate species for assisted colonization would have four characteristics. First, they would be at high risk of extinction from climate change. Second, their colonization would pose low risk of doing harm to a recipient community, which would preclude predators, parasites, or species with other aggressive growth or behaviour. Third, they would be easy and inexpensive to capture and move. Fourth, they would have high inherent biological or societal value.

This proposed management framework has set off a lively debate among biologists on the merits and risk of managed relocation. In conference presentations and interviews, Parmesan acknowledges that it is a very challenging



The beautiful Edith's checkerspot butterfly. Camille Parmesan's 1996 published research on this species provided compelling evidence of a biological response to climate change.

PHOTO: T. MURRAY

idea in the field of conservation biology, a field traditionally opposed to the introduction of exotic species. "These are not normal conservation practices where you restore an area to its historical condition," she said in a presentation in January 2010 to a University of Arizona audience. "You would be converting an area to the state where you think it's going in the next hundred years to allow colonization of species." This approach, she points out, also falls outside current legal frameworks for endangered species: it would place some species out of their historic range and also would suggest that unoccupied spaces may be far more important for the future of some species than currently occupied sites.

Parmesan emphasizes that assisted colonization is not envisaged on a mass scale or across great distances, but for a few species, for no more than several hundred miles. She argues that in the face of climate change, doing nothing carries risks just as assisted colonization carries risks, so the best course of action is overall risk management. "Conventional conservation biology is suitable for lots of species; [assisted colonization] should be one of the options to be considered in

a particular narrow set of circumstances."

In June 2010, Parmesan attended a conference in Edmonton and spoke about her research to the *Edmonton Journal*. She stated that "Canada will become increasingly important for preserving North American biodiversity because a lot of the U.S. species that are even common species, as they're moving up into Canada, they're dying out in the U.S.A. ... And so we need to be thinking more continental-scale in terms of conservation, not just country-scale. In other words, the U.S. should be partnering with Canada to try to preserve species that are moving into Canada." These observations confirm the importance of establishing large-scale conservation areas such as the Yellowstone-to-Yukon wildlife corridor.

From her path-breaking work establishing that there are strong biological signals of climate change, to her leading edge policy advocacy, Dr. Camille Parmesan stands out as one of the most important voices of our time in informing and challenging us on how global warming will affect wildlife and wild places. ♡



Alberta's Climate Change Future is Here Already

By Nigel Douglas, AWA Conservation Specialist

Climate change is already upon us. It is not a theoretical proposition that may require us to sit up and pay attention at some undefined time in the future: it is already here and we are already dealing with some of the consequences. Even the Government of Alberta acknowledges that “Scientists now agree that human activity is most likely responsible for most temperature increases over the past 250 years,” and goes on to say that “if emissions continue to grow at current rates, the level of atmospheric carbon dioxide will almost double during the 21st century; it’s possible it could even triple” (*Alberta Environment website*, November 2010).

Moving Toward Climate Change Adaptation is a new Yellowstone to Yukon Conservation Initiative (Y2Y) report. Its authors write: “Twentieth-century climate records from all parts of the Y2Y region reveal trends consistent with global changes. Mean annual temperatures have increased throughout the Y2Y region. Changes in seasonal patterns of temperature and precipitation and the frequency of extreme events have also been observed.”

We are already experiencing the effects, and the costs, of changing weather patterns. In a November 2009 news release, the Government of Alberta announced that the province had already spent an astonishing \$200 million over the past three years fighting mountain pine beetle; the beetles even have their own government website! These native

invertebrates have been with us for centuries and native forests have evolved to deal with periodic infestations. But the recent reduction in the number and severity of cold winters has allowed a higher proportion of hibernating individuals to survive the winter, resulting in their significant spread, first throughout the interior of B.C. and now into Alberta’s Rocky Mountain forests.

Numerous different models make different predictions about future climate patterns. In a 2008 paper, *Climate Change Scenarios for the Prairies*, Dr. David Sauchyn and Suzan Lapp predicted that in southern Alberta, though precipitation may slightly increase in the future, this will be outweighed by a more significant increase in average temperatures. Increased temperatures will lead to increased evaporation and a greater likelihood there will be less water available in southern Alberta in the future. (See Barbara Janusz’s article in this issue for a brief discussion of one forest management strategy discussed as an adaptive measure.)

Conversely, in a 2009 report, *Climate Change and Permafrost Stability in the Eastern Canadian Cordillera: the Results of 33 Years of Measurements*, the University of Calgary’s Stuart Harris studied the depth of permafrost – the permanently frozen layer below ground – at a series of sites, including Plateau Mountain Ecological Reserve in southern Kananaskis Country. Some of Harris’ findings are surprisingly counter-

intuitive. Average surface temperatures at Plateau Mountain have actually *decreased* – by 0.49 degrees – over 31 years. And whereas in 1977 you would have had to dig 22 metres to reach the permafrost layer, by 2007 that frozen layer had increased until it was just 13 metres below the surface.

Clearly climate change is a more complex proposition than many popular portrayals suggest, but the one certainty is future uncertainty. There will be changes, and our modelling can predict what they might look like, but this is a science experiment on a huge scale – playing with the future climate of a whole planet – and nobody knows for sure what the implications will be.

In the article “Climate Change” in the excellent book *Silent Summer - The State of Wildlife in Britain and Ireland*, the authors Sparks, Preston and Roy suggest that climate change may affect the abundance and distribution of wildlife and have phenological effects on plant life. Below are some general and Alberta-specific illustrations of these climate change effects:

- Changes in abundance – increase or decrease in population size of individual species such as the pika,
- Changes in distribution – such as northward and eastward spread of mountain pine beetles from B.C. into Alberta,
- Latitudinal shifts - such as northward spread of racoons into southern Alberta,

Protecting large, connected landscapes is oneway to ensure that high elevation species such as mountain goats can persist in the long term.

PHOTO: N. DOUGLAS



- Altitudinal shifts – such as the gradual spread of the tree line to a higher altitude, and an associated reduction of alpine plants and the Rocky Mountain Apollo butterfly (see Barbara Janusz’s article for a discussion of Jens Roland’s butterfly research)

- Changes in phenology – the timing of life-cycle events such as changes in the flowering dates of plants. This is particularly significant when plants respond to changing temperatures at a different rate from those species of insects which time their emergence to coincide with flowering of specific plants.

As with the spread of mountain pine beetles, climate change is already having a measurable effect on certain species in Alberta. Some flavour of those changes is offered in the accompanying articles by Carolyn Campbell and Barbara Janusz. Recent studies have also pointed to other species that either are already affected or may be affected in the future by climate change.

Wolverines

“Picture a weasel ... picture that scrap of demoniac fury, multiply that mite some fifty times, and you have the likeness of a Wolverine.” Ernest Thompson Seton’s beautiful 1909 description of a wolverine has never been bettered. As described in the *Wild Lands Advocate* in April 2010 “*Wolverines: Putting the Wild into Wilderness*”, wolverines are designated as a *May be at Risk* species in Alberta. The *General Status of Alberta Wildlife 2005* stated: “An uncertain provincial estimate of less than 1,000 has been proposed. Trends in distribution and population [are] unknown, but populations may be declining.” Federally, they are designated as a *Species of Concern*: “This species’ habitat is increasingly fragmented by industrial activity, especially in the

southern part of its range, and increased motorized access will increase harvest pressure and other disturbances.”

Dr. Jedediah Brodie at the University of Montana and Professor Eric Post at the Pennsylvania State University published a study in the journal *Population Ecology* in 2010. They studied snowpack levels across six Canadian provinces and territories (Alberta, B.C., Saskatchewan, Manitoba, the Northwest Territories, and the Yukon). In all jurisdictions except the Yukon, snowpack depth declined significantly between 1968 and 2004. At the same time, wolverine numbers were known to be “falling across North America.” Brodie and Post made a direct connection: “In provinces where winter snowpack levels are declining fastest, wolverine populations tend to be declining most rapidly.”

The mechanisms were unclear: deep snow seems to be a necessity for free movement and for female denning success. At the same time deep snow presents disadvantages to their ungulate prey. The authors also pointed to the additional significance of “anthropogenic stressors,” man-made impacts on wolverine habitat, such as roads and industrial operations. “Reducing the impact of these anthropogenic stressors could help ‘offset’ the impacts of climate change on wolverines,” the authors suggested.

Clearly the wolverine is a species with an uncertain future in a changing climate.

Pikas

Anybody who has hiked in alpine meadows will be familiar with the enthusiastic squeak of the pika, or rock rabbit, calling from the safety of a nearby talus slope. The pika is a high elevation specialist, living in Alberta only on the higher mountain slopes. A popular and

engaging animal, the pika is one of the few small alpine mammals that does not hibernate. Instead it spends the summer busily cropping nutritious vegetation, which it leaves out in the sun to dry, like hay. This food supply is then dragged and stored underground, where the pika feeds on it throughout the winter, happily protected from the bitterest cold by an insulating layer of snow.

In some ways it lends itself to being the “poster child” of species potentially affected by climate change. If temperatures rise, the alpine plants on which the pika relies gradually will migrate higher and higher up mountainsides. In a twist to what Disney’s *Jungle Book*’s might call the “king of the swingers syndrome,” the pikas reach the top, they have to stop, and that’s definitely going to bother them. Sooner or later they are going to run out of mountain.

In the U.S., the *Center for Biological Diversity* recently petitioned to have the pika listed under federal endangered species legislation. It wrote: “The pika is adapted to cold alpine conditions and can die from overheating when exposed to temperatures as mild as 78 degrees Fahrenheit for just a few hours.” The application was turned down by the U.S. Fish and Wildlife Service, though they did acknowledge that “National Oceanic and Atmospheric Administration...models indicate summer temperatures were likely to increase an average of 5.4 degrees Fahrenheit in pika habitat. (sic)”

In Alberta, pikas are listed as *secure* though, for a relatively common animal, a surprisingly small amount of data has been collected. When researchers looking at wildlife movement across the Trans Canada Highway tried to look back at old records for pikas in Banff National Park, they were surprised to find just 20 records in the park’s 125-year history. Pikas have

*“We protect ice and snow remarkably well.
And we protect the places where biological
diversity is concentrated remarkably poorly.”
– Jeremy Kerr*



Pika (Ochotona princeps) near Jasper, Alberta.
Pikas are a high-elevation, temperature-sensitive species that may be impacted by rising temperatures in future.
PHOTO: ALAN D. WILSON <http://www.naturespicsonline.com/index.html>

always been there, but people seldom take the time to record the common wildlife.

In an effort to address this shortcoming on a local scale, the Bow Valley Naturalists have initiated a new monitoring program for High Elevation Localized Species (HELs). Anybody who has seen pikas or any of the other HELs species – hoary marmots, mountain goats and white-tailed ptarmigans – in the Bow Valley region and beyond can go online to www.bowvalleynaturalists.org and add their own records. Hopefully this initiative will help to give a broad baseline indication of where these animals occur today and how their distribution might shift in the future.

What can we do about future climate change?

So what can we actually do to get ahead of current and future climate change to allow species and habitats the space they need to adapt to change? Protected areas address some of the issues of future climate change uncertainty. If protected areas networks are suitably large, well designed and connected, then as species habitat changes, plants and animals can use protected area networks to move with them. This may help to ensure their long-term survival. In the absence of these protected networks, the likelihood of species simply running out of habitat is much greater.

Though in Alberta we have relatively large areas of the Rocky Mountain protected, protection percentages in the Foothills (less than two percent) and Grasslands (less than one percent) are clearly inadequate to protect future biodiversity. As Jeremy Kerr, Associate Professor of Biology at the University of Ottawa, puts it, “We protect ice and snow remarkably well. And we protect the places where biological diversity is concentrated remarkably poorly.”

As AWA has been pointing out for several decades, Alberta needs more protected areas; it needs more representative protected areas; and it needs better connected protected areas. Climate change makes this need all the more urgent. 🐾



Climate Change and Water in Alberta: Are we Dammed?

By Michelle Morris

Climate Prosperity?

Water, the common denominator of all living things, is Alberta's primary vulnerability as the climate changes. Projected climate change impacts on Alberta's water resources make it hard to believe Alberta will enjoy what the National Roundtable on Environment and Economy (NRTEE) calls "climate prosperity". The NRTEE is conducting research on potential "Climate Prosperity", with the goal of helping Canadians to adapt to and prosper from climate change. This group's *Degrees of Change* table published in this October's *Canadian Geographic* magazine, notes that with a 2 degrees Celsius increase in average temperatures, Albertans can expect to see more severe droughts, decreasing river flows, the continuation of glacial melting, and compromised water quality, among other impacts.

These estimations echo what researchers such as David Schindler and Steward Rood have shown; stream flows in many of Alberta's river basins, including the Bow, Oldman, North Saskatchewan and Athabasca, declined

through the latter part of the 20th century. They predict that stream flows will continue to decline in this century. Specifically, we might expect stream flows to decline in critical summer months, but during the winter and spring, flows may be higher. This pattern conflicts with water demands, which are the greatest in late summer. Though the worst impacts may be felt in southern Alberta's prairie region, consequences of climate change are certainly not confined to that area; all Alberta rivers flowing east from the Rocky Mountains conform to this pattern. Groundwater will also suffer climate change impacts, which will vary according to soil moisture: if the soil is dry, precipitation will be retained in the soil, reducing groundwater recharge and therefore contributing to groundwater depletion. We might also expect lake levels to fall as a result of climate change.

