

# A WILDLANDS ADVOCATE



THE ALBERTA WILDERNESS ASSOCIATION JOURNAL

DECEMBER 2013

Northern Disappointment: the  
Lower Athabasca Regional Plan

Can Disappointment be Avoided  
in the South Saskatchewan?

Climate Change and Extreme  
Weather Events

Conservation Corner: Of Birds  
and Blades

# C O N T E N T S

DECEMBER 2013 • VOL. 21, NO. 6

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## Cover Photo

Many thanks to Ray Rasmussen for December's cover photo – an intimate winter portrait of a Rocky Mountain stream PHOTO: © R. RASMUSSEN



## Featured Artist

Gregory Deagle's family has been intimately connected to Jasper National Park for four generations.

Deagle studied art history at Vancouver's Langara College and more recently completed online Aboriginal painting/drawing courses through Emily Carr University. He's been privileged to work under the private tutelage of many distinguished artists and received the 2012 Raven About the Arts Award for excellence in Visual Fine Art from Jasper Habitat for The Arts.

At home in nature, Deagle has consistently produced a highly compelling body of work on varied subjects. He is best known for his oil mountainscapes. These popular works are balanced on a delicate threshold between realism and abstraction and are both formally vigorous and eternally evocative.

Deagle's works are collected internationally and may be found in numerous private and corporate collections.

Deagle's artistic activities and musical explorations are based both out of his home studio in Jasper, Alberta and at the Jasper Artists Guild where he exhibits on a full time basis and helps to produce rotating shows for friends and colleagues. You can connect with Gregory at [gregorydeagle.ca](http://gregorydeagle.ca) or [facebook.com/gregory.deagle](http://facebook.com/gregory.deagle)

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# Déjà Vu?

House cleaning can be unsettling. Last weekend, as I tried to impose some semblance of order in my office, I stumbled across the 1990 edition of *Demystifying Forestry Law in Alberta*. I used Andrea Moen's book 20 years ago to help understand the legal background to the sell-off of Alberta's boreal forest to the pulp and paper industry. The appendices in that Environmental Law Centre publication disturbed me then. Nada – that's what their maps told me the provincial government's formal commitment to "integrated resource management" meant on the ground. Alberta carved out boreal forest tenures the size of small countries and handed them over to Alberta-Pacific and Daishowa-Marubeni before integrated resource management plans were prepared.

In 2005 the Alberta government's Speech from the Throne declared the government would "develop a land-use management framework supported by effective resource and environmental policies and shared, integrated information systems." The 2006 Throne Speech linked its under-construction land-use framework to "a clean environment."

More than eight years later where are we? The *Alberta Land Stewardship Act* was passed in 2009. It created seven planning regions, authorized the development of regional plans and created, in a former Minister's words, "new conservation and stewardship tools that will protect Alberta's natural heritage on public and private lands." By the end of this year only one regional plan, for the Lower Athabasca, will have been completed. A draft for the South Saskatchewan has been written and is available for comment

(<https://www.landuse.alberta.ca/RegionalPlans/SouthSaskatchewanRegion/Pages/default.aspx>). No plans are underway in any of the other five regions.

More than eight years after that first Throne Speech only 14 percent of Alberta is covered by a land-use plan. Maybe...just maybe...the South Saskatchewan Regional Plan will be approved in 2014. That would mean 27 percent of Alberta would have land-use plans. Nine years...27 percent. Would it be ungracious to suggest the world's glaciers should be receding as slowly as Alberta's implementation of regional land-use plans?

Perhaps my concern about the government's history with integrated resource management plans and its dithering since 2005 may miss and undervalue the key point – the protection the government is extending to Alberta's natural heritage. Our features section leads off with two articles considering the substance and promise of regional plans. Carolyn Campbell scrutinizes the substance of the Lower Athabasca Regional Plan while Brittany Verbeek examines the promises outlined in the draft of the South Saskatchewan Regional Plan. Read them and let me know if you think I should change my opinion.

There are several other aspects of this issue I'd like to highlight here. Dr. Dave Sauchyn offers us a very timely and instructive discussion of the strength of the relationship between global warming and extreme weather events such as the Alberta floods of 2013.

If you weren't able to attend October's Martha Kostuch Annual Lecture we're

happy to offer you a summary of what Lorraine Mitchelmore, president and country chair of Shell Canada, told the standing room only crowd. Her message about the importance of collaboration and finding common ground was one we know Roger Creasey, her colleague, our friend, and this year's recipient (posthumously) of our Wilderness Defenders award, would have appreciated. Shell gave a very generous donation of \$50,000 to AWA's library in memory of Roger.

This issue also introduces you to two new sections we will be featuring over the next year. Niki Wilson is going to offer us regular glimpses into the world of conservation science. She focuses in this issue on the impact of wind turbines on bird and bat populations. Our friends and supporters at Mountain Equipment Co-op will offer you a look at new gear. Kristina Vyskocil looks at a piece of emergency preparedness gear that is on this editor's list for Santa.

Also, we're very pleased to offer you book reviews of Kevin Van Tighem's *The Homeward Wolf* and Robert Girvan's *Who Speaks for the River?: The Oldman River Dam and the Search for Justice*.

Finally, it's a real pleasure to include the reflections of Ralph Heydlauff about the health of greater sage-grouse habitat in the Recall of the Wild section. We've come to know and respect Ralph through our mutual interest in the Sage-Grouse Partnership and think his words are food for thought as we move into 2014.

- Ian Urquhart, Editor

# Alberta's Lower Athabasca Regional Plan: A Good Answer to Managing the Oil Sands?



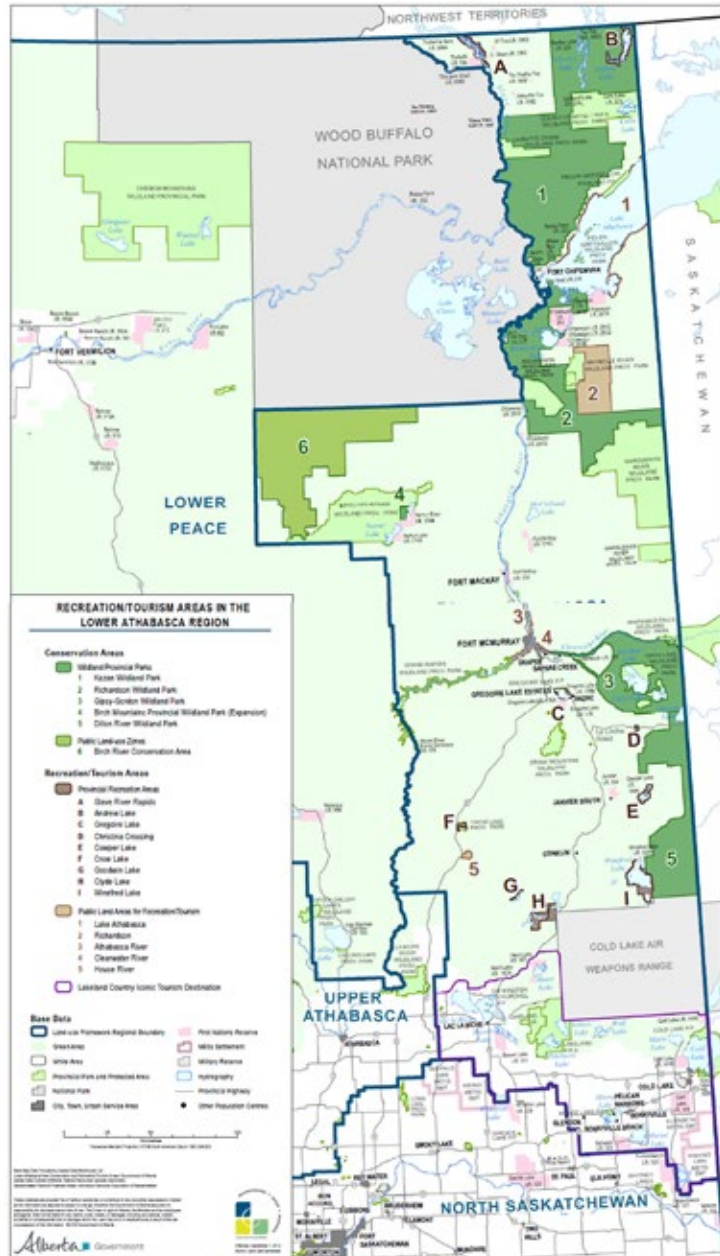
By Carolyn Campbell, AWA Conservation Specialist