Reduced stream flow has many undesirable ecological consequences, including threatening cold-water dependent native fish species such as the bull and cutthroat trout, as well as introduced species such as the rainbow

and brown trout. Reductions in stream flow will also negatively impact riparian habitat, including the trees and shrubs such as the cottonwoods and willows that line river valleys and act as habitat for fauna and as an ecological filter, capturing pollutants and sediment that might otherwise contaminate water.

Concentrations of pollutants such as phosphorous, nitrogen, E. coli, and pharmaceuticals are also likely to increase as a result of reduced quantities of water. Increased phosphorous concentrations will contribute to the eutrophication of lakes that capture river water, meaning that algae blooms fertilized by compounds intended for agricultural production will reduce oxygen in the water that other species depend on. This will contribute to anoxic "dead zones" where aquatic life is severely compromised. Endocrine-disrupting pharmaceuticals threaten to alter sex ratios in fish and increase risks related to prostate and ovarian cancers in humans. E. coli and salmonella, which usually result from agricultural runoff, pose a significant human health risk.



What will climate change mean for southern Alberta rivers such as the Oldman?

PHOTO: N. DOUGLAS



The controversial Oldman River Dam was built in the 1990s to support the expansion of irrigation in southern Alberta.

PHOTO: C. WALLIS

Falling lake levels and reduced groundwater supplies will further threaten water quality. This brief sketch of the potential ecological situation is bleak. However, when we turn to the socio-political dimension of Alberta's water future, we see that, if we are willing, we have room to mitigate some of the most catastrophic effects of climate change.

Alberta's Water Law: Room to Manoeuvre?

Water allocation is vital to determining municipal, agricultural, and industrial development, as well as contributing to either the integrity or degradation of aquatic ecosystems. Considering that climate change will most likely reduce future supplies of water in Alberta, we need to take a hard look at Alberta's current system of water allocation and alternative approaches which may provide better protection for human and ecosystem needs.

In Alberta water is primarily licensed via a system of prior allocation, also known as "first in time first in right" (FITFIR). Under prior allocation water law, whoever has the earliest water licence has the first right to withdraw their full allocation. This right exists even if exercising it impedes the ability of junior licence holders to withdraw their allocations and even if their water withdrawals today threaten the ecology in ways they didn't one or more generations ago. Importantly, FITFIR water licences are "use" rights while the ownership of this licensed water is public.

The bulk of allocated water in Alberta is licensed to agriculture and industry. A study by AMEC Environment found that, as of 2005, the irrigation sector accounts for 43 percent of allocations in the province, the industrial sector 28 percent, municipalities 11 percent, and the petroleum sector eight percent. Many licence holders do not use their

full allocations. For example, irrigation districts, due to variable weather conditions, often use only part of their allocations and store the unused portions.

Understandings of water quantities was somewhat skewed during the 20th century, as tree ring data demonstrate that it was wetter than in centuries prior. Therefore, water allocations were based upon an inflated projection of water supply. As water supplies decrease and our water laws and allocations remain the same, it is increasingly unlikely that those with more recent licences will be able to obtain their allocations. In the abstract, this statement may seem innocuous, but consider that many municipalities in southern Alberta, such as Okotoks, High River, Strathmore and Cochrane may in the near future exceed their capacity for growth because their more recent "junior" water licences will not allow it. This situation is exacerbated by the fact that the municipalities cannot obtain any more water allocations, as the river basin in which they reside is closed to further licensing. Also consider that water demands, resulting from irrigation development, further industrial development (most notably in the oil sands), and population growth, are projected to increase.

Prior allocation water law is criticized for failing to adapt to changing circumstances, such as societal valuation of environmental uses of water. The historical context in which this system of water law developed is telling: it was used to facilitate settler development in the prairies and to encourage irrigation. During this time period, water that was not captured, stored, and used for farming or industry was generally regarded as wasted. Our water allocation law, by failing to prioritize allocating water to remain in river systems as the ecological and biological sciences have shown is necessary, is failing us. Considering that

climate change impacts are likely to reduce the quantity of water in Alberta, the time is right to question whether continuing the legacy of prior allocation is ecologically and socially prudent.

Alternative Approaches: Market and Non-market

The government of Alberta, hopefully, may be undertaking this task. In September 2008 Environment Minister Rob Renner appointed a group to study Alberta's water law and provide recommendations for future policy directions. Three groups, the Minister's Advisory Council, the Alberta Water Research Institute, and the Alberta Water Council delivered recommendations to the government in the fall of 2009. All of the reports suggested that variations of a water market should be implemented province-wide, while retaining prior allocation water law.

It is worthwhile, then, to consider Alberta's only water allocation market, which has operated in the South Saskatchewan River Basin. The Bow, Oldman, and South Saskatchewan River systems were closed to any further allocations in 2006 because some reaches of the river systems were either overallocated or close to reaching overallocation. As such, aside from First Nations reserves, water conservation objectives, and projects to store peak flows, any prospective user must purchase a temporary or permanent water allocation from an existing user.

The *Water Act* allows this to occur. Since this legislation maintains prior allocation licensing any transfers between users retain the original licence date. Though market activity has as of yet been limited, research by economists Lorraine Nicol, Kurt Klein, and Henning Bjornlund has shown that senior licences yield higher prices in the water market. This excessively rewards licence holders

with earlier priority dates who received their water allocations from the Crown for a very modest fee.

Water markets are lauded because they encourage water conservation and allow for flexibility in times of supply restriction. Individuals can sell portions of allocations they do not use to other users. However, this feature might also encourage people to sell “sleeper” rights, or allocations or portions thereof that they do not use that may be acting as de facto environmental water allocations. Water markets are also celebrated because they encourage water transfers from low-value crops such as forages and cereals to high-value crops such as beets and oil seeds. This brings into question whether we should allow international market circumstances beyond our control to dictate how scarce supplies of water are used as well as the wisdom of growing large quantities of crops for export in semi-arid regions (especially as the processed crops tend to contribute to health problems such as obesity and diabetes).

Though water pricing can be an effective mechanism to discourage profligate water use, it excludes individuals on the economic margins of society who may not be able to purchase allocations. These circumstances can be eased to some extent by allocating to human and environmental purposes before allowing market activity to develop and enforcing strict environmental guidelines on water allocation transfers. However, issues related to equity persist.

Alternatively, the Canmore-based group Water Matters advocates a share-based approach to water allocation. The crux of this idea is that after legislatively protected allocations are made to critical human and environmental purposes, remaining water is allocated via a share basis. The volume of water allocated to a user would increase or decrease according to projected water supplies. Users and potential users would be able to transfer shares, though environmental water allocations would be protected from being sold. This approach would also retain some aspects of FITFIR, as senior licence holders may initially be allocated greater shares, though environmental and human purposes would have priority over other uses.

Another option to protect riverine

“when we turn to the socio-political dimension of Alberta’s water future... we have room to mitigate some of the most catastrophic effects of climate change”

environments during periods of low flows would be to require licence holders, including those with senior rights, to comply with stringent in-stream (environmental) flow regulations. Of course, this would require that stringent environmental water allocations be in place. New Zealand adopted such an approach, allowing historic mining licences used for irrigation purposes 30 years to meet legislated minimum flow requirements or discontinue use. This option would be politically difficult, but as New Zealand shows, not impossible. Remember that water is a public resource that through Alberta’s prior allocation law is licensed as a use right, not a property right.

The government of Alberta has also considered increasing storage capacity (dams and reservoirs) to reduce the effects of climate change impacts. Premier Ed Stelmach recently endorsed this option, suggesting that water storage will need to increase in southern Alberta to support economic and industrial development, despite the protests of environmentalists. This typical 20th century supply-side solution to perceived water scarcity issues is expensive and has many detrimental environmental impacts. These include altering sedimentation regimes in rivers, adversely impacting fish habitat by altering stream temperatures as well as the natural flow regime, and threatening riparian vegetation, to name only a few. Furthermore, southern Alberta already hosts plenty of dams.

A more fiscally, ecologically, and socially sensible alternative would be to implement demand-side solutions by encouraging water efficiency, reuse, and recycling through retrofitting, and earnestly questioning the purposes for which we use water. Is it wise to design policies that encourage the export of water-intensive crops that are grown in semi-arid, water scarce regions? Is it reasonable for industries to compromise river ecology by withdrawing water when river flows are low?

If the best answers to those question are “no” then Alberta’s regional planning process is a great opportunity to consider

projected climate change impacts in land-use planning for our future. There really can be no disputing that Alberta’s climate future will inevitably impact water resources. A progressive approach to water management and land use planning would consider climate change impacts in Alberta’s rivers and prioritize human and environmental purposes before allocating water to other uses.

Are we Dammed? A Tentative No

Climate change presents many water resources challenges for Albertans. Technological knowledge has allowed us to dam rivers, store water, and divert this most precious resource to where it would otherwise not go. Technologies have also allowed us to increase efficiency of use. Technology may provide us with part of the solution but improved water management is also an essential requisite. We are not doomed to be dammed and diverted like happens now to much of the water in our river systems. But we do need to earnestly consider whether our current water management schemes can provide the flexibility needed to respond to climate change impacts. Amending legislation to provide for and prioritize environmental water allocations and human needs will allow us to mitigate some of the worst climate change impacts such as degraded water quality, riparian vegetation, and fish habitat. This would mean that industry and agriculture would receive water allocations only after environmental and human needs are met. This also may require scaling back some historic allocations. To be sure, we need agriculture and industry, but healthy aquatic ecosystems and human populations are the foundation upon which those two activities can occur. Only after ecosystem and human needs are met can we earnestly discuss the potential for so-called “climate prosperity”. ▲

Michelle Morris is a Master’s student at the University of Alberta, where she studies water policy.



Climate Change and Biodiversity on Alberta's Southern Eastern Slopes

By Barbara D. Janusz

Since the Intergovernmental Panel on Climate Change (IPCC) settled the debate in 2007 on whether humans are responsible for rising concentrations of greenhouse gas emissions in our atmosphere, climatologists have shifted their focus to the long term implications of destabilized weather patterns. Computer modeling notwithstanding, the projecting of future climatic trends on our planet's diverse landforms is almost tantamount to crystal ball gazing. The earth's climate is a complex, interrelated system, replete with feedback loops. Changes in one component of the biosphere can unleash a string of effects that eventually loop back to affect the original component, precipitating sudden shifts in climate when a threshold is crossed or to an ensuing equilibrium. Even a landlocked province, like Alberta, is affected by Pacific Ocean currents, and no other ecosystem in our province is more impacted by Pacific cyclic disturbances, like El Niño and La Niña, than the eastern slopes of the Rocky Mountains in southern Alberta.

This biologically diverse corner of the province boasts a comparatively lower elevation than the alpine regions of Banff, Willmore and Jasper. Its montane landscape is characterized by a convergence of plant species found in the Pacific Northwest, the Great Plains and the boreal forest. It was, therefore, fitting that on July 31, 2010 two groups of hikers, guided by biologists Reg Ernst and Dave Sheppard, celebrated the UN's International Year of Biodiversity by trekking up the alpine trails of Middle Kootenay Pass and the Carbondale Fire Lookout. Spearheaded by the Castle Crown Wilderness Coalition, which for the past twenty years has tirelessly advocated for legislated protection of the Castle, the celebratory hikes were attended predominantly by Coalition members and others very familiar with the Castle's stunningly picturesque landscape.

Even for seasoned Castle Crown hikers, this summer's explosion of alpine wildflowers was extraordinarily magnificent. Typically by the end of July wildflowers, save for the later blooming Indian paintbrush, have largely wilted and shed their colours. This year, due to heavier than normal spring and early summer rains, the alpine meadows were teeming with blue flax, harebell, violets, wild geraniums, wood lilies, brown-eyed Susan's, white camas, northern shooting star and the ubiquitous Alberta wild rose. On the Carbondale hike we came across an ancient limber pine with dozens of lime green coloured pinecones saturated with resin. Our guide, Dave Sheppard, who's lived in the region for many years, had never seen such a fecund specimen of limber pine.

Was this year's bounty of alpine wildflowers and limber pinecones a precursor of what climate change has in store for the Castle Crown and southern eastern slopes? Not according to Allan Casey, author of "Water for a Dry Land," published in the October 2010 issue of *Canadian Geographic*. Referring to the South Saskatchewan River as the "lifeblood of the prairies," Casey examines the river basin's over-allocation, particularly to irrigate crops such as sugar beets, in the semi-arid landscape known since 1860 as the Palliser Triangle. "A 2009 report by World Wildlife Fund Canada," Casey writes, "called it the country's most-threatened river."

In 2006, the Alberta Government stopped granting new water licences in the South Saskatchewan River Basin. Existing water allocations can be traded and Casey writes that such trading "is on the rise." In order to boost "efficiencies" with

respect to water storage, evaporation-prone and leaky canals are being retrofitted to low-loss pipeworks. The net effect of these initiatives is to reduce the amount of the water available to downstream users in Saskatchewan.