**O**n September 1 2012, Alberta's first regional plan under the *Alberta Land Stewardship Act* took effect. This was the Lower Athabasca Regional Plan (LARP), covering provincial lands in northeast Alberta. AWA offered a qualified welcome to LARP. It's a step forward in managing the cumulative effects of multiple intensive development pressures on land and water but LARP regrettably is still missing many important and promised initiatives to improve wilderness and wildlife habitat.

LARP contains economic and environmental goals. Economically, it seeks to ensure that "the economic potential of the oil sands resource is optimized" and "the region's economy is diversified." Its seemingly contradictory environmental goals are to ensure that "landscapes are managed to maintain ecosystem function and biodiversity" and "air and water are managed to support human and ecosystem needs." Now, four years after *ALSA* was passed and more than a year after LARP's approval, it remains urgent for more progress to be made in striking an appropriate balance between economic and environmental goals.

## Baseline Indicators before LARP

The Lower Athabasca region covers 93,000 km<sup>2</sup>, about one quarter of Alberta's boreal natural region and all of its Canadian Shield natural region. It includes the 4,750 km<sup>2</sup> mineable oil sands region, extending over 100 kilometres along the Athabasca River, as well as much of the



*New protected areas in the Lower Athabasca region (shown in dark green) are at the periphery of the oil sands region. While tar sands developments and metallic mining cannot proceed there, existing leases for oil, gas, sand, gravel and peat can proceed. Forestry is allowed in the second largest area, the Birch River Public Land Use Zone on the south border of Wood Buffalo National Park. The lack of protected areas within the oil sands region makes it urgent for land disturbance limits to be implemented there, as two multi-sector groups recommended in 2008 and 2010.*

Athabasca and Cold Lake oil sands regions of deeper tar sands deposits that are typically steamed and pumped out through in situ production. Alberta-Pacific's enormous forestry lease covers most of the region. In the Lakeland region to the south, the land use is primarily agricultural with a growing fossil fuel extraction footprint.

When work on LARP began in 2009, the Alberta Biodiversity Monitoring Institute (ABMI) provided a useful baseline estimate of species diversity. The Institute surveyed 149 plants and animals (excluding rare and threatened species) at sites across the region, and devised an index of overall species diversity 'intactness' compared to the most intact pristine parts of the region as measured in 2003. ABMI determined that the Lower Athabasca region as a whole had a biodiversity intactness of 94 percent and that a human disturbance footprint covered 7 percent of the area.

When it comes to land and water the Lower Athabasca begs for more protection and better management. Before LARP, designated protected areas covered only 5,890 km<sup>2</sup> or a mere 6.3 percent of the region. There were no limits on land disturbance and no wetland policy to protect boreal wetlands that cover 40 percent of the oil sands region (and over 60 percent of the mineable oil sands region). Reclamation regulations require that land be restored to equivalent land capability, which in practice favours uplands over wetlands, aspen over peatland.

The challenges may be even more pronounced with respect to water. Since 2007 interim surface water withdrawal rules have governed cumulative oil sands mines water withdrawals from the Athabasca River. When these rules were introduced in 2007 regulators pledged to update them by 2011; we're still waiting. Alarming, over forty years after oil sands production started, there are no credible surface water quality baselines because, as federal and provincial scientific panels famously found in late 2010 and early 2011 respectively, Alberta's water quality monitoring was not designed properly to detect

oil sands development impacts. Things were no better with respect to groundwater. There wasn't a comprehensive baseline monitoring network for groundwater even though approximately 110 groundwater-using bitumen extraction projects had exploration leases or approvals.

### **More Intensive Industrialization on the Horizon**

In January 2012, 75 percent of the land base in the Athabasca oil sands region and 51 percent of the Cold Lake oil sands region area was already covered with bitumen leases. Global Forest Watch Canada found that 66 percent of caribou ranges had already been auctioned off to bitumen leases as of July 2011. In Alberta, energy leases are virtually always followed by intensive seismic exploration disturbance and then approved industrial projects. The projects bring a network of power transmission lines, roads, pipeline corridors; also, with more workers and more access comes motorized recreation on trails that were never designed for such uses. This human disturbance is lethal to caribou, which require large unfragmented areas of wetlands and old growth forest to successfully separate themselves from moose, deer, elk and predators.

It's already clear that projected impacts from oil sands, forestry and associated development will be very harmful to boreal ecosystems and wildlife generally in the Lower Athabasca region. For example, to inform LARP planning, the Alberta government commissioned a set of modeled scenarios in 2009. Regrettably, the government did not release these important reports to the public but in 2012 Pembina Institute obtained the 'business as usual' scenario report after a lengthy FOIP process. Assuming "current practices, footprint intensity, public policies and market forces remain unchanged from current trends," this government document stated that modeling results were that "[a]ll biodiversity indicators were assessed to diverge from natural condi-

tions under the Baseline Scenario, with an average departure from natural of over 50 percent. Plants and animals associated with humans are expected to respond positively as human-created habitats become more abundant in the region. Other species would likely decline, such as native fishes, old forest birds, woodland caribou, and other species at risk. In the case of particularly sensitive species such as woodland caribou, extirpation appears to be a likely outcome of the Baseline Scenario."

Another recent finding foreseeing harmful cumulative impacts from a 'business as usual' approach in northeast Alberta came from the July 2013 decision of the Joint federal and provincial Review Panel (JRP) that considered the Shell Jackpine tar sands mine expansion application. In its decision, the JRP stated that "the Project, in combination with other existing, approved, and planned projects, would likely have significant adverse cumulative environmental effects on wetlands; traditional plant potential areas; old-growth forests; wetland-reliant species at risk and migratory birds; old-growth forest reliant species at risk and migratory birds; caribou; biodiversity; and Aboriginal traditional land use (TLU), rights, and culture. Further, there is a lack of proposed mitigation measures that have proven to be effective with respect to identified significant adverse cumulative environmental effects." It is appalling that, given this assessment, the Panel nonetheless approved this mine application. These findings highlight just how urgent it is for the Lower Athabasca regional plan to limit these foreseeable, harmful cumulative effects.

### **Protected Areas Network**

Large scale, representative and connected protected areas are essential to long-term ecological integrity in an otherwise industrializing landscape. They act as refuge areas for the natural landforms, soils and vegetation that in turn support a diverse array of resident and migratory wildlife. As Alberta's boreal forest dries from climate change and the loss

and fragmentation of its wetlands, large protected areas provide key corridors for boreal wildlife to shift north to more suitable habitat. From a distance, the most impressive achievement of LARP is the establishment of new and expanded protected areas. Recommending protected areas was one of the most important tasks of the LARP Regional Advisory Council (RAC). RAC was a government-appointed multi-sector group composed largely of industry and municipal government representatives. Apart from a Ducks Unlimited Canada representative, there were no environmental groups represented on the advisory council. After reviewing the secret modeling scenarios referred to above, the RAC issued a Vision report in August 2010. It suggested particular areas for an expanded protected areas network covering between 20 percent and 32 percent of the region's area and recommended that in the multi-use areas outside protected areas, the active footprint of mineable and in situ oil sands leases be limited to less

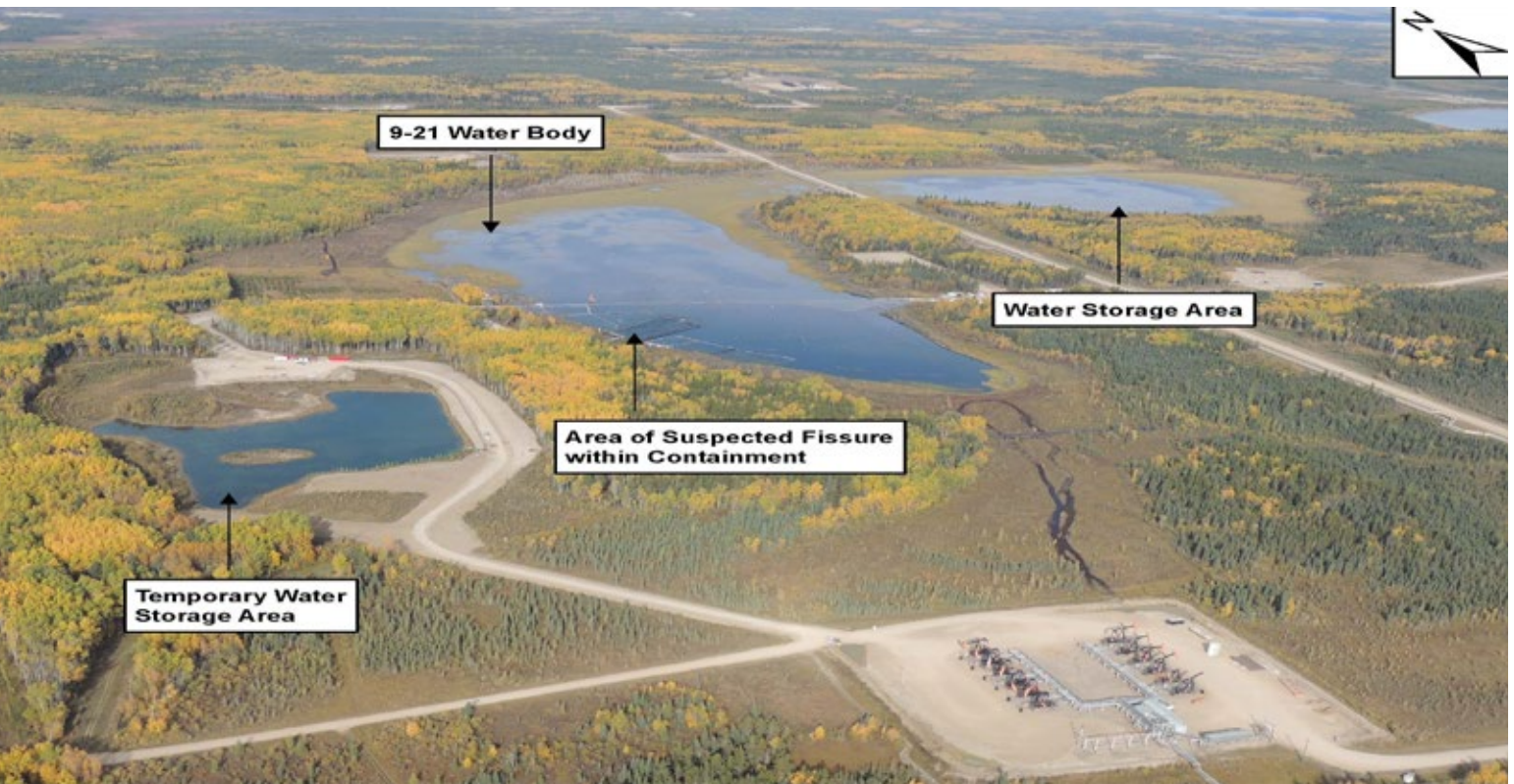
than 15 percent.

Two years of stakeholder and public consultations followed, after which the Government of Alberta released a dramatically weaker final plan. There was no land disturbance limit. New conservation areas were at the lowest recommended amount of 20 percent of the region's area and they were on the periphery of the oil sands region. They were preponderantly in the Canadian Shield natural region and did not represent areas where biodiversity risks are highest.

The commitment in August 2012 was that inside the conservation areas there would be no new resource extraction leases, that oil sands and metallic mineral leases would be bought out, and that the first two parks would be officially established by Orders in Council in March 2013. I corresponded recently with the Assistant Deputy Minister (ADM) responsible for Alberta Parks, Graham Statt, on the status of these areas. He stated that effective September 1, 2012, "Protective

Notations called PNTs were placed on all of the Conservation Areas and Provincial Recreation Areas... this means that the areas are being managed and protected in accordance with the management intent described in LARP...interim management by the Government of Alberta must adhere to [LARP's] direction."

In terms of the timing, ADM Statt said, "For sites with no industrial compensation processes, it is the intention to move these sites forward for official establishment as soon as practicable." Apparently the delay relates to transferring the surface access rights management from Alberta Environment and Sustainable Resource Development to Alberta Tourism, Parks, and Recreation. Where there are existing oil sands and metallic and industrial minerals leases, Statt stated that "notice of intent to cancel [was] sent to all affected companies on March 20, 2013), [and] compensation ... must be paid to the company prior to the establishment of the site. Alberta Energy is assessing the compensation claims



Aerial view of one of four bitumen blowout sites on CNRL's Primrose in situ tar sands project. Hot pressurized bitumen was found leaking into this small lake in the centre of photo in June 2013 and has also contaminated nearby groundwater. The photo indicates the industrial disturbance footprint in the central corridor of the Cold Lake Air Weapons Range, overlapping with a threatened caribou population, which two decades ago was intact roadless boreal forest. Biodiversity frameworks in LARP to help manage these pressures are major unfinished elements of cumulative effects management. PHOTO: <http://www.cnr.com/corporate-responsibility/public-statement--primrose-update.html>

that have been submitted from companies.”

Some progress is being made. It's very positive that no new resource leases are being sold in these areas. The intent to buy out oil sands leases is also positive but AWA doubts this will be a smooth and speedy process. Most conservation areas will be designated Wildland Provincial Parks, which means that industrial forestry will be removed from them as well.

A better approach would have been to defer new leasing in potential protected areas ahead of LUF regional planning; instead, in a repeat of the Special Places designation process, development proceeded full tilt while environmental considerations remained on the backburner for the years it took to ultimately designate some lands that were least attractive to industry, not most important ecologically. Another significant compromise is that Alberta will allow existing conventional oil and gas leases to be developed. In addition, sand, gravel, and peat extraction will continue to proceed in these areas. All of these permitted activities compromise ecological integrity. As well, the second largest new conservation area, Birch River, will be a Public Land Use Zone so forestry may take up to a third of its area. This amount of industrial activity does not meet accepted international standards for protected areas. Overall, while these protected areas are better than the status quo, by themselves they hardly amount to responsible oil sands environmental management that will respect and maintain biodiversity.

I also asked about the planning and administrative resources that will go towards the Wildland Provincial Parks once Cabinet issues Orders in Council to officially establish them under the *Provincial Parks Act*. Statt replied that “staffing, access management, management plan development and other resources for Wildland Provincial Parks and Provincial Recreation Areas have not been specifically defined. In general, site-specific management planning for the Wildland Provincial Parks and Provincial Recreation Areas are not

anticipated to be developed at this time. A regional parks plan is being developed to direct the planning and management of new and existing parks within the provincial parks system. Alberta Parks will be engaging Albertans prior to the development of any facilities in any of the parks in the Lower Athabasca Region.”