Two collaborative research projects on the eastern slopes, however, examine how innovative forest management practices can counteract river flow diminishment. The University of Saskatchewan Centre for Hydrology, in collaboration with the University of

Alberta, has been conducting studies – in Kananaskis and in the Castle Crown, respectively – to determine whether the process of sublimation in the Rocky Mountain forests contributes to reduced flows in the South Saskatchewan basin. Casey summarizes the research conducted by John Pomeroy, Canada Research Chair in Water Resources and Climate Change with the University of Saskatchewan. According to Pomeroy, "[t]he idea that shrinking glaciers are causing the river to dry up is a misconception." Nearly half of the snow that falls onto densely treed valleys vanishes into thin air. "The denser the upslope forest, the less water flows down to the river. Snow caught in tree branches is exposed to more sun and wind and tends to vaporize into the atmosphere via sublimation."

In a conference telephone call with Morgan Kehr, Forestry Program Manager and Dr. Axel Anderson, Forest Hydrologist with Alberta Sustainable Resource Development (SRD), Kehr confirmed that SRD has been conducting research on sublimation south of Blairmore in the Lost Creek area since the fire of 2003. Their research objective is to "... determine whether thinning of the forest is operationally feasible to counteract the process of sublimation and to boost flow in the South Saskatchewan river basin." When I asked whether this

"Timing of the seasons is completely up the creek.... Seasons are not seasonal."
– Dr. Peter Sherrington

forestry management practice could disrupt the hydrological cycle, Dr. Anderson pointed out that sublimation only occurs in winter and that the lion's share of water that accumulates at these higher elevations is in the form of snow.

Kehr also stated that the project has moved to the planning stage, but this has not yet led, according to Gordon Lehn - Woodlands Manager of Spray Lakes Sawmills, to mandating any particular innovative forestry practice under the C5 forest management plan which governs logging on the southern eastern slopes. Lehn confirmed for me that the shapes, sizes and configurations of cut blocks, stipulated under the agreement, are site specific, emulating natural disturbance patterns and determined by habitat suitability modeling.

Spray Lakes is very proud of its structural retention and stumpside processing practices.

Even though deciduous, white pine and limber pine are not slated to be harvested by Spray Lakes, the Castle Crown Wilderness Coalition and a group of Beaver Mines residents are opposed to any logging in the Castle Crown and recently organized a demonstration at the Bayshore Inn in Waterton Park – the venue of this year's annual Crown of the Continent symposium. Indeed, the IPCC estimates that deforestation in developing countries accounts for nearly 20 percent of overall greenhouse gases entering the atmosphere – a percentage that exceeds the yearly emissions generated by the transportation sector. While selective logging on the southern eastern slopes might boost runoff into the South Saskatchewan basin, the carbon footprint engendered by logging, particularly by the emissions of carbon dioxide through transport of harvested trees 300 plus kilometres to the sawmill for processing, may nullify or reduce any value projected to be derived from thinning of the forest.

A quarter of our planet's land area is characterized as alpine or sub-alpine. Tracing the headwaters of rivers globally, it is not surprising that mountains are referred to by ecologists as water towers and that the impact of climate change on the tree line or forest boundary in alpine regions has been studied for decades. A 2002 *Oxford Journals Review* article "Impacts of Climate Change on the Tree Line," hypothesized that an advancing tree

line or denser forest below the tree line would have significant implications for the global carbon cycle by increasing the terrestrial carbon sink and for biodiversity of the alpine ecotone. Plant communities would be disrupted; some rare plant species would be ousted. Grace, Nagy and Berninger wrote: "There are three aspects of environmental change to which plants are generally thought to respond: increasing temperature, rising concentration of carbon dioxide and increasing deposition of nitrogen." The authors conceded, however, that the impact of decreases in solar radiation as a result of global dimming on plants is still poorly understood.

An advancing tree line due to global warming, according to University of Alberta biology professor Jens Roland, might also have serious implications for alpine butterflies. A 2007 issue of *Science Daily* highlights that Roland's research has shown that expanding forests in the Rockies are slowly isolating neighbouring populations of the Rocky Mountain Apollo butterfly (*Parnassius smintheus*). These butterflies inhabit open meadows because they need sunlight to generate enough body heat in order to fly. Shady forests deny them this vital sunlight. He said: "The risk of local extinction and inbreeding depression will increase as meadows shrink, the population sizes decrease and the populations become more isolated." Prescribed burns to control forest expansion, rarely carried out beyond the boundaries of the mountain national parks, would help alpine butterflies.

In another study of the impact of climate change on the egg-laying and migration activities of birds a computer model was used to show that climate change is likely to disrupt the annual routines of migrating birds. The research, led by the Swedish ornithologist Anders Hedenström, concludes that global warming is likely to precipitate a conflict between environmental cues and birds' inner clocks. "For birds that show high behavioral elasticity, and a high capacity for changing their routines," *Life of science* reported, "climate change should have a relatively small impact on their survival. However, for birds unable to adjust fast enough, the consequences will be dire."

Dr. Peter Sherrington – Research Director of the Rocky Mountain Eagle Research Foundation – estimates that over the past decade the numbers of migrating raptors have declined



And No Birds Sang
11" x 15 1/2" Watercolour
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Abundance vs Absence

11 1/2" x 17 1/2" Watercolour

© L. CARNEY

by 40 percent. "Timing of the seasons is completely up the creek....Seasons are not seasonal." In a telephone interview Sherrington elaborated upon these statements and linked them to the declining numbers of migrating eagles by explaining that for the past two or three years, here on the southern eastern slopes, March and April have been unseasonably mild, only to be followed by a week in May with sub-zero temperatures. This has led to high fatality rates and a delayed breeding period.

Recently observed adaptations in mammals have also been attributed to climate change. A forty-year study in Colorado conducted by Dr. Kenneth Armitage, Professor Emeritus at the University of Kansas, has discovered that marmots are becoming larger and heavier. In the July 22, 2010 issue of *Science Daily* Armitage stated: "The warming results in earlier snowmelt, which means that plants appear sooner and the marmots come out of hibernation earlier....They have more fat left which provides them energy to start foraging. Then they can start reproducing so their young are born earlier and have time to get fat enough to survive hibernation. Most importantly, the reproductive female can survive better." Armitage believes, however, that the increase in the marmot population will be short lived as diminished snowmelt will reduce the number of plants that sustain the marmots.

Unlike the marmot the tiny American pika, which inhabits alpine mountain ranges, does not hibernate and depends on snowpack for shelter. This small rodent maintains a high internal temperature to sustain itself in frigid temperatures and wildlife biologists have observed the collapse of some pika colonies at lower elevations, while other colonies are moving upslope to escape the heat. Linking climate change to the diminishment and curtailment of pika habitat, the Center for Biological Diversity petitioned the U.S. government, unsuccessfully, to have pikas listed as endangered under the *Endangered Species Act* (see a related story by Nigel Douglas in the Updates section of the August 2009 *WLA*). In any event, had the Obama administration

listed the pika as endangered it would have been a hollow victory since protection of the pika's habitat demands a global reduction of greenhouse gas emissions. The failure of the signatories to the Kyoto Protocol to hammer out a consensus on limits to greenhouse gas emissions highlights the challenges confronting the global community in protecting species-at-risk, like the pika, and our planet's biodiversity.

On October 29, 2010, delegates from 193 countries convened in Nagoya, Japan for the UN Conference on Biodiversity. The delegates ratified a new Strategic Plan under the Convention on Biological Diversity to protect 17 percent of the world's land areas and 10 percent of our oceans by 2020. Currently just 13 percent of the world's land areas and less than one percent of our marine habitats are protected.

On the face of it, this new Strategic Plan may promise that the next generation of hikers, decades from now, will be blessed with the same bounty of alpine wildflowers we encountered in July. Sadly, as in the case of the American pika, many less resilient species of flora and fauna and the biodiversity they contribute to are being seriously endangered by climate change. Even if the signatories to the Convention could agree on measures to enforce their new Strategic Plan to protect larger percentages of land and marine territories, climate is a complex, interrelated systemic process that affects the seasonal inner clocks of all living things in ways we do not fully understand.

This last comment brings me back to a point I made at the beginning of this essay. Projecting future climatic trends, their impacts on our planet's diverse landforms and our ability to adapt to and mitigate the consequences of climate change remains an exercise in crystal ball gazing. 🌱

Barbara D. Janusz is a resident of Crowsnest Pass who has practised law and taught law and management. She is currently embarking on a new career as a Sustainability Management Consultant.

Point/Counterpoint: Population Growth and the Future of Wilderness

The first time I taught an international politics course on resources/environmental issues I was struck by the powerful connection researchers sometimes made between environment and population. Thomas Homer-Dixon's work demonstrated this connection well. Renewable resources scarcity (what he called environmental scarcity) of critical renewable resources such as cropland, freshwater and forest sometimes could be attributed to population growth. Increasing populations meant the per

capita availability of those resources fell.

Circumstances like this concern many – such as the formidable AWA champion Vivian Pharis. She suggested the *Wild Lands Advocate* should raise the population growth/wilderness relationship in one of its issues.

What follows is a debate on this subject. Vivian and I agreed in October to address the following question: "Be it Resolved that Population Growth is a Serious Threat to Wilderness Preservation in Alberta." Vivian enthusiastically

argues the affirmative; I enthusiastically refute her claim.

While Vivian and I disagree fundamentally about this issue I am sure I speak for both of us when I say we hope this exchange between friends is informative and provocative. Neither of us has seen what the other wrote until it appeared in the *Advocate*. Vivian's position is presented first.

- Ian Urquhart

POINT/COUNTERPOINT 1:

Growth is All Good, Right?

By Vivian Pharis, AWA Director

This is Alberta, so of course it's right! Look at what we have – the biggest and best of everything and the most of it too. What could be better? We are all so happy!

Albertans appreciate best that happiness and prosperity depend on having money and buying stuff. We are convinced that economic growth trumps all. Economists, Chambers of Commerce, land developers and the folks at the C.D. Howe Institute persistently remind us that society will collapse if growth fails. To maintain prosperity, Alberta absolutely needs more people to help dig more resources from the ground so that we can create the wealth that will let us buy more stuff. Alberta is Canada's growth engine – our GDP is the highest and our population grows at nearly double Canada's rate. All those 50,000 or so who join us each year, will also soon be as happy as we are, with XXL-sizes of everything, from houses to RVs and with second homes in Panorama, Palm Springs or Phoenix.

And, there is more to come. Only two percent of our vast wealth of oil-in-sand has been developed so far and we are only beginning to tap large reserves of deeper oil sands through steam; shale gas

is on the near horizon and even newer deposits of deeper oil-in-carbonate fields await the technology to develop them. We are the luckiest!

But what about those nasty pictures of dead ducks in sticky black tailings ponds? Puzzling news stories keep popping up about the government's deficit and Alberta having to pilfer its Sustainability Fund, again. It's hard to comprehend what is happening in this best-of-all places to live when some schools are back to 40 students in a classroom, emergency wait lines can be all day, traffic is in gridlock, parks are losing protection, public lands are being sold to help fight the deficit and the premier is always cranky.

Other matters niggle. Things that we used to enjoy seem to be disappearing. Take the common toad for instance. Has anybody seen one in 20 years? They used to be common on my garden path and on mountain trails from Waterton to the Willmore, and throughout the boreal. I realize no badger has dug ground squirrels in my pasture for years now. Who has seen a lynx or a weasel lately, much less a fisher or a wolverine? What happened to my lovely Wildcat Hills just west of Cochrane? Only a decade