We respect the dedication and ability of Parks civil servants to accomplish much on a limited budget. However unless the government commits additional resources to Parks, we do not see how the Alberta government will adequately manage and staff these new intended ecological benchmark areas of northern Alberta. The tremendous multiple development pressures these areas will face demand more financial and personnel resources in our Parks ministry. What will happen if oil, gas, gravel, sand, and peat extraction proceeds in these areas and if oil sands and forestry leases are granted and developed around their borders? Ecological fragmentation, invasive species, and motorized recreation surely will follow. To AWA, responsible stewardship of such new areas demands developing management plans to prioritize ecological integrity. Sustainable low impact recreation also should be permitted; it should be adequately enforced. Finally, government must commit resources to prioritize habitat maintenance and restoration for sensitive species and water resources. For wetland-and-old-growth-forest-reliant woodland caribou, active landscape restoration is especially urgent because science tells us the human disturbance already far exceeds critical thresholds.

## Management Frameworks

Besides adding new protected areas, Alberta's regional land use plans such as LARP commit to using regulatory instruments called ‘management frameworks’ to ensure the impacts of multiple land and water users remain below manageable thresholds. The idea is that for selected indicators of air, land, water, and biodiversity health the management frame-

works will set ‘limits’ or threshold values which the government will insist cannot be violated. There are also ‘trigger’ values that will launch required actions from multiple land users to reduce impacts (such as emissions, land disturbance, or water withdrawals) to ensure ‘limits’ are not crossed. This seems a very sound approach if meaningful and measurable indicators, limits, and triggers are established. Surface water quality, air quality, and interim groundwater quality management frameworks were approved for implementation in August 2012. This represented a real step forward for cumulative effects management. The problem is, there is so much more left that is unfinished.

As noted above, water withdrawals by mines operating along the Athabasca River are governed by interim rules dating back to 2007. By now, these rules should have been updated to a more ecologically protective ‘Phase 2’ water quantity management framework. AWA served on a multi-sector committee that completed recommendations for new rules in January 2010; the committee achieved consensus on improved rules for most times of the year, and on the principle of establishing a cut off (but not an identified level) to protect aquatic ecosystems from withdrawals at lowest winter flows. AWA believes the evidence warrants a precautionary cut-off level. When that level is hit mines could not withdraw water from the Athabasca; they would have to rely on fresh water stored in ponds. As of press time, the government has said the long overdue launch of draft Phase 2 rules for public review will happen in early December. But there was no indication whether a precautionary low flow cut off value would be established.

As of early November 2013, none of the other promised frameworks - including biodiversity, land disturbance and groundwater quantity - had been released for consultation. Alberta Environment and Sustainable Resource Development (ESRD) is the department responsible for implementing these management frame-



*AWA visited two of the four bitumen spill sites at the CNRL Primrose tar sands project on August 8, 2013, three months after a spill was first discovered. The top photo shows hot pressurized bitumen that is still spilling to surface from a 150 metre long fissure, and has contaminated a freshwater aquifer. The bottom photo of a steam plant (pipelines, and/or project signage) suggest the industrial disturbance footprint in the central corridor of the Cold Lake Air Weapons Range, overlapping with a threatened caribou population, which two decades ago was intact roadless boreal forest. Biodiversity frameworks in LARP to help manage these pressures are major unfinished elements of cumulative effects management.*

PHOTO: © C. CAMPBELL



works, as well as managing the public lands outside the *Parks Act* in the regional planning areas. Indications from ESRD are that an expansion of the groundwater quality and quantity monitoring network is targeted for completion some time in 2014; five years of data from new wells will then be required to establish enough reliable data to set triggers and limits for groundwater quantity, and update those for groundwater quality. AWA's conclusion is that a hold should be placed on new leases and approvals of projects that will propose to use groundwater until sustainable development levels are understood and can be implemented.

Biodiversity regulatory management is far behind schedule. Alberta government officials suggested in 2009 that developing a biodiversity strategy before regional planning was a key pillar of its environmental policies. The strategy still hasn't been released. RAC recommended that a biodiversity management framework for the Lower Athabasca be implemented by early 2012. That recommendation was not delivered in the 2012 LARP; instead, a non-binding commitment was made that it would be released by the end of 2013. That target now has been pushed back to mid-2014, with public consultation scheduled before that.

This lack of progress on managing biodiversity is very disappointing. The concepts of indicators tied to habitat types (e.g., old growth forest), species 'guilds' (e.g., old growth forest birds) and select species were presented to LARP stakeholders in May 2011 and there was credible data from ABMI and other monitoring efforts at that time to set, at least, precautionary interim limits and triggers. The ongoing delays subvert the LARP's stated goal to manage landscapes "to maintain ecosystem function and biodiversity."

The 2012 LARP also pledged to have a landscape management plan for public lands, including land disturbance standards such as limits and triggers. It stated that "areas important for biodiversity such as caribou and moose habitat, wildlife movement corridors and riparian areas

will experience lower levels of land disturbance." AWA has learned that a landscape plan will be developed, which will include several components including a "regional strategic assessment" for the South Athabasca portion of the region – where dozens of in situ bitumen projects are proposed. Apparently, like the 2009-2010 RAC process, this 2014 sub-regional assessment will evaluate cumulative effects of multi-sector land uses and disturbances under different future scenarios. This possibly useful exercise should be transparently communicated (unlike LARP's secretive modelling that only RAC members reviewed) but it should not be used as an excuse to further delay setting a land disturbance limit. A multi-sector group in 2008 recommended a 5 to 14 percent threshold for the area of active oil sands leases. Even the industry-heavy RAC recommended a 14 percent threshold. It is time to release the modelling that underpinned RAC's recommendations and put a more precautionary threshold of 5 percent land disturbance in place.

## Trails Network

The LARP also stated a designated recreation trails system will be developed. This is urgently needed to replace the free-for-all on public lands where unauthorized trails and random camping in sensitive areas is all-too-often the norm. These areas were never intended to be exposed to or withstand motorized recreation pressures. LARP stated that the first step would be completion of a trails inventory. This would include an assessment of the sustainability of trails and areas. Then scenarios and options for regional trails would be developed and this would include stakeholder and public consultation. Along with "quality of the recreational experience" trail development would consider "sensitivity of – and risks of – unacceptable disturbance to soil, vegetation, watershed, wildlife, wildlife habitat and other resources."

Alberta Parks has responsibility for this trail system development. According to

Parks ADM Graham Statt, "an inventory of current trails is almost complete, with some winter access required in remote areas. Following the inventory, local and regional stakeholders will be consulted to determine current usage and desires for trail and trail infrastructure expansions. All existing and proposed trails will be evaluated and sustainable land-based trails for various motorized and non-motorized trail users, including mixed-use trails, water-based trails and routes, and potential associated activity areas will be proposed. The proposed trail network will undergo extensive public consultation prior to being designated as a regional system...There has been no general public or stakeholder engagement thus far, although several local trail groups have made specific trail suggestions." Again, compared to the urgency of this task, the available resources to complete it seem to be lagging far behind.

## Conclusion

The government-appointed federal-provincial Joint Review Panel assessing the expansion of Shell's Jackpine tar sands mine had this to say about northeast Alberta cumulative effects management in its July 2013 decision report: "While the LARP is an essential first step, its value will be fully realized only when all of its frameworks and thresholds are in place and being applied. The Panel encourages the government of Alberta to continue the processes associated with implementation of the LARP on an urgent basis." As this overview has demonstrated, Alberta is making very slow progress on developing and implementing many unfinished pieces needed for effective cumulative effects management of land and water. Such slow progress stands in sharp contrast to burgeoning industrial development in the region. So far, Alberta is completely on track to lose, as predicted, half its species diversity across the boreal forest. This would be a terrible cost that a highly prosperous society shouldn't have the right to knowingly impose on future generations. ▲

# South Saskatchewan Regional Plan -

## A Disappointing Draft

By **Brittany Verbeek**, *AWA Conservation Specialist*



In 2006 the Government of Alberta committed to establish a comprehensive land use planning approach in order to strike a more sustainable balance between social, economic, and environmental goals. Premier Stelmach's government recognized that Alberta's rapidly growing population would place an enormous amount of stress on our natural resources because of increased demands for energy, water, land, and recreation areas. The government published a Land-use Framework (LUF) two years later. It was marked with strong language; we had reached a "tipping point" and we needed "smart growth" that wouldn't destroy our precious natural landscapes. The LUF outlined a strategy to divide the province into seven regions based on major watersheds to facilitate the integration of air, land, and water policies. It noted how past planning processes failed to recognize cumulative effects of multiple activities on a finite landscape. LUF's regional land use plans would address land use conflicts by making tough land use decisions and prioritizing activity.

Now, five years after the LUF was released, only one regional plan has been completed, the Lower Athabasca Regional Plan, while the South Saskatchewan region is in the midst of the planning process. In 2010, A Regional Advisory Council (RAC) was established to advise the government on the development of a South Saskatchewan Regional Plan (SSRP). Even though the environmental community was invited to submit, and did submit, nominees to sit on the RAC, none were chosen. Following the public release of the RAC's recommendations a string of consultation sessions took place around the re-

gion to receive comments and feedback from stakeholders and the general public. AWA participated in these sessions and provided feedback along with many others from the environmental sector. The vast majority of those concerns have been ignored up until this point.

The Draft SSRP was unveiled officially on October 10, 2013 in Calgary. Environment Minister Diana McQueen addressed a large crowd of media and interested parties. This long awaited draft created quite a stir from environmental groups who had hoped, to little avail, that the draft plan would make some tough, pro-natural landscape, land use recommendations for this heavily populated region of the province. As Lorne Fitch said after reviewing the draft: "Never have so

many people, waited so long, for so little."

The South Saskatchewan region covers 83,764 km<sup>2</sup> and 45 percent of Albertans live there. Stretching from the British Columbia border to the Saskatchewan border, the region includes the southern square of the province with Calgary as the largest urban centre. Following the LUF's lead, the draft SSRP describes the increased pressure

*"Never have so many people, waited so long, for so little."*

*Lorne Fitch.*



*Headwaters in the Castle*  
PHOTO: © C. OLSON

on the region's natural resources due to the cumulative effects of population growth and economic development. Although it outlines some positive strategic directions and objectives for the region to ease the pressure, the discussion of proposed protected areas disappoints. It will not achieve any of these objectives. The conservation areas proposed in the draft include new and expanded Wildland Provincial Parks, a Pekisko Heritage Rangeland, and a Public Land Use Zone labeled the Castle Conservation Area.

Before you give the government a pat on the back for these proposals take a closer look at the shape of these conservation areas and where they are located. They leave much to be desired on both fronts. The majority of these Wildland Provincial Parks are iden-

tical to the Prime Protection Zones allotted by the Eastern Slopes Policy, chosen largely for aesthetic value in alpine zones above 2,000 metres. Most of the valley bottoms are excluded from protection. Those valley bottoms are precisely where the region's biodiversity and headwaters security are at the highest risk. And this minimum proposed protection ends in the Eastern Slopes. The rest of the region, including important public grasslands, is not deemed worthy of any proposed conservation areas. There even seems to be a disconnect between the government remaining faithful to its longstanding goal of robust forestry and oil and gas sectors and its ambition to promote world renowned tourism and recreation in southwestern Alberta. Significant changes to business as usual de-

mand clear, well-defined compromises between goals. Those tradeoffs are absent from the draft.

### **Headwaters, Wetlands, and Grasslands**

On several different occasions, the draft states the importance of headwaters security to ensure recharge capabilities and sustain critical water quality, water quantity, and aquatic ecosystems. Small, fragmented protected areas that continue to allow unregulated off-road vehicle use, dispersed between areas of significant land disturbance, will not promote headwaters security. The Draft states "no motorized access is permitted in wetlands and water courses" but it does not outline any monitoring or access manage-

ment details to prevent this from occurring. Significant missing pieces of the draft SSRP such as access management plans that would provide those important details are conveniently delayed. The proposed timeline for preparing these plans for the north Castle, Livingstone, Porcupine Hills, and Willow Creek areas is not until the end of 2017. How much more damage will be done in these areas if the status quo is maintained for at least another 1,460 days?

The just-released Alberta Wetland Policy leaves many of its crucial implementation details such as thresholds and limits up to the regional plans such as the SSRP. Consequently, it is essential that the SSRP define these wetland-related thresholds. We need more than just the general commitment to the



*Twin Summits of Gargoyle, oil on canvas, 12 x 16" PHOTO: © G. DEAGLE*



Greater Sage-grouse at sunrise near Zortman, Montana – fortunate not to be 100 kilometres northwest, across the border in Alberta  
PHOTO: © C. OLSON

strategy of “(establishing) regional wetland management objectives under the Alberta Wetland Policy.” Explicit, quantifiable and measurable objectives need to be set in the SSRP. The government seems to be playing a shell game when it comes to these objectives. Are they under the Wetland Policy? Are they under the SSRP? The problem is they don’t seem to be under either of them. More concrete proposals need to be made to pursue the important goal of increasing functioning wetland areas in the region. These wetlands are vital to water security and biodiversity. They should be protected better and restored given their high historic loss in the region and public support for this goal.

The draft does not address conservation in native grasslands in any specific way. No legislated protection is proposed for grassland areas despite the large number of species at risk in southeast Alberta. Milk River Ridge, Wild Horse Plains and key stretches of wild rivers in the south should be legislatively designated as Heritage Rangelands. If no protected areas are included in the final plan, there should at least be formal recognition and promotion of community based conservation efforts such as the Sage-grouse Partnership AWA has launched with ranchers, oil and gas operators, and government in the southeast corner of Alberta near Many-

berries. The 42 townships home to critical greater sage-grouse habitat need creative and lasting conservation strategies that are supported by the government with financial and human resources.

### Linear Footprint Density

The draft SSRP outlines the intent to develop a linear footprint management plan for public lands by the end of 2017, several years from now. The plan would include “a management plan for motorized access or ‘open route density,’” but does not go further than this. Here’s where government would best serve wildlife in this region by incorporating existing, accepted science into specific thresholds and recommendations in the final version of the SSRP. For example, the *Alberta Grizzly Bear Recovery Plan 2008-2013* cited in the Draft SSRP immediately after the above excerpt, calls for management of linear access densities below 0.6km/km<sup>2</sup> in designated core grizzly habitat and 1.2 km/km<sup>2</sup> in remaining habitat; the same targets are found in literature related to other threatened species and have been well-known for some time. These targets should be incorporated directly into the SSRP, without any further delays. The proliferation of motorized access opportunities (industrial access roads, seismic lines, pipelines, transmission corridors, trails, etc.)

constitutes one of the greatest threats to the survival of several species at risk, including both terrestrial species like the grizzly and aquatic species like the westslope cutthroat trout.

Reports such as Global Forest Watch Canada’s *Castle Area Forest Land Use Zone: Linear Disturbances, Access Densities and Grizzly Bear Habitat Security Areas* (2011) reveal that current linear access densities in the Castle are much higher (more than two to three times higher) than the above thresholds. This underlines the need and urgency for stronger coordination between government departments and industry to reduce linear disturbances. Regional plans such as the SSRP are an ideal place to insist on this coordination by setting clear thresholds in the plan, ensuring consistent definitions of what constitutes linear access, and providing for the enforcement of violations of roads and trails closed to motorized access.