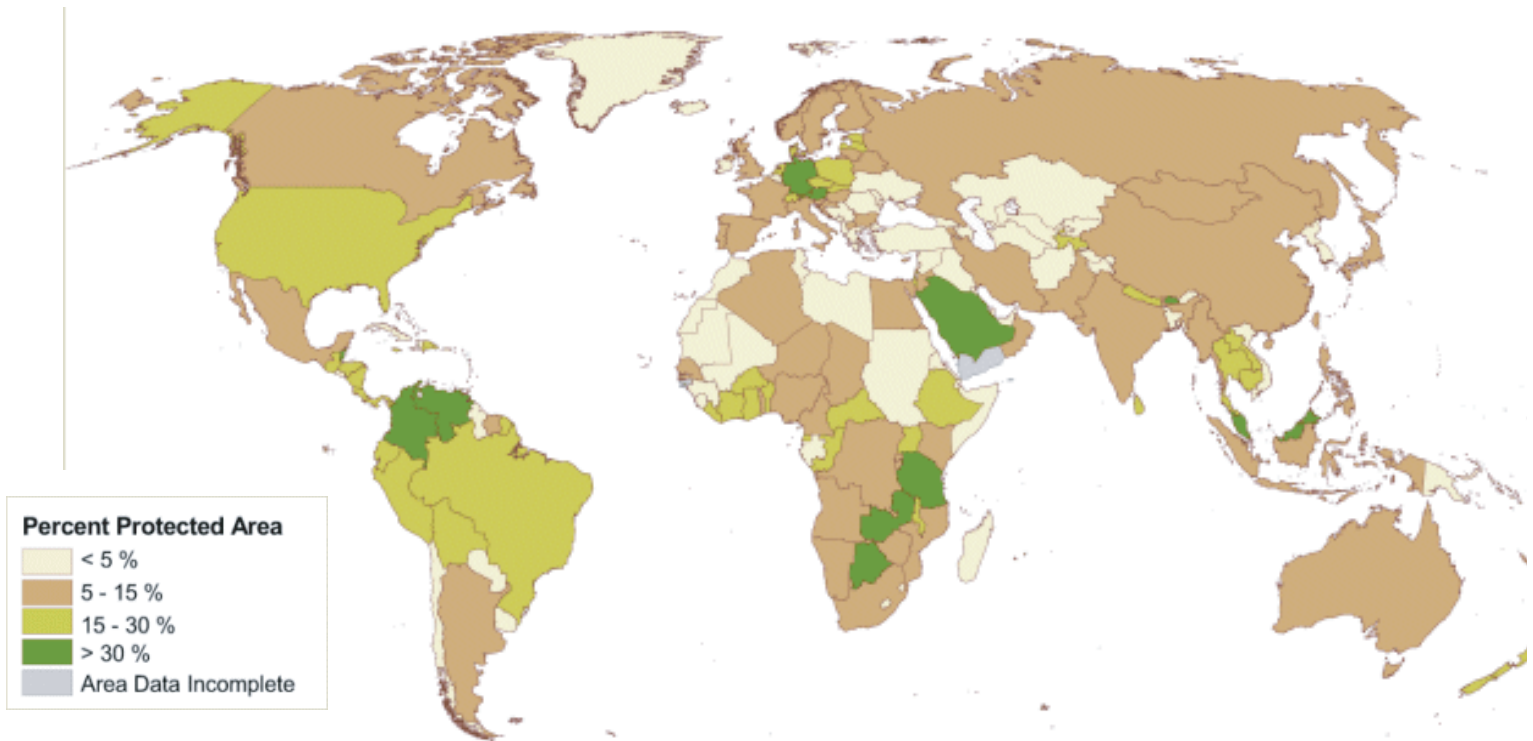
Vanishing Species (Bald Eagle Habitat)
22" x 30" Watercolour
© L. CARNEY

ago their delightful forests were as they were in frontier times, but now they are rectangles of delight-less jackstraw.

In the good old days when toads were common, there were more wild places, fewer roads and a lot less sprawl. Back as far as the 1960s when oil and gas first boomed, Alberta was relatively sparsely populated and mostly still wilderness, although the prairie wolf, plains grizzly, black footed ferret, prairie dog and swift fox are reminders of how fast and fully loss can happen. The great annihilation of species that took the plains grizzly actually began a hundred years before

FIGURE 1: PERCENT OF TOTAL LAND AREA PROTECTED (ALL DESIGNATIONS).

Source: World Resources Institute 2003



1960, when a few European immigrants began to convert the open plains to settlement.

One of the supreme spectacles of wildlife and wilderness would have been the mass of North American bison that in 1860 numbered some 75 million and individual herds filled whole valleys and would take days to ride through on horseback. But, early Europeans brought a new concept to the land of the bison, one of wealth based on converting natural resources into money and goods. There was a seemingly insatiable demand for leather from bison hides and fertilizer and bone china from bison bones. That aside, the land needed to be cleared of large, unruly beasts and of the roving bands of Indians tagging after them, for settlement to happen.

By 1870, the forces of economy and expediency had pretty much converted the bison into economic goods. With them went their predators, whose hides also had commercial value. In a single year some 750 grizzly hides were reported as traded in the Cypress Hills alone. Within a decade, the Indians went to reserves and the land to the plow, and thus to the greater good. The trend to prosperity had begun. So had the trend to simpler ecology.

Today's pace of loss of what's wild and natural must at least equal the pace

of Alberta's economic and population growth. But, how do we prove this? We are certain the grizzly has been reduced to only about 500 and the sage-grouse to a few dozen. All evidence is that woodland caribou numbers are in freefall collapse. There are few species so directly in the path of energy development as it is. For so many species and their habitats though, all we know are trends and proving losses in unequivocal terms so that action becomes imperative, is tough. There are too many data gaps and too many reasons to maintain them. Alberta's growth craves no impediments.

Data are necessary though, to force action. We need to know what and how many species we had and have; historical flows and water quality; what is left of wilderness and what is crucial for wildlife, in order to understand sustainability and to predict how much development can be accommodated without ecosystem rupture.

At the 2010 UN Convention on Biodiversity held in Nagoya, a new plan was developed to rescue global biodiversity. It involves dedicating not 12.5 percent, but 17 percent of land ecosystems to nature reserves, in the hope of cutting habitat loss by half in 10 years. Meeting this new target in rich Alberta should be easy if sustainability was a priority, but will undoubtedly prove as

hard as preserving 17 percent of Haiti. With only two percent of the tarsands developed, the push is on to double that percentage in the next 10 years. There is to be another Fort McMurray built 100 km to the north, to accommodate the next work force. Edmonton and Calgary will sprawl further. All this and much more are destined to happen in the absence of any overall plan for the future, and especially the future of ecosystems. Staged industrial development seems a relic of distant Lougheed days. In Alberta, "sustainable" is a comfort word and little more.

But, it doesn't have to be this way. A sound new model for serious sustainability, is coming out of Norway. It could be expropriated.

Alberta and Norway have important similarities including diverse ecosystems and a rich biodiversity. They have roughly the same population. Their economies are based largely on petroleum and each has established a petroleum fund to take care of the future. There, similarity stumbles. While Norwegians will live out comfortable lives based on their ever-increasing \$500 billion petroleum fund, Alberta's Heritage Trust fund is stuck at less than \$15 billion and hasn't grown in years. While Alberta's population surged from around 1.7 million in 1975 to nearly 4 million

today, in that same 35-year span, Norway went from 4 million to 4.6 million. The government and people of Norway are satisfied with near-zero growth.

Population stability surely reduces strain on governments dealing with unending demands for land, infrastructure and transportation, as well as providing more opportunity to build ecologically sustainable communities. While Alberta has not pursued strategies and policies to increase protected lands, safeguard biodiversity, manage fragile ecosystems or address climate change, Norway has, as part of its national strategic plan. Norway has just released its Index of Nature – a first in the world. It is based on 309 indicators followed over the past 20 years that will help Norway to halt deforestation, complete its parks system, protect fresh and marine waters and to build a model for global biodiversity monitoring.

It was Thomas Malthus back in Darwin's time, who predicted that human numbers and demands would

outstrip the earth's resources. He also considered that although man's ability to tap energy sources was unquestionable, the ecological costs were highly questionable. Since Malthus, many thinkers have warned that humans must curb their demands on nature or face environmental instability. The Game of Growth is a dangerous one and Alberta is its most gung-ho player. Others however, are giving it a miss, instead, exploring "no growth", "degrowth" and sustainable community options. Suddenly the internet is full of information on "steady-state" and happiness-based economies; there are counties that have decided their farms are more important than sprawl and have said "no" to annexation, and a club of US and British billionaires is funding programs to raise education levels for girls and women and lower fecundity in poorer countries of the world.

Australia has a reputation similar to Alberta's of heavy-handed treatment of the environment for economic gain. However, problems are catching up

downunder, and water is definitely constraining. The level of biodiversity loss has become a national shame and action includes placing limits on the key driver. Australia's major conservation group, the Australian Conservation Foundation, has nominated human population growth as a key "threatening process" to Australia's biodiversity under its Biodiversity Act. There is a new federal Department of Sustainability and Population and a new political party called the Stable Population Party of Australia. Curbs are coming.

Alberta cannot win in the Game of Growth. If we are smart, we need to impose curbs too, before nature cracks down with mighty force. Needed too are "big picture" plans that involve us all. Plans not just for what's to be developed, but, more importantly for future generations, what's to be left alone as wild, interconnected habitats – the seeds of future prosperity for all creatures. 🌱

POINT/COUNTERPOINT 2:

Population Growth and Wilderness?: There are Bigger Fish to Fry

By Ian Urquhart

Population growth is an issue anyone concerned about our future on this blue-green island in this solar system should take seriously. It is silly to suggest that growing numbers of people on our planet may not put more pressure and demands on finite supplies of vital renewable resources. As I alluded to in the introduction to this debate in the extreme these pressures and demands have contributed one way or another to violence. This outcome is tragic; it does not mean, however, that there is a causal relationship between population growth and the state of wilderness. What follows is my argument for why, important as the issue of population growth is, I think it has little relevance as a threat to wilderness here in Alberta.

May Population Growth Degrade Wilderness and Endanger Species?

If I have learned one thing in a lifetime of trying to understand politics

and policy it is that "one size does not fit all." In other words, any particular phenomenon may have a variety of primary causes. Consequently, population growth should be one factor we are prepared to consider if we are trying to understand what is threatening wild spaces. Population growth, at least in some circumstances, may lead to the loss of wilderness or habitats crucial to the survival of non-human species. One excellent, if tragic, illustration of this relationship is found in central Africa where the International Union for Conservation of Nature (IUCN) believes the mountain gorilla faces a high risk of extinction in the wild. "The primary threat to mountain gorillas comes from forest clearance and degradation," according to the International Gorilla Conservation Programme, "as the region's growing human population struggles to eke out a living." The growing population threatens the

mountain gorilla by converting vital gorilla habitat to agricultural land or firewood. So, yes, if you want to suggest that population growth may threaten wilderness and species that depend on wild spaces you can certainly do so.

Does Population Growth Necessarily Degrade Wilderness and Endanger Species?

Does it follow though that population growth necessarily threatens wilderness in today's world? Absolutely not. Words from a speech the British parliamentarian Leonard H. Courtney gave in 1895 is counsel I think Vivian Pharis would be wise to take when it comes to seeing population growth inextricably linked to the decline of wilderness. He said: "After all, facts are facts, and although we may quote one to another with a chuckle the words of the Wise Statesman, 'Lies – damned lies – and statistics' still there are some easy figures the simplest



must understand, and the astutest cannot wriggle out of.”

What then are those statistics, those “easy figures,” that I think a very astute Vivian “cannot wriggle out of” and should lead her to reconsider her view? The set of statistics offered in Table 1 is taken from data compiled by World Resources Institute (earthtrends.wri.org/index.php). The table compares selected nations according to their population density (people per square kilometre) and the percentage of their land area set aside in one of the IUCN’s first five categories of protected areas. These categories are: Strict Nature Reserve (1a), Wilderness Area (1b), National Park (2), Natural Monument of Feature (3), Habitat/Species Management Area (4) and Protected Landscape/Seascape (5).

Table 1 suggests that, at the national level, there is absolutely no correlation whatsoever between population density and the amount of land set aside in protected areas. If population, in this case population density, mattered as a universal, serious threat to wilderness wouldn’t we expect to see some sort of correlation between the two variables recorded in the table? What is striking, and alarming, about the data is where Canada stands – last in this group of nations. No country had a lower percentage of its total land area in protected areas than Canada; only Botswana, with more than four times the land area percentage protected in Canada, had a lower population density than we did.

The folly of making too much of the relationship between population growth and wilderness is underlined dramatically by China’s record. What Table 1 does not report is the dramatic increase in the amount of China’s territory set aside in protected areas in the first decade of this century. In 2003 6.3 percent of China was listed as an IUCN Category I to V protected area. Three years later, in 2006, the United Nations World Conservation Monitoring Centre reported that this protected area percentage had more than doubled to 14.8 percent, more than three times the Canadian percentage. Not surprisingly then the IUCN congratulated China in 2009 for making “great strides in establishing a network of protected areas, which now cover about 15 percent of the country’s land area...” If the most

populous country on the planet, a country of 1.3 billion people, can increase significantly the size of its protected areas I have even more difficulty in seeing population growth as something I should worry about in the context of preserving wilderness in Canada.

Is Population Growth A Primary Threat to Wilderness in Alberta?

No one can dispute that Alberta’s population has grown impressively over the last generation or so. From 1971 to 2006 the numbers of Canadians residing in Alberta doubled. But, virtually all of that growth took place in our urban areas. Less than 10 percent of that increase (just under 159,000 people) settled in rural Alberta. This pattern of population growth in Alberta is longstanding and accounts for the fact that the vast majority of Albertans live in urban settings (82 percent in 2006). Today’s new Albertans, unlike the wave of pioneers who carved homesteads and communities out of the bush, are settling in generally well-established urban environments. Consequently, our growing population, outside of a few settings such as Canmore, does not seem to be impinging seriously on our remaining wild spaces.

When I look at maps detailing the human impact on landscapes in Alberta, such as those found in the *Atlas of Alberta* published by Global Forest Watch Canada, it seems obvious that the biggest single threat to the health of wilderness in Alberta has been and continues to be industrialization, not population growth, not human settlement. The destruction of wilderness in the Swan Hills in just over 40 years, detailed in Figure 2, cannot be laid at the doorstep of population growth can it? Can we really blame the roughly 1.6 million people added to Alberta’s population over that period for such devastation? Of course not.