### Forestry, Oil and Gas

The Castle Conservation Area, one of the only proposed conservation areas that includes important headwater streams within valleys, will continue to allow commercial forestry, grazing, off-highway vehicles, hunting, trapping, and fishing. Several of those streams are critical habitat for the remaining

populations of westslope cutthroat trout – a threatened species. Unless the government intends the word “conservation” to be a folly, this conservation area should not allow logging and should have limited access for motorized recreation activities. For many years, AWA has held the position that there should be no **industrial** scale logging in the headwaters of the Bow and Oldman rivers because of the vital importance of the headwaters and biodiversity of these regions. At the very least, statements of intent in the SSRP that speak to “enhanced buffer zones in riparian areas” should be backed up with specific, meaningful thresholds and limits. For example, a recommended 20 to 25 metre no tree-cutting buffer around all surface and ground water sources needs to be incorporated into the SSRP. This buffer should be expanded to 100 metres around any watercourse known to provide habitat for recognized species at risk, consistent with restrictions around Class ‘A’ watercourses already found in the Operating Ground Rules for logging companies operating in these southern forests.

Unfortunately these restrictions have not been consistently upheld; that’s why AWA demands their enforcement. This buffer should apply to access roads and all logging-related disturbances, not just to cutblocks. These buffers also need to include all tributaries for a

distance of two kilometres upstream from the watercourse, including ephemerals, consistent with the 2007 *Working Agreement: Class A Watercourses*. All of these detailed targets and standards are missing in the draft SSRP.

Oil and gas leases are still being sold to companies in critical grassland habitat while conservation remains stalled and sadly put on government’s backburner. The government should have established a moratorium on new lease sales for all remaining intact grasslands to ensure no further loss occurs until the final legislated land use plan is in place. By then we hope the government will identify and adopt the tools needed to address species at risk and the disappearing habitat they depend upon.

## Biodiversity

There remain a number of unresolved biodiversity regulatory and policy issues that should be addressed in this plan, given that the region is already estimated to have lost roughly half its biodiversity. Simply maintaining biodiversity is an insufficient goal; to recover species at risk and ensure healthy forests, grasslands and watersheds an increase in biodiversity is needed. Biodiversity indicators and a management framework should be included, based upon the Alberta Biodiversity Monitoring Institute’s (ABMI’s)

*Status Report for the South Saskatchewan Planning Region - Preliminary Assessment 2011*. This assessment provides many examples of biodiversity health indicators that apply to the South Saskatchewan Region. Adopting a robust biodiversity management framework in this plan is crucial to provide direction to all parties about managing cumulative effects of land uses in the region; indeed, it goes to the heart of the LUF.

## The Silver Lining

Hope remains that the final SSRP will be an improvement over the disappointing first draft. A month long round of consultation sessions occurred throughout November where people were given the chance to voice their comments and concerns in regards to the draft SSRP. The stakeholder and public comment period remains open until January 15, 2014 at which time the government will begin completing the final plan. The recognition that something must be done to protect the region’s air land, water and biodiversity is quite apparent in the draft and is an important first step. But the on-the-ground actions needed to achieve protection required in the South Saskatchewan Region are absent. ♣



*Sentinel,*  
oil on canvas,  
30 x 40"  
PHOTO: © G. DEAGLE



*A Colder Spring,*  
oil on canvas,  
30 x 40"  
PHOTO: © G. DEAGLE

# Global warming and extreme weather events:

## The scientific evidence and uncertainty

By Dave Sauchyn, Ph.D., P.Geo.



### The Problem

In their wake, weather disasters, like Hurricane Katrina, super storm Sandy, the Russian heat wave of 2010, and the Alberta flood of 2013, are often attributed to global warming, at least by some journalists and government officials. Most scientists, however, would regard a connection between global warming and extreme weather as a hypothesis and point out that a single event is simply weather. There is a strong temptation to attribute extreme weather to a changing climate, for at least three reasons:

1. Humans inherently and consistently discount the future, including the longer-term consequences of a changing climate. Floods and storms are an effective reminder of the impacts of unexpected weather conditions; it's a wake up call and convenient device for leveraging action from government to prevent the emerging impacts of climate change.
2. Because weather and climate are driven by energy from the sun, it follows that extra heat trapped by greenhouse gases should speed up the climate processes that produce excessive and damaging amounts of water and wind.
3. With each weather disaster, governments react with short-term relief but also programs and structures to reduce damage from future events. In western Canada, much adaptation, "the process of adjustment to actual or expected climate and its effects," has occurred in response to flooding and drought (e.g. the Winnipeg floodway, PFRA, changing land use patterns and farming practices), even though only

recently has the link been made between extreme weather and climate change. Weather disasters and global warming require a similar adaptive response to prevent adverse effects, whether or not they are linked geophysically. Dealing now with extreme weather is good preparation for the adaptations that will be required to sustain economies and communities in a changing climate – especially if weather events become more severe as a consequence of climate change.

Attributing a single extreme weather event, or even several events, to climate change is contrary to the definition of weather and climate, and the important distinction between them. Mark Twain said it best: "weather is what we get, climate is what we expect." On any given day in Alberta, we can get almost any type of weather; snow has occurred in every month and mid-winter warm spells are not uncommon. But we expect certain types of weather in each season based on our past experience with weather over a number of years. For a climate scientist that number of years is 30; climate 'normals' are the summary of 30 years of weather data. This statistical summary includes not only monthly and seasonal averages, but also the range of extremes. In late June 2013, the residents of Canmore did not expect more than 220 millimeters of rain in 36 hours, nearly half of the annual average rainfall, but that's what they got. If climate is 'the weather we expect,' then unexpected weather is an indication of either climate change or a larger range of natural climate variability than we've previously experienced.

Climate change is change in weather statistics; a change in the mean, variability or extremes has to persist for decades or longer before it can be declared a climate change. Average weather occurs often and thus trends in average conditions can be identified with a few decades of weather data. Extremes, on the other hand, are rare occurrences and thus many years would have to transpire before there are enough storms or floods to describe their statistical characteristics and many more years before a change can be detected in their frequency or magnitude.

The relevant question about the Alberta Flood of 2013 is not "was it caused by global warming" but rather "is it part of a pattern of weather extremes of increasing frequency and severity?" There is a growing body of scientific evidence to address the question of whether a warmer climate is more variable and extreme. This brief report is a summary of this evidence, which comes from two



Bears paw dam during the Alberta Flood of 2013

PHOTO: © M. VERBEEK

types of studies: the direct observations of weather and the modeling of the climate system. The uncertainties also are considered. They are large. For climate change researchers, the most challenging climate variables are precipitation, the regional scale, and regions with high climatic variability. This describes southern Alberta and the problem of flooding and drought.

## The Evidence – Observations

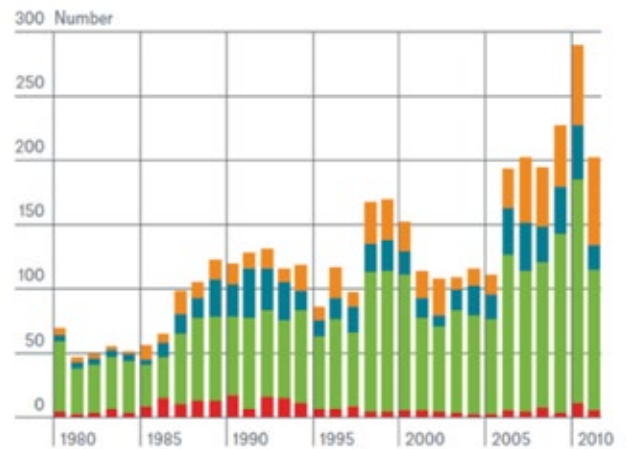
The expectation that a warming climate will include more frequent and severe extreme weather is supported by the direct observation of historical weather events. However, because extreme events are rare, there are relatively few observations to identify changes in their frequency or intensity. The most robust analyses are global in scope using data from a large number of sources and locations.

For obvious reasons, some of the best record keeping for natural disasters is by major insurance companies, including the German-based Munich Reinsurance. In a 2012 report, *Severe weather in North America*, Munich Re documented the number of natural catastrophes in North America from 1980 to 2011. The graph below from that report shows a significant increase in the number of damaging meteorological, hydrological, and climatological events.

Natural catastrophes in North America 1980-2011: Number of events

- Geophysical events
- Meteorological events
- Hydrological events
- Climatological events

Source: Munich Re, NatCatSERVICE



This trend, which also exists in other parts of the world, could simply reflect rising global population and increasing exposure of communities and infrastructure to climate variability and extreme weather events. With expanding population, people have built in more vulnerable settings such as coastlines, floodplains, and mountain slopes. If these social and economic factors accounted for the increase in the number of weather disasters, then the same explanation should apply to all natural catastrophes irrespective of their cause. But Munich Re also plotted the number of geophysical events (earthquakes, volcanic eruptions, tsunamis) each year and there has been little or no change, even a slight decline since the mid-1990s.

If populations are expanding, especially into mountains and along coastlines, they are also more exposed to these geophysical events that are unrelated to weather and climate. Munich Re therefore reached the conclusion that North America is suffering increasing damage from floods, drought, and storms as the result of global warming. Some commentators have suggested that insurance companies may be subject to some bias; weather disasters escalate their liability and they are compelled to document this and find a cause.

A review of scientific literature by the Intergovernmental Panel on Climate Change (IPCC, 2012) suggests that the statistics of most weather variables are changing. However the statistical significance of these trends, and the agreement among studies, depends on the climate variable; heat is always present to some degree while precipitation is episodic in time and space. Therefore trends in temperature-related extremes are more reliable than for precipitation-related variables and global-scale trends are more reliable than those at a regional scale. The most robust findings about climate extremes are global observations of a decrease in the frequency of cold days.

On the other hand, researchers have medium to low confidence in the interpretation of trends in hydro-climatic extremes. Only at a global scale can there be some confidence that anthropogenic effects (human-caused) contribute to an intensification of extreme precipitation. At a regional scale, natural



Elbow Park bridge after the Alberta Flood of 2013  
PHOTO: © H. JULL

variability in precipitation and stream flow between years and decades tends to mask the trends imposed by anthropogenic global warming. This prevents robust conclusions about the regional consequences of shifts in atmospheric circulation and redistribution of water caused by a warming of the oceans and atmosphere.

One change in atmospheric circulation that is detected with some confidence is a latitudinal shift in circulation features (storm tracks and jet streams) towards the poles. This has implications for Canada. The analysis of weather records from across Canada has revealed that, in general, precipitation is increasing across the country. The one major exception is southern Alberta and western Saskatchewan, where there has been a small decrease in annual precipitation. At the same time, however, the intensity of rainfall seems to be on the rise, with fewer storms producing less annual precipitation but with greater intensity (mm/day). More frequent heavy precipitation events, notably in North America, constitutes the precipitation-related trend that is detected with the greatest confidence. There is still insufficient

evidence to draw conclusions about global trends in drought and severe local storms, including tornadoes and hail.

Because there are statistically significant and consistent trends in heavy precipitation events and the rate of temperature-driven snowmelt processes, there is some evidence that suggests flooding has increased in magnitude and frequency. However, this evidence differs between regions according to the causes of flooding, including snowmelt but also land use and engineering structures, and the availability of data from gauging stations. Therefore there still is low confidence and agreement in the detection of trends in the magnitude and frequency of flooding.

### **Evidence – Model Simulations**

Weather and water observations are the basis for understanding recent climate variability and are the baseline against which future climate changes are measured. However, instrumental records tell us little about what climate we should expect in the future, unless there is a very good understanding of the causes of the observed variability

and proof that it will continue to occur in a climate modified by human activities. A theoretical understanding of the climate system, and all projections of future conditions, comes from climate models “the only credible tools for simulating the response of the global climate system to increasing greenhouse gas concentrations” (IPCC).

Most of the theory behind an increasing severity and number of extreme weather events is linked to the intensification of the hydrological cycle. Because about three-quarters of the earth is ocean, and water has a very high heat capacity, the oceans are storing most of the extra heat trapped by greenhouse gases. Evidence for accelerated evaporation from the oceans includes studies that document a clear increase in salinity of warm ocean water and an increase in river flow into the oceans. The other important factor in the delivery of water from the oceans to the continents is the greater capacity of warming air to store water vapour.

Other hypotheses are related to a poleward shift in the trajectory of major storm tracks and the influence of the rapid loss of Arctic sea ice on the circulation of the atmosphere



*Flood damage, Chester Lake Trail,  
Kananaskis Country*  
PHOTO: © C. CAMPBELL



in the northern hemisphere. The warming of the Arctic, at a faster rate than the rest of the world, is causing a smaller difference in temperature and air pressure between low and high latitudes in the Northern Hemisphere. This may be causing the jet stream, the very strong westerly air current 10 to 15 kilometres above the earth, to slow down and form large meanders. As storm systems follow a slower and more meandering jet stream across North America, rain could fall for extended periods of time at any location producing higher river levels.

The reliability of model projections of future climate depends very much on the climate variable of interest and the resolution of the model relative to the processes and variables. Climate scientists use two indicators of certainty in the projection of climate changes. The quality of a climate model experiment is measured in terms of its capacity to simulate historical climate conditions. The level of confidence in a climate change scenario depends on the agreement among climate models. There is high confidence in robust results, those that are similar irrespective of the model and methods.

The most robust climate projections are of mean annual global temperature averaged over decades, and the related changes, such as trends in Arctic sea ice extent, global mean sea level, and ocean heat content. With the substantial warming anticipated in the 21st century, global increases in the frequency and magnitude of maximum daily temperatures and decreases in cold extremes are virtually certain.

The least reliable model output is anything related to precipitation at the regional scale. Therefore, there is low confidence in the modeling of small storms such as tornadoes, thunderstorms and hail; current climate models cannot resolve these small weather systems. Drought on the other hand is a feature of the hydro-climate that spans larger areas, and also results from high temperatures, and thus there is a medium confidence in the simulation of future droughts in a warmer climate.

It is likely that, over much of the globe, the frequency of heavy rainfalls, and therefore

the proportion of total precipitation from heavy rain, will increase in the 21st century. This applies in particular to high latitudes, and to winter in the northern mid-latitudes (Alberta). Environment Canada scientists did some of the first and most cited modeling studies of extreme precipitation. They determined that the amount of maximum daily precipitation that historically occurred once every 20 years is likely to occur with a frequency of once in five years to once in 15 years by the end of the 21st century. In some regions, including Alberta, increases in heavy precipitation will occur despite projected decreases in total precipitation. Physical reasoning suggests that projected increases in heavy rainfall, and accelerated snowmelt with higher temperatures, will lead to more severe and frequent local flooding. Confidence in the model simulation of flooding is low, however, because the causes of regional changes are complex. For example, in Alberta future flooding should more often result from heavy rain, whereas historically rapid snowmelt has been a major cause.