Table 1:
Protected Areas and Population Density, by Country

Country	Protected Areas: IUCN categories I-V, % of total land area (2006)	Population Density: people per square kilometre (2000)
Venezuela	33.0	26.5
Bhutan	31.5	44.4
Austria	28.3	96.3
Germany	21.3	229.7
Belize	19.6	9.9
Botswana	18.2	2.6
China	14.8	132.9
Tanzania	14.6	37.2
Bolivia	11.5	7.6
Ecuador	9.1	44.6
Costa Rica	8.7	78.7
Zambia	8.4	13.8
Guatemala	8.3	104.6
Columbia	8.3	37.0
United States	7.5	29.4
Honduras	7.2	57.2
Nepal	6.7	156.6
Panama	6.6	37.8
Nicaragua	6.0	39.0
Malaysia	5.4	67.4
Canada	4.0	3.1

I suppose that Vivian or someone else who shares her concerns could suggest that population growth elsewhere might have been responsible for destroying wilderness in the Swan Hills or that population growth elsewhere today drives the drilling, felling, paving and pacifying of wilderness in Alberta. The industrialization of Alberta’s wilderness, in other words, is driven by the demands of population growth elsewhere. This position is just as weak.

During our lifetimes Alberta’s export trade ties have been continental ones; the American market was and remains the destiny for most of the oil, gas, lumber, pulp and paper we strip from yesterday’s wilderness (agricultural products such as cereals and grains, but not meats, are exceptions to this pattern). The University of Alberta’s Western Centre for Economic Research reported that, in 2008, 99.2 percent of mineral fuels produced in Alberta went to the United States; 93.7 of our wood exports went to Canada’s NAFTA partners (the United States and Mexico); 54.7 percent of our woodpulp exports were shipped south of the 49th parallel.

It is impossible for me to reconcile this export pattern, or the fact these

percentages don't reveal the recent dramatic increases in the volume of these exports to the United States, with population growth. Surely American gluttony (and our governments' eagerness to feed this vice), not population growth, offers a better explanation for the hell-bent pace of resource exploitation in Alberta and the resulting pressure on wilderness.

Concluding remarks

I end where I began. There are good reasons to be concerned about population growth. I have no doubt that one of the defining issues of this century will be environmental scarcity related to population issues; one of the century's most important challenges then will be to see if we have the ingenuity and political will to address scarcity in a way that promotes well-being.

Do such good reasons for concern mean that, in Alberta, defenders of wilderness and conservationists should devote their limited time and resources to addressing the issue of population growth. I hope not. I cannot imagine a strategy that would bring more delight to those who have industrialized more and more of Alberta's wild spaces during the time it has taken you to read what Vivian and I have said on this subject. 🌱

Figure 2: Aerial photos of wilderness destroyed in the Swan Hills area, 1949-1991.
SOURCE: Global Forestwatch Canada, Atlas of Alberta, 2009

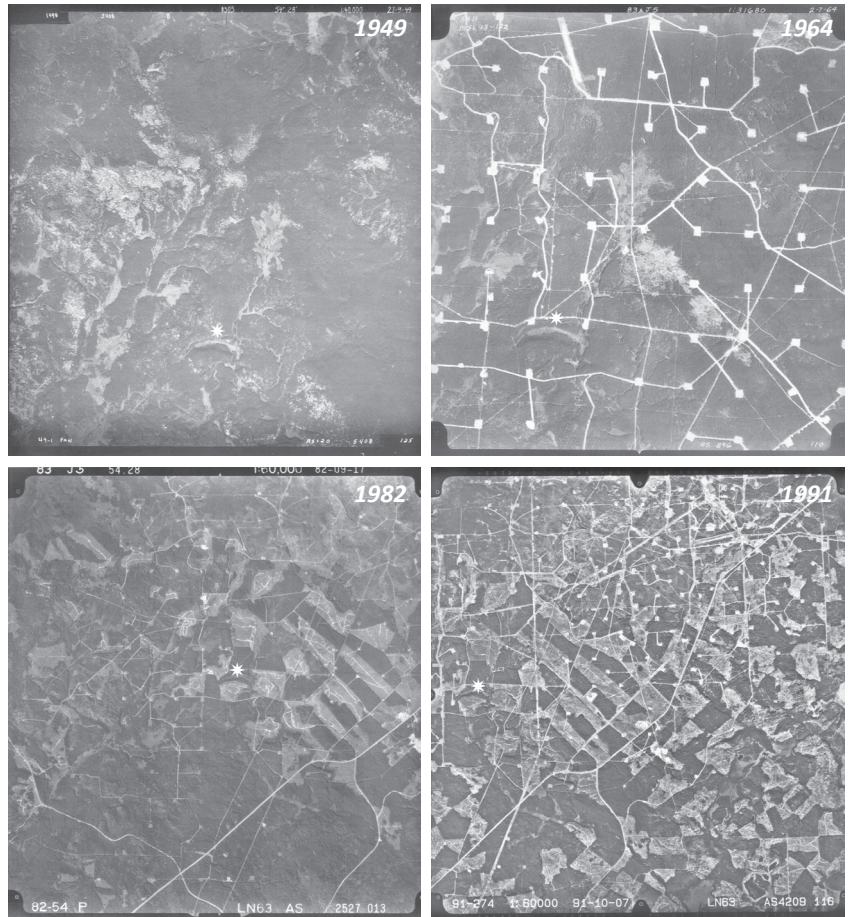
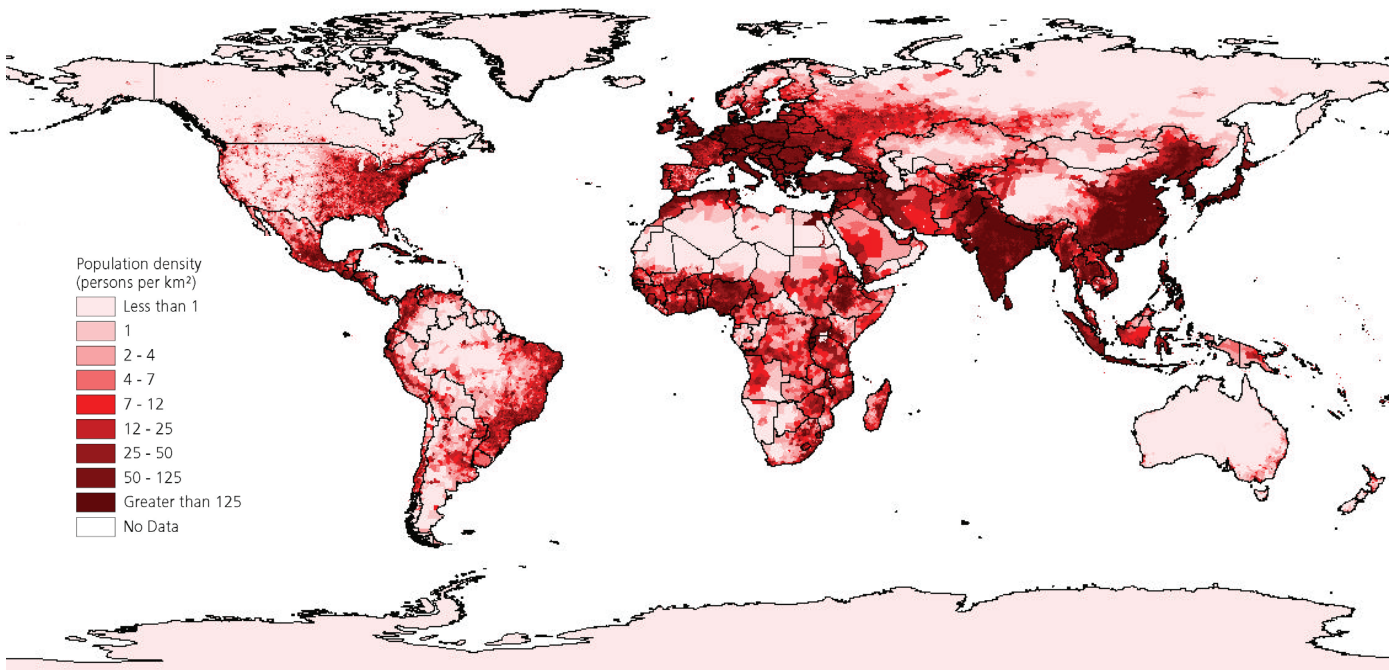


FIGURE 3: GLOBAL POPULATION DENSITY, 1995.
Source: World Resources Institute 2000, based on CIESIN 2000





‘Potatogate’ Victory: People Power Does Work!

By Nigel Douglas, AWA Conservation Specialist

The recent collapse of the proposed ‘Potatogate’ public land sale is a valuable lesson that, if enough of us care about our precious natural environment, and are prepared to speak out loud and clear, then we really can make a difference.

In the October *Wild Lands Advocate* article, “Alberta for Sale. Public Land Sale to Turn Endangered Species Habitat into Potato Chips,” we described the secretive deal, where 16,000 acres of public land – scarce native grassland near Bow Island, known to be habitat for a number of endangered species – was due to be sold off to a private company. If the sale went ahead, the irreplaceable prairie would be ploughed up and turned into a low value potato crop. Before AWA blew the whistle, the proposed deal was set to go ahead with no public input whatsoever. Fortunately, an unprecedented public outcry began about the proposed deal. AWA supporters, particularly members of our Wilderness and Wildlife Defenders listserv, came out in droves to write letters and emails, and call their MLAs to protest this shabby deal to sell off our valuable public land with no public process.

The proposed deal was finally called off, largely because of the sheer volume of public outrage. AWA owes a huge debt of gratitude to all those people who took the time to speak out: it was truly inspiring to be reminded that we really can make a difference.

But although this specific piece of land has received a temporary reprieve, there is still a great deal of work to be done. The fundamentally flawed system, whereby valuable public land can be sold off on a political whim, with no requirement for any public involvement, is still very much in place. Without comprehensive changes to government regulations and practices, there may

be many more ‘Potatogates’ and we will have to keep on fighting these unnecessary battles.

Proposed changes to the regulations of the *Public Lands Act* are still working their way through the legislative process. While this would be a perfect opportunity to develop a fully-accountable process to allow future public land sales and dispositions to be discussed in the public domain, the proposed regulations in fact do nothing of the sort: they still allow for a minister to put public land up for sale with no requirement for a public process.

So AWA has put together a series of recommended guidelines which, if adopted, would help put the public back into public land sales. The full guidelines, endorsed by Alberta Native Plant Council and Nature Alberta, are available on AWA’s website; extracts from these recommendations are reproduced below.

AWA’s Wilderness and Wildlife Defenders

Please let us know if you would like to be added to AWA’s Wilderness and Wildlife Defenders list, so you too can learn about specific opportunities such as this to speak out about issues affecting Alberta’s wilderness. You can sign up online at AlbertaWilderness.ca, (click on ‘Act Now’) or call us at 403-283-2025.

Sale of Public Land in Alberta Recommendations for Improving Regulation, Policy and Procedure

The recent application to government to purchase 25 sections of public land that would see native prairie turned into irrigated potato fields was a lightning rod for public outrage over shortcomings in how government deals with public land sales. Information about the proposed sale emerged through media reports and interviews, and was often incomplete

and inaccurate. The lack of an open, transparent and fair public process was a major concern for many Albertans. Standard procedures regarding sale of public land were not followed.

If the application had not been withdrawn, the Minister of Sustainable Resource Development was poised to approve the sale of a large block of native prairie assessed as of national environmental significance and providing habitat for several federally and provincially listed species at risk. The proposed deal also had implications for aquatic ecosystem health in the stressed lower Bow River and for soil conservation given that the suitability of the land for irrigation was uncertain. Given that expansion of potato production is not being encouraged, any positive contribution of the project to the regional economy was questionable. Current uses of the public land for sustainable livestock production and outdoor recreation would have been lost.

Alberta Wilderness Association (AWA) is fundamentally opposed to the sale of public land in Alberta, with the exception of trading small cultivated parcels that have little ecological value to obtain more important habitat on private land.

In an attempt to learn from this experience, this document has been prepared to promote discussion about improvements that are needed in regulation, policy and procedures regarding sale and acquisition of public land. The focus is on public lands in the Prairie and Parkland of southern Alberta where land use pressures are greatest.

Value of Public Lands

Public lands support most of the remaining native ecosystems in southern Alberta. Native ecosystems are a key

Albertans truly appreciate our native grasslands. This was made abundantly clear by the hundreds of people who spoke out against the proposed “Potatogate” deal.

PHOTO: C. OLSON



component of biodiversity and essential habitat for wildlife. They perform important ecological functions such as air purification, watershed protection (water capture, soil stability) and carbon storage.

Healthy native ecosystems are essential for a sustainable ranching industry. Extensive blocks of public land may be important to cultivation agriculture by providing buffers against disease, pathogens and as habitat for pollinators.

Extensive blocks of public land provide space, a key element not only for biodiversity retention but also for the human spirit. The open space and aesthetics of native landscapes contribute to high quality recreation opportunities and tourism. As well, resource extraction activities (e.g. oil and gas development) occur on public lands with management oversight to maintain ecosystem health.

Suggestions to Improve Regulations, Policies and Procedures Regarding Public Land Sales

The following are suggestions to improve regulations, policies and procedures regarding public land sales:

1 Identify and Designate Areas of High Conservation Value Where Public Lands will be Retained

Regional plans developed under the Land-Use Framework provide a mechanism to identify public lands that should be retained and managed for protection and maintenance of biodiversity and species at risk and the other ecological goods and services that native ecosystems provide. In general the long-term interest of all Albertans is best served by retaining public lands as a trust held by government for conservation purposes.

The Prairie Conservation Forum input to the Regional Advisory Council for the South Saskatchewan Region (SSRP) (August 2009) indicates that the large majority of public land remaining in the SSRP area is of high value for retaining biological diversity and ecosystem function. Included in this is a large amount of tax recovery land, some of which was settled or cultivated historically but has since reverted to native prairie. The only public lands remaining that may be suitable for sale are isolated parcels under cultivation or tame pasture or lands adjacent to large

urban centres that are required for orderly urban expansion.

Areas that are zoned for conservation purposes at the regional level may include both public and private lands. One way of flagging public lands within these zones is through protective notations (PNT), reservations that identify land and resources that are managed to achieve particular conservation objectives. Protective notations show allowable land uses. Public lands under PNT are not considered for sale.

In general, protective notations would be applied to public lands in large contiguous blocks of prairie identified through the Grassland Vegetation Inventory, significant connecting corridors between these blocks (including possible regeneration connections), Environmentally Significant Areas and other important habitat areas for at risk species (PCF 2009).

2 Use Conservation Easements

Cooperation between managers of public and private land may be needed to achieve conservation objectives identified in regional plans, especially in areas where there is a mix of public and private lands. Private lands of high importance for conservation may be secured by private land trusts through outright purchase, land donation or conservation agreement. Conservation easements are legal documents in which a landowner agrees to the imposition of restrictions on activities that would threaten the environmental value of the land.

This tool may be especially important to use in situations where tax recovery lands have been transferred to a municipality who then chooses to sell the land. One of the requirements of sale would be to place a conservation easement on the land prior to sale. A conservation agreement allows the owner to remain on the land and make compatible use of the land while ensuring its protection from future development.

3 Create Regulations Regarding Public Land Sale/Trade

Regulations are needed that clearly codify procedures to be used for public land sale/trade and that require public notice and consultation. These regulations would stipulate:

a. Criteria that would guide determining



Burrowing owls nesting on the "Potatogate" land received a temporary reprieve when the proposed land sale fell through but their future is by no means assured.

PHOTO: C. WALLIS

if public land is "surplus to public needs" or "suitable for sale/trade" including:

- Value for protecting and maintaining biodiversity and species at risk
- Impact on other resource values (e.g. recreation)
- Conformity with land-use policies and plans (e.g. regional plans)
- Availability of private land for uses of economic or social importance

b. Who may make an application and how. Canadian citizens, corporations or municipalities who currently hold a disposition or have the consent of the current disposition holder would submit an application to Public Lands.

c. Procedure for sale/trade – The application is considered by Public Lands and through internal referral by other government agencies with an interest. If the land is determined to be suitable for sale or trade, public notice is given and opportunity for public input is provided. If there is not significant public concern about the propose sale, then the land would be sold in a public auction or tender. 🐦

How To Love The Earth: AWA's Journey To Protect Wild Spaces

By Melissa Tierney and Sameer Dossa



AWA was fortunate enough to commission two students from the University of Calgary, Sameer Dossa and Melissa Tierney, to write a history of the organization. Melissa is finishing a double major in Communication Studies and Development Studies where she focuses on community building and public engagement. On behalf of all of AWA's members I would like to thank them for their time, work and enthusiasm.

AWA began as a relationship. A group of back-country enthusiasts around a kitchen table in 1965 realized that their government's "multiple-use" land policy was destroying the province's wild spaces, and they had to speak up about it. Floyd and Karen Stromstedt, Marian

and Bill Michalsky, and Steve and Helen Dixon started speaking to people throughout their personal networks, gaining support from local farmers, teachers and community leaders who were interested in conserving Alberta's threatened wild spaces. At a meeting in Lundbreck in 1968, 34 of them came together to officially form the Alberta Wilderness Association, electing William Michalsky as their first president. The presidency was then, as it is now, a volunteer position just like the rest of the board member positions. When AWA became incorporated a year later, the group sought to raise awareness about the environment, spreading AWA's message in their classrooms and boardrooms. Today, AWA's goals are the same as they were then: seeking to protect Alberta's

wild lands, rivers and ecosystems, facilitate communication between the government and the public and use education to connect Albertans to the wild spaces that surround them. Passion, integrity and participation still dominate AWA's practice, and this is shown most strongly through their dedication to relationship building and their commitment to building and maintaining these relationships between the public, governments and other organizations to protect and promote Alberta's wild spaces.

Relationships are the foundation of AWA not only between its members but also between AWA and other organizations. AWA's focus on alliances has allowed it to take on incredibly ambitious projects from the very start,

In 1987 Shell Canada proposed two wells on top of Prairie Bluff (above 7000') and within Prime Protection Zone. Local residents, scientists, outfitters, and Parks Canada opposed the plan to drill on Corner Mountain. The day the bulldozers turned around, Shell Canada won an injunction to force demonstrators off the leased public land. Shell served AWA with a statement of claim well in excess of the organization's assets. The roads were built, the wells were drilled and the scars of the road remain today, more than 20 years later.



relying on partnerships and a strong, committed volunteer base to succeed against all odds. The organization's very first challenge was to prepare for the Eastern Slopes policy, a framework to protect the mountains into the foothills. The work began in 1970 when volunteers went out to talk directly with locals to learn what was best for the future. AWA then hired a writer to consolidate everyone's ideas into two books over three years to present at formal hearings. The hearings were very well attended, and led to many areas being rezoned in 1977 based on the public's conservation views that were reflected at the hearings. Though not all places were protected, most critical areas were – a massive success for a fledgling organization's first undertaking. This ambitious, forward thinking approach has continued from the first project on the Eastern Slopes through to AWA's current projects, and it is this determination and vision that defines them through tough times.

The second major project was the protection of Willmore Wilderness Park during the 1970s. This area north of Jasper was protected in the name of Willmore, a conservation-minded Minister of Forests, after he was killed in an automobile accident. AWA worked together with the Fish and Game Association to get 40,000 signatures against the commercialization of the area, resulting in ideas for development being withdrawn.

These two projects opened the doors to a variety of new initiatives. Through the 1970s, AWA stopped further development of Lake Louise, researched

and published 4 books, and spearheaded campaigns to protect wild rivers in Alberta and stop resort development on the globally unique Sunshine Meadows. Through the 1980s, they organized against game farming, published multiple books and videos on wildlife and wilderness areas, stopped a policy to sell public lands, inspired public hearings into resort developments, gas drilling and national park issues, and opposed Shell's drilling in the Prime Protection Zones of Panther Corners, Castle and Corner Mountain.

Shell Canada applied in 1989 to drill on Corner Mountain, lands that were once part of Waterton Lakes National Park. To oppose the development, AWA helped get a hearing called in order to negotiate against it. Unfortunately their key witness, an expert in the new-to-Alberta technology of directional drilling, was in Iran and the Energy Resources Conservation Board (ERCB) refused to change the hearing date by three days so that he could testify. The ERCB dismissed his written comments, and though five years later they apologized for that action, the hearing ended in Shell's favour. Development was delayed for six days as AWA members and a group of University of Calgary students stood together in solidarity against the bulldozers, but eventually the protesters were removed and the development went on as planned. Though this battle was lost, AWA did eventually win the war. Shell later apologized, stating that they should have listened to AWA and vowed not to drill in places like that anymore.

In the 1990s, AWA opposed large

scale forestry projects throughout the boreal forest, worked with industry to protect the Plateau Mountain Ecological Reserve, prevented further commercial development and open pit mining in Kananaskis Country and Jasper National Park, and upgraded their Wilderness Resource Centre and Library, including a new publication called "Wild Alberta", mapping and summarizing the current wilderness and wild river proposals. They also promoted legal cases and environmental assessments of the Oldman River dam. In 1990, the Alberta government secretly planned to dam the Oldman River to divert Alberta's water south and sell it to the United States. AWA backed the Friends of the Oldman group to campaign against the dam. They ran a folk music benefit concert on the banks of the Oldman River, passing boxes around the 40,000-person audience to gather donations to support the cause. After the event, AWA members were seen walking down the streets of Calgary to the bank with \$50,000 in those little boxes! Despite strong community support, the dam was built. However, the entire development project was not completed, and no further dams were constructed, proving that AWA was indeed successful. This project also demonstrated that the Alberta government wasn't governing according to its citizens' needs, and resulted in national federal assessments of major projects concerning water, animals, or environmental issues. What seemed like a failed project actually produced wide-scale change.

The new millennium brought a lot

Marchers Protest Sunshine Expansi



Ray Sloan and Mike McIvor organized protesters for a march down Banff Avenue to Parks Canada offices to protest plans to expand Sunshine Village ski operations. It was a blustery, cold day but the turn out was good with protesters of all ages carrying pickets demanding that Parks Canada reject any expansion of commercial ski operations within Banff National Park.

of change to AWA as an organization. Christyann Olson was hired in the new position of Executive Director. This new position was a huge role and vital for the new structure of the organization. The Executive Director was responsible for making sure the objectives and goals of the organization were not compromised as well as maintaining the AWA network and making sure the organization kept its transparency. The AWA remained committed to creating an impact in preserving Alberta's wilderness, even with the change in structure. The Special Places 2000 program was a major focus. This program pressured Provincial Ministers to complete the Special Places 2000 commitment and declare protected areas that include representation of Grasslands, Alberta's Foothills and important mountain parks. In 2001, the Premier declared the program completed.

The AWA also took part in a program with the University of Calgary Masters of Teaching program. This program helped 12 to 14 students get the word out on issues such as endangered species or the watersheds to over 1,200 school students for every year the program was active.

In the fall of 2002, a Grizzly Bear Recovery Team was convened in response to a recommendation by the Endangered Species Conservation Committee (ESCC) that the grizzly bear be reclassified as a "Threatened" species in this province. Initially there was not a lot of success with the grizzly bear issue. However, the Minister for Sustainable Resource Development finally bowed to public pressure and announced the suspension of the spring grizzly bear hunt for three years, starting in 2006. This was a huge first step, however there was still much to be done.

Today, AWA continues doing outreach, running the hikes and talks program, talking to the public at conferences and farmers' markets, and working with ranchers and landowners to develop a common ground on which to do cooperative work. They work with grade schools and universities to educate about environmental issues and give students a chance to get involved, and they constantly work to bring in new ideas to reflect a changing population, including all age ranges, nationalities and backgrounds. AWA's strong volunteer

base sought them out, rather than being recruited, because of their reputation of honesty, hard work and consistently good morals and actions. The actions have changed over the years, with an evolution from lining up in front of Shell's bulldozers in the 1980s to being asked to advise Shell how to develop in the least harmful way. However, the issues have remained unchanged since a group of friends got together in the 1960s: landscapes are being fragmented by increased development and this is destroying ecosystems and the animals that live in them. As one founder said: "There's always some kind of threat looming if you don't have local support; if you don't get in there talking to the local community someone else will and it might not be something you like". Through passion, commitment and endless dedication to relationship building, AWA has set the standard for environmental advocacy in Alberta and their work continues to inspire change across the province to protect wild spaces. 🌱

Financing Wilderness Protection

By Christyann Olson,
AWA Executive Director

AWA has been speaking out about and defending Alberta's wilderness for 45 years now. We would not be here today without the tremendous support we receive from our passionate and dedicated volunteers and supporters. I am happy to sketch out below the general revenue and expenditure pictures of your organization.

On behalf of all the staff and your board of directors I would like to thank you for your tireless support for the work AWA does. May you and yours have a wonderful holiday season and a spectacular 2011.

*Most sincerely,
Christyann Olson*



Revenue

This past year, funds received from donations by members, supporters and fundraising provided 71 percent of AWA's total revenue; fundraising represents 18 percent of that and grants made up 14 percent of the total revenues. Granting agencies in this year included Alberta Government STEP, Wilburforce Foundation, Mountain Equipment Co-Op, Alberta Government Community Spirit Grant, Alberta Utilities Commission, and Alberta Sport Recreation Parks and Wildlife Foundation. We are slowly achieving our strategic goal to decrease dependence on foundation grants.

The funding we generate through events depends heavily on our annual Earth Day event – the Climb and Run for Wilderness – and the Wild West Gala in the fall. The Platinum Sponsor for the Climb and Run for Wilderness this year was Shell Canada Ltd. Funds raised at casinos also are part of this category.

Fundraising and gifts from donors allow AWA to be financially independent and free to speak out for wilderness protection. Membership grew during the

year and our members may be found in 181 Alberta communities, 128 Canadian communities outside of Alberta, and in 55 countries. If you are able to make a charitable contribution during the holiday season please call our office or donate on line — we need your help.

Expenditures

The vast majority of our expenditures are devoted to wilderness stewardship, conservation, and outreach. This category accounts appropriately for 81 percent of our expenditures. Development costs include expenses incurred in applying for grants as well as actual fundraising expenses. The costs for building a donor base and creating broader awareness of the association and its mandate, "Defending Wild Alberta through Awareness and Action," are included. General and administrative costs of 10% represent an efficient and carefully managed association, supported significantly by volunteerism. Greater details are found in our annual report that is published to our website.

Tributes

AWA is honoured to receive gifts from friends and family who remember their loved ones and those who have made a difference to them. Between August 2009 and November 2010 the following people were honoured.

Great People Honoured

Dr. M. James
Dr. M. Norman
Dr. Ray Rasmussen
Gus Yaki

Birthdays Remembered

Doris Sloan - 90 years
Thomas Ersson

Weddings Celebrated

Kyle and Allison Dunford
Kiza and Stuart Trentham
Lisa and Joseph Pitt

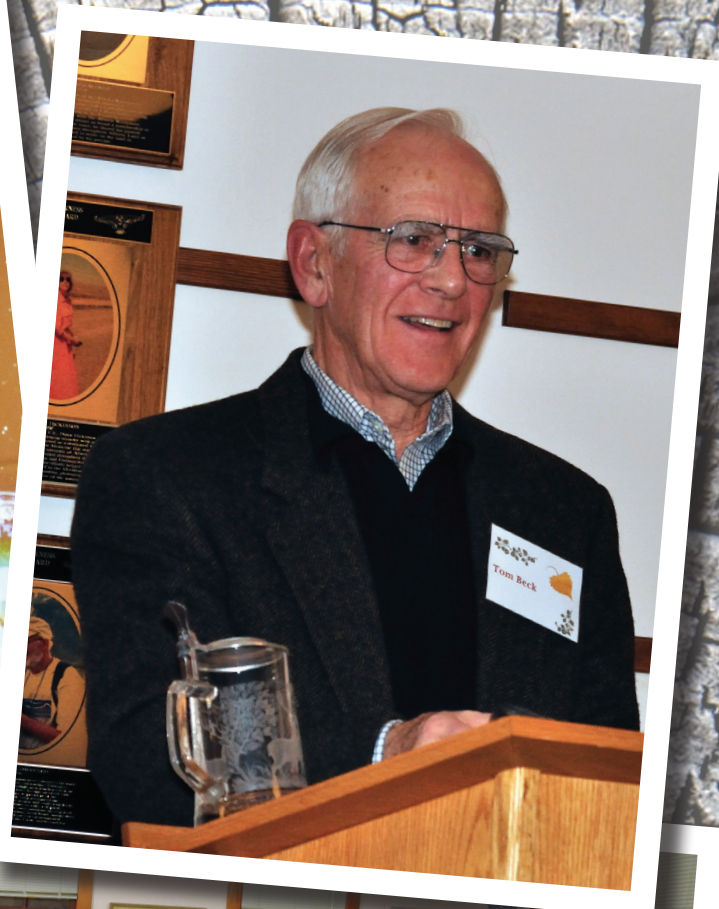
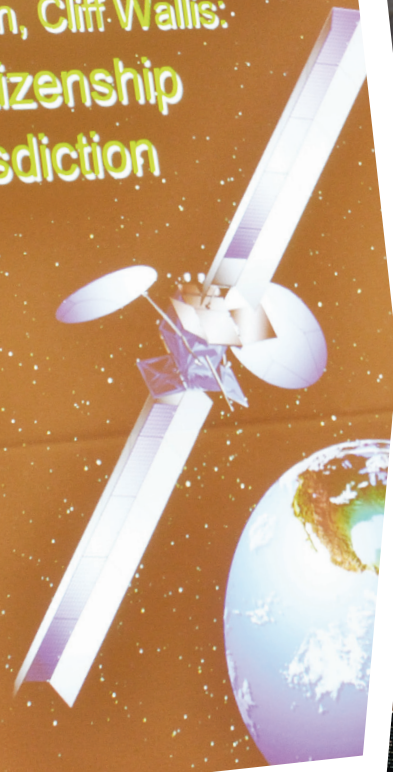
Memorial Tributes 2009-2010

Albert Chase	1928-2009	Sam Olson	1916-2010
David Cote	1930-2010	Frank Plowman	1914-2009
Bolek Dvorak	1945-2010	Gregory Reay	1954-2009
Lena Elder	1914-2010	Ian Ross	1958-2003
Louise Guy	1918-2010	Peter Saunders	1924-2010
Rory Hendrickson	-2010	Doris Sloan	1920-2010
Hugh Hicklin	1920-2009	Joan Vaughan	-2009
Ted Malone	1925-2010	Elsie Vickery	1915-2010
David McGill	1929-2009	Arthur Ward	1915-2009
Linda Mellish	1949-2010	Viola Fyfe	1925-2010
Grace Olson	1922-2010		

Thucydides, Grant McEwan, Cliff Wallis:
**Environmental Citizenship
 in a Hostile Jurisdiction**



Peter Lee



Tom Beck



Top left: *Peter Lee delivering the Martha Kostuch Annual Wilderness and Wildlife Lecture.*

PHOTO: K. MIHALCHEON

Top right: *Tom Beck received an Alberta Wilderness Defenders Award for his pioneering efforts to "green" the petroleum industry.*

PHOTO: K. MIHALCHEON

Bottom: *A full house was on hand to congratulate our 2010 award winners.*

PHOTO: K. MIHALCHEON

Awards Presentation and Annual Lecture

Alberta Wilderness Association was honoured to present the 2010 Alberta Wilderness Defenders Awards to Tom Beck and Peter Lee on Friday November 19th. These awards are dedicated to individuals who inspire us with their love of Alberta's wild lands, wild rivers and wildlife, and their conservation efforts and achievements.

A standing room only crowd of

AWA members and friends joined Tom and Peter in celebrating their achievements. After the awards presentation Peter delivered the Martha Kostuch Annual Wilderness and Wildlife Lecture. A summary of Peter's lecture, "Thucydides, Grant MacEwan and Cliff Wallis: Environmental Citizenship in a Hostile Jurisdiction" will appear in February's WLA.

Will “Big Wind” be the Next “Big Oil”?

“Those who do not know history’s mistakes are doomed to repeat them.”

-George Santayana

Wind energy is likely to play a huge role in Alberta’s energy future, but it remains to be seen whether the lessons of the past, particularly some of the mistakes of previous oil booms, have really been learned. Ralph Klein acknowledged in 2006 that the government “didn’t have a plan” when it came to oil sands development. So is “Big Wind” doomed to make all of the same mistakes of “Big Oil”?

Fast forward four years from Klein’s surprising admission, and wind power development in the province looks set to explode off the starting blocks at an astonishing rate. But the province still has no plan for how this development is going to unfold. Where are future wind turbines going to go? And where are wind turbines not going to go? How many should there be? Without a plan, then groups such as AWA who are working to hold onto the few remaining areas of native prairie we have left in the province could increasingly be pitted against wind power proponents. The prospect of the oil and gas development battles of the past being repeated over and over again in the future, this time over wind power developments, is not a future that anybody would like to see.

Projections for the scale of future wind power developments are startling. Approximately 600 MW of wind power is currently connected to the grid; another 5,500 MW has been applied for, and projections are for up to 12,000 MW in the future. To stand near to Pincher Creek and look at the surrounding wind turbines, and then to multiply this by 20 times is quite daunting!

For this reason, AWA is working closely with other organizations through organizations such as the Prairie Conservation Forum and the Foothills Restoration Forum to ensure that we do actually learn from past mistakes, and plan today to minimize the future impacts of wind power development.

One of the main concerns about the possible impacts of wind development is the footprint of the turbines. Each turbine has a footprint of 0.5 – 1.5 ha, and each one comes with access roads, power cable trenches and transformer stations. As the majority of current and proposed wind power projects are in the Grassland, Parkland and Montane regions, the possible impacts on native ecosystems are huge (particularly bearing in mind that less than two percent of the Grassland and Parkland regions are protected in any way). Approximately 20 percent of proposed turbines are on native prairie and native rough fescue grasslands.

The Energy Resources Conservation Board (ERCB) has already developed its own *Principles for Minimizing Surface Disturbance in Native Prairie and Parkland Areas*. But wind development is not regulated by ERCB: instead it is regulated by the Alberta Utilities Commission, which has no such guidelines. Intuitively, one would expect that, if one regulator acknowledges the importance of native grasslands then the other would do the same, but this is not currently the case. ERCB, in its guidelines, recognizes that “grasslands are considered to be the world’s single most threatened ecosystem,” and stresses the importance of planning to minimize possible impacts. “It cannot be overemphasized that project planning should take into account the whole development and consider the timing and location of activity. Applicants should try not to locate development activities in native prairie or parkland landscapes wherever possible.” AUC, however, as no such guidelines.

Currently, wind energy projects are not allowed on public lands, though the Alberta government is reviewing that policy. A considerable proportion of public land in southern Alberta consists of native prairie, habitat for a number of endangered species. Although native grasslands make up only five percent of Alberta, they are home to 70 percent of the province’s mammal, bird, reptile and amphibian species considered by the government to be *at risk* or *may be at risk*.

If there is one lesson to be learned from the recent “Potatogate” story (see page 20), it is that the current government

places little value on public land, native grasslands or species at risk. While the government is always quick to point to the benefits of development (usually measured in dollars) it is less effective at quantifying the costs. The need for meaningful guidelines to underscore any future wind power development is a matter of urgency.

- Nigel Douglas

“I think the bottom line is that with any of these energy developments... there’s no free lunch. There will be negative impacts of one sort or another.”

- Jim Sedinger,
University of Nevada-Reno

AWA Connects with the David Suzuki Foundation

One of Canada’s most respected environmental organizations is the David Suzuki Foundation. Known for its influential advocacy, research and multi-faceted public outreach, the Foundation has offices in Vancouver, Toronto and Ottawa. The Elders Council of the David Suzuki Foundation is a group of Vancouver-based activist elders who meet monthly to share information on current environmental issues and encourage the Foundation in its work.

Earlier this fall, I gladly accepted an invitation to speak to the Elders Council at their November meeting on a range of ‘oil and water’ issues facing Alberta. At the Foundation’s Vancouver offices I met with staff from several policy areas to exchange information about AWA and David Suzuki Foundation work, including boreal forest conservation, grizzly bear habitat protection, and hydroelectric development principles. I made a presentation to the Elders Council and to an interesting cross section of staff and interns on water issues arising from tar sands, conventional oil

“It is particularly inspiring to know that elementary school children... have spoken up about wetland protection.”

and unconventional gas development. The questions and comments from this group were very insightful. I was pleased to meet the Foundation's CEO Peter Robinson and we hope to host him at our office when he is in Calgary in the coming months. I appreciated the warm hospitality the David Suzuki Foundation extended to me and AWA looks forward to building further connections between our two organizations.

- Carolyn Campbell

Proposed Wetland Policy Rejects No Net Loss Approach Supported by Albertans

In late October, the Alberta government officially proposed a provincial wetland policy which rejected the flexible *no net loss* approach recommended by 23 of 25 sectors of the Alberta Water Council. Albertans voiced strong support for a *no net loss* policy for our wetlands during 2007 consultations, yet this new proposed policy will guarantee their ongoing loss. Its clear intent is to downgrade northern wetlands to facilitate their continued destruction in response to a vigorous tar sands mining lobby (see *Wild Lands Advocate*, August 2010). But because of a vague goal and a complex, unscientific approach to valuing wetlands, it will also undermine the existing *no net loss* wetland policy in central and southern Alberta that has been working reasonably well to prevent further loss of wetlands crucial to our water security and wildlife.

At the policy unveiling, AWA was dismayed to learn there had been no financial analysis done at all by the Government of Alberta of the tar sands mining companies' claim that they could not afford a *no net loss* wetland policy. AWA's analysis shows that the flexible 'no net loss' policy recommended by the Alberta Water Council would cost tar sands mine operations at most 50 to 60 cents per barrel.

Many citizens and organizations have contacted elected officials in support of *no net loss* of wetlands. It is particularly

inspiring to know that elementary school children, who learn to value wetlands through their Grade 5 science curriculum, have spoken up about wetland protection. Ayla Fielding, an 11 year old girl from Cochrane, gathered 62 signatures supporting a *no net loss* wetland policy in a short time, and sent her petition to Premier Stelmach, Environment Minister Renner, and her own MLA. An entire Grade 5 class at St. Martha's School in Calgary has written letters to Alberta's elected leaders about the importance of protecting our wetlands from further losses.

In media interviews and replies to citizen letters in November, elected officials are giving a surprising reason why *no net loss* won't work. They have stated that a no-net-loss approach in northern Alberta "could mean destroying potentially higher value boreal forest to replace a lower-value wetland." However, neither the forestry industry nor Alberta's Sustainable Resource Development department flagged forest destruction as a concern arising from the Alberta Water Council's flexible *no net loss* recommendations; they both supported these recommendations in September 2008. Wetlands scientists have assured AWA that there are more than enough damaged or destroyed wetlands in Alberta that could be restored to offset the destruction of wetlands by tar sands mines, which is what the recommended *no net loss* policy allowed. This 'forest destruction' claim does not stand up to scrutiny.

Having received some pushback, the Alberta government seems to be re-grouping to decide on their next step, whether they go forward with the proposed policy, strengthen the proposed policy, or hold to status quo policies that protect central and southern wetlands but do not apply to northern wetlands. A holiday or New Year's message to the Premier, Environment Minister Renner, your local MLA and opposition parties about the importance of implementing a *no net loss* provincial wetland policy would still be very valuable.

- Carolyn Campbell

Kananaskis Sour Gas Decision to be Appealed

The long drawn-out saga of Petro-Canada/ Suncor's application to drill 11 sour gas wells and 37 km of pipeline in southern Kananaskis Country took another turn in November 2010. The Court of Appeal of Alberta released a decision, November 2, which allowed the Stoney Indian Band and the Big Loop and Pekisko groups to appeal the Energy Resource Conservation Board (ERCB) June approval of Suncor's application.

Coming from the fact that the proposed sour gas pipeline would pass through the Eden Valley Reserve, the appeal court's decision allows the groups to appeal the ERCB approval, based on the question "Did the Board err in law by failing to characterize the Eden Valley Reserve as an urban centre?" As reported in the October 2010 *Wild Lands Advocate* "Business as Usual as ERCB OKs Kananaskis Sour Gas Pipeline", oil and gas facilities are required to be set back a certain distance from existing residencies and "urban centres." But although the Eden Valley Reserve, according to lawyer Doug Rae, has 99 residencies and 650 residents, ERCB still did not consider it to be an "urban centre". "The pipeline simply wouldn't be going where it's going if they were a municipality," Rae told the *Calgary Herald* in July.

AWA and many other groups have consistently argued that ERCB's approval should never have been given in the first place, because of the many and varied negative impacts of the proposed work on everything from grizzly bears and cutthroat trout to fescue grasslands and clean drinking water. But the Appeals Court has decided that the "urban centre" question is currently the only ground on which the decision can now be appealed. Whether this will be sufficient to delay the development from going ahead remains to be seen.

- Nigel Douglas

Alberta Oil Leaks: How Much is a Dead Bird Worth?

In November 2010, Harvest Operations Corporation was fined \$125,000 for a 2008 leak of approximately 14,500 litres of crude oil which killed at least 300 birds in the southwest corner of Canadian Forces Base (CFB) Suffield, approximately 48km from the CFB Suffield National Wildlife Area. The spill, from an 'abandoned' well site, affected 1,200 square metres of land and was estimated to have been leaking for three months before it was detected. There are more than 45,000 wells in Alberta which have been abandoned but not certified; as the Globe and Mail pointed out in a September 2008 editorial, with only 100 Energy Resource Conservation Board Inspectors for 164,000 active wells in the province, "the agency necessarily relies on oil and gas companies to regulate their own operations." Clearly this self-regulation is not working very well.

The dead birds included, according to Environment Canada, migratory birds, songbirds and raptors. The provincial court fine worked out at just over \$400 per dead bird discovered (presumably a number of birds which died over the previous three months were not recorded). Seemingly these birds were adjudged to be worth less than the 1,600 ducks killed on the Syncrude tailings ponds, which resulted in a \$3 million fine (nearly \$2,000 per bird).

- Nigel Douglas

Bill 29: People Power Does Work, Part 2

Albertans really do care about their parks! This is the key message from an extraordinary few weeks, which saw Albertans in their thousands speak out loud and clear in opposition to proposed legislation which would have watered down protection of our provincial parks.

Bill 29, the proposed *Alberta Parks Act*, had already passed first reading in the legislature when a concerted campaign by AWA and other environmental organizations finally brought it to the attention of the public. AWA strongly believed that the bill, as it stood, could have been the biggest set-back in parks management in Alberta in a decade.

Around 4.2 percent of Alberta is protected provincially. This wonderful and diverse network includes everything from small campground Provincial Recreation Areas to the huge and magnificent Wilderness Areas such as the White Goat and Siffleur. This diversity is currently reflected in a number of different protected area designations, each with a different focus. Wilderness Areas protect large unspoiled tracts of wilderness; Ecological Reserves protect scientific benchmarks; Provincial Parks balance ecological integrity with recreation opportunities.

The proposed *Alberta Parks Act* would have thrown out all of the existing legislation (with the exception of the *Willmore Wilderness Act*). In future, all parks and protected areas were to be classified as either Heritage Rangelands (for grazing) or Provincial Parks (for a 'balance' of conservation and recreation). The huge 445 sq. km White Goat Wilderness Area would have been downgraded, leaving it with the same level of protection as the parking lot and trails at Elbow Falls. While the current

legislation specifies that certain activities – including hunting and motorized access – are prohibited in Wilderness Areas, this certainty was removed in the proposed new act. Within the new cover-all Provincial Park designation, it was suggested that there would be four 'zones'; these zones would allow for differing focus on conservation or recreation, though this was never specified in the legislation. What would or would not be allowed in any of these zones was not defined.

The proposed legislation would also have made it easier for the government to change park designations in future, or to allow new 'dispositions' such as industrial access or motorized recreation. Currently this can only be done with changes in legislation; in future, Cabinet would have made changes on its own. Public 'comment' could have been required, but not public consultation.

AWA argued that this proposed legislation was so bad, and so fundamentally flawed, that it could not go ahead as it stood, and Albertans agreed. Hundreds of AWA supporters wrote and phoned their politicians to try to ensure that the proposed legislation did not slip through without substantial changes, and on November 24, we were greeted with the news that Bill 29 had been withdrawn, at least until the spring.

Minister of Tourism, Parks and Recreation, Cindy Ady, promised that her ministry would go away and consult with Albertans before reintroducing the bill in the spring, so it will be important for Albertans to follow developments closely. But in the meantime, we can celebrate the growing realization that, when enough people take the time to speak out loudly and clearly, then we can indeed make a difference in Alberta.

- Nigel Douglas

Protection of Alberta's spectacular Wilderness Areas, such as the White Goat, would have been severely curtailed if the proposed Alberta Parks Act was passed.

PHOTO: N. DOUGLAS

About the Tone of the Wild Lands Advocate “Negativity – AGAIN”

Dear Mr. Urquhart -

A few months ago I wrote to you about the negative and discouraging tone of the *Wild Lands Advocate*. The next couple of issues seemed to be a bit more positive. This last issue - October 2010: Volume 18(5) - was again depressing and was WORK to read. There were six feature articles, and five of them were very negative. There were three positive pieces buried in the Association News section at the back but I doubt if many people even read that far. The reader's hope and energy was destroyed by then.

The *Canadian Parks and Wilderness Association* and *Ducks Unlimited* magazines that I also receive are a delight to read. They are uplifting, full of celebration stories, and make me pleased to be one of their donors. They do cover issues of concern to conservationists but do it in such a way that my hope for a better world is not undermined.

I know you and your editorial team are passionate about the need for change. I am glad. This letter is a plea to share your passion in a way that builds hope, creates community, and encourages, rather than discourages, readers like me to volunteer time, expertise, and money to build a better province for our grandchildren.

Sincerely,
Susan Wagner

The Editor's Response:

Dear Ms. Wagner:

Thank you for sharing your concerns about the tone and readability of the *Wild Lands Advocate*. As someone who has spent his career studying public policy making I believe the negative tone/commentary you object to in the October *Advocate* should receive some of the credit for two recent “good news” stories in Alberta – decisions to withdraw Bill 29 (the new Parks Act) and to not proceed with the sale of endangered species habitat to a potato farming operation. The questions about the Parks Act raised by Dr. Dinwoodie and shared with AWA members through the *Advocate* and the light Nigel Douglas shone on Potatogate were certainly critical of the government's intentions. Proposed government actions that threatened the place of Alberta's wild

spaces in your grandchildren's future have been stopped – for now. Perhaps I am more skeptical than you are about government's willingness to change course in the absence of facing the type of “negativity” you saw in the October *Advocate*.

AWA is always interested in story ideas so I hope you will take a moment to identify some specific celebratory themes or stories you would recommend we consider publishing in the *Advocate*.

Sincerely,
Ian Urquhart

About the State of our Parks

I read with some interest the three articles on the state of national and provincial parks in the last *Advocate*. I would like to express my thoughts on these issues as one of the founding members of the AWA. And perhaps give some historic perspective to the issues raised.

Certainly there is lots of human activity in the main highway and town corridors in the national parks, mostly as an accident of history. But we need to remember that there are vast wild areas remaining in Jasper and Banff. You can still do a 10 day trip through the Red Deer and Panther or in many parts of Jasper. We should celebrate that. In the 60's there was a proposal made by the province to trade the Banff Corridor to the province in exchange for converting all of the Kananaskis to national park status. Parks in Canada would look very different if that proposal had been carried out. And we might have had a National Park Service that spent its time managing the backcountry instead of dealing with the affairs of Banff townsites.

The Siffleur, Ghost and White Goat “Wilderness Areas” were created when I was involved back in the 1960's. Our objective was to protect areas from mining and logging and road access, but maintain opportunities for horse riding and horse hunting, along with backpacking, etc. As a political ploy, some anti-wilderness interests within the provincial government wrote the legislation to disallow any use but walking, as a tool to split the interests supporting wilderness area designation. The AWA started as a coalition of backpackers, horse hunters and outfitters that wanted to retain some areas on the

eastern slopes as wild as they had always been. We did not support that kind of designation, and restriction of use but they stuffed it down our throat anyway. This kind of restriction is entirely outside the internationally recognized definition of “wilderness area”. In the USA, a wilderness area is a place where you can hunt, a park is a place where you can't. Alberta, B.C. and some other provinces are totally out of step with international definitions of these kinds. The Willmore is the only wilderness area in Alberta that is in fact a wilderness area by the international definition. Most of us old guys would support having horse use, hunting and camping allowed in these areas, since that was the original idea, even if most of us can't get on a horse anymore.... We all need to remember that the combination of national parks and wilderness parks along both sides of the divide (I live in BC now) is a wonderful accomplishment. And we should celebrate that and make use of these wonderful areas, in the traditional ways that they have been used in the past.

What we really need to do to maintain wilderness in the long term is to start building a constituency of future users by running camps to show young people how to use wild country. Show young people and new Canadians how to camp, backpack, how to pack a horse, etc. Most of these folks are urbanites and need a hand. We also need to get hunters off their ATVs and onto horses or into a backpack, which is what mountain hunting is really about. Rebuild the coalition of backcountry hunters and other backcountry users that was the original AWA. And they all need an education around the historic use of horses in wild country and the history of concern over wilderness and wild landscapes. Most of these people have no clue who Bob Marshall was, or Gifford Pinchot, or William Pearce (a test for all of you) or Kootenai Brown or Jimmy Simpson. We are losing the culture of wilderness.

The other thing we need to do is get out there. As Willy Michalsky, our first President said one time when we were having a debate over these issues: “Ah sure it's getting busy in the valleys, but she is still lonely on the ridges!”

Best regards,
Bob Jamieson

About “A Sordid Affair: Mountain Biking in Canada’s National Parks”

It is readily apparent from Dr. Horejsi’s diatribe against mountain biking that he is of the view that if you do not enjoy the National Parks the way he does you are, essentially, evil. I have hiked and biked Banff and Jasper for decades. As an avid mountain biker, I am not driven by competition, speed, aggression nor wrapped in body armour, hearing impaired or unable to look left or right. To the contrary, I cycle the Parks’ trails as a healthy way to enjoy and interact with the natural world, finding solitude and escaping from the stress, noise and pressure of modern society. I and every mountain cyclist I know yields to horses and hikers, stays on the trails, respects wildlife and is concerned about the degradation of our natural environment.

Dr. Horejsi presents no science of the impacts of mountain biking, assumes we are all 15 year old kids (and not 50 year old environmental lawyers such as I) and ignores the muddy, braided mess left by horses, led by commercial guides (mostly white males) with their own idolatry of gear, trying to portray a testosterone-filled image as owners of the wild west. He also ignores the history of the unilateral closure of Parks trails to mountain bikers by Parks officials, without science, consultation or reason, and does not mention a word about the work of the numerous cycle clubs and their volunteers working hard to find a place in Park policies for mountain riders to enjoy the Parks in a safe, human and wildlife conflict free manner. It’s about time Parks listened to the many, many cyclists who have been ignored for too long. Dr. Horejsi’s article assaults the work of many of us who care passionately for our Parks but simply enjoy them in a manner that he personally disapproves.

Alan Harvie



Sunrise on Highway #41, Alta
10” x 14” Watercolour
© L. CARNEY

Events

TUESDAY TALKS

Pre-registration is required for all talks

Time: 7:00 p.m.

Cost: \$5 for adults, \$1 for children

Information/Reservations

Online: www.AlbertaWilderness.ca

Phone: (403) 283-2025

Toll-free: 1-866-313-0713

January 25, 2011

CALGARY

455 – 12 St. NW

“Are Boreal Forests Silent or Just Singing a Different Tune?”

With Dr. Erin Bayne.

The Alberta boreal forest is under increasing development pressure, with considerable impacts on many bird species. Dr. Bayne, through his leading-edge research, is helping to open our eyes to these effects. Through his work with government and industry, Dr. Bayne is implementing innovative methods to reduce some of the impacts on boreal bird life.

WINTER HIKE

Pre-Registration Is required for all hikes

Cost: \$20 – AWA members

\$25 – non-members

Information/Reservations

Online: www.AlbertaWilderness.ca

or By phone: (403) 283-2025

Toll Free: 1-866-313-0713

Wednesday, February 16, 2011

Sheep River Winter Hike

With Nigel Douglas

The winter snow contains many stories. Animals (including birds) leave their tracks, the action of the wind is recorded and life-giving water is stored to be released with the return of spring. Winter hiking! Why not?



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.

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 RR 0001.

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