Whereas numerical models are able to reliably simulate the changes in the earth's energy balance and related affects, the response of the circulation of the atmosphere to global warming is highly uncertain and yet the regional aspects of climate change are controlled by atmospheric dynamics, including teleconnections between large scale climate oscillations and regional climate variability (in the case of Alberta, between El Niño South Oscillation (ENSO) and the Pacific Decadal Oscillation (PDO) and inter-annual and decadal climate variability). There is low confidence in projections of changes in large-scale patterns of natural climate variability. Model projections of changes in ENSO variability are inconsistent and thus there is low confidence in projections of changes in this important mode of internal climate variability.

The significant disparity in the ability of existing climate models to simulate average states versus extremes, the climate of large versus small areas of the globe, and temperature versus precipitation is a problem inherent in the complexity of the climate system

and how scientists have chosen to model (simplify) climate change primarily as a perturbation to the earth's heat and radiation balance. The dominant conceptual framework, the anthropogenic (CO<sub>2</sub>) forcing of linear trends in temperature and other variables that define mean climate, is problematic for scientists and journalists – especially when weather departs from a monotonic warming trend. A shift in climate variability, and the severity of extreme weather events, is as likely an outcome of human modification of the atmosphere as a thermodynamically forced linear trend. The defining feature of global warming may be changes in the magnitude of climate variability rather than a monotonic upward trend in temperature implied by the terminology global warming.

The most challenging impacts of climate change are not trends in temperature but rather a shift in the distribution of water supplies between seasons, years, and watersheds, and changes in the frequency and severity of extreme weather events (e.g., flooding and drought). Thus, for many regions, the most relevant climate changes are the least understood. For the foreseeable future, regional climate regimes will be dominated by natural variability, especially where it is characteristically high, as it is in western Canada. ▲

*Dr. Dave Sauchyn is Professor of Geography at the University of Regina and Senior Research Scientist at the Prairie Adaptation Research Collaborative.*

### Further Reading

Intergovernmental Panel on Climate Change (2012) “*Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*” Available at [www.ipcc-wg2.gov/SREX](http://www.ipcc-wg2.gov/SREX)

Intergovernmental Panel on Climate Change (2013) “*Climate Change 2013: The Physical Science Basis*”, Final Report of the Working Group I contribution to the IPCC 5th Assessment Report. Available at [www.ipcc.ch/report/ar5/wg1/](http://www.ipcc.ch/report/ar5/wg1/)

# Conservation Science Corner:

## Of Birds and Blades

By Niki Wilson



For many, the whoosh and chop of Canada's wind farms is the sound of the future, of a society becoming less dependent on fossil fuels. However, for thousands of birds that migrate through the farms, the approaching sound of a blade moving up to 300 kilometres an hour is the last sound they hear.

Bird mortality from wind turbines is one of the hard-to-digest trade-offs for this cleaner form of energy. While the death of living things is unpalatable, so is a future devoid of ecological diversity in the pursuit of industrial developments. A recent study helps put the issue of turbine-caused bird mortality into perspective.

Authors of the study estimated impacts on birds both from collisions and direct habitat loss across the country. Results suggest approximately 23,300 birds were killed from collisions. Nearly half of all collisions occurred in the province of Ontario, where the highest numbers of turbines are installed. Total habitat loss was estimated to about 3,635 hectares nation-wide. This area represents the loss of roughly 5,700 nests.

With wind capacity predicted to increase tenfold over the next 10 to 15 years, this could add up to 233,000 bird deaths per year and to 57,000 mating pairs displaced from nests. However, even at these levels, authors of the report say it is unlikely there are population

effects from bird deaths at wind farms alone and that "the effects of wind farms would be lower than other anthropogenic sources."

Dr. Charles Francis is one of the authors of the study. He points out that this work was part of a larger research project that looked at human-related avian mortality in Canada.

In a country where human-related activities inadvertently kill hundreds of millions of birds a year, an understanding of where best to aim conservation efforts is critical.

For example, feral and domestic cats kill tens of millions of birds every year. Collisions with power-transmission lines, houses, other buildings and transportation vehicles account for over 40 million more.

Compared with those numbers, overall mortality from wind farms is relatively low. Francis says that when it comes to wind turbines: "Local issues are the biggest concern." He points to a wind farm in Norway where turbines were erected near important habitat for white-tailed eagles. This resulted in collisions that significantly affected their population. In the United States, there has been concern over golden and bald eagle collisions with turbines. Francis says avoiding sensitive habitats and areas important for species at risk is key.

In Alberta, roughly 95 percent of bird mortalities from turbines happen between April and November – likely during spring and fall migrations. Francis says researchers are actively looking at migratory patterns in order to inform the placement of wind farms. "A lot of migration happens on broad fronts, but there may be areas where birds are more concentrated than others."

For example the study suggests that some



Wind turbines, southern Alberta  
PHOTO: Poo Dog, Creative Commons Licence.

landscape features, like promontories and large bodies of water, are more likely to concentrate birds along the shoreline. So too are largely forested landscapes relative to predominantly agricultural landscapes.

However, with careful site-specific analysis, in some cases measures can be taken to decrease the odds birds will collide with blades. BirdLife International cites the example of the Foote Creek Wind Farm in the state of Wyoming. The farm was designed to perch on a prominent mesa with steep slopes, with 50-metre-high turbines churning right along the ridgeline. Research revealed that over 85 percent of eagles and hawks that used the area flew at the height of the turbines as they caught the wind up the steep slopes. Armed with this information, the company imposed an 80-metre setback from the ridge, resulting in low raptor mortality from collisions.

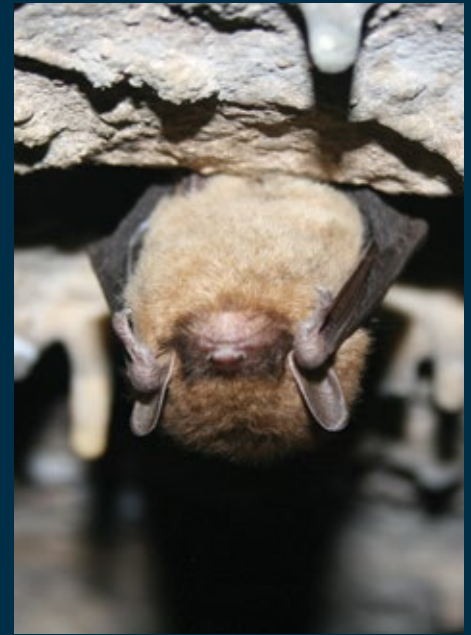
Mitigation techniques suggested for already existing developments include things like blade “feathering,” turning the blades to be parallel to the airflow, and the use of radar to detect on-coming flocks. Periodic shut-downs during times birds are most vulnerable is another possibility. However, given the cost, Francis says: “At the moment mortality

rates for birds are not high enough to warrant those types of measures. It would only be appropriate if there were species of concern.”

These days, ensuring a future for birds can feel like triage and dam plugging, and less like a well-planned conservation effort. Direct mortality from human-caused structures and activities are only part of the problem for birds. Light pollution in and around urban centres, climate change, loss and degradation of wetlands, acid precipitation, large-scale use of pesticides, and the recent genetic development of insect-resistant row crops are causing precipitous decline of aerial insectivores, many of which are quietly joining the growing club of threatened and endangered species.

Understanding where to focus conservation efforts is critical. Says Francis: “One of the values of this broad study is to help highlight the areas where there is the most potential gain.” Although working with wind farms to decrease bird mortality remains important, given limited resources and competing interests, it might make sense to target cats and skyscrapers instead. ▲

*Niki Wilson is a multi-media science communicator and biologist living in Jasper. Visit her at [www.nikiwilson.com](http://www.nikiwilson.com).*



*Little Brown Bat*  
PHOTO: United States Fish and Wildlife Service,  
Creative Commons Licence.

## The Guano End of the Stick: Bats and Turbines

Wind turbine blades are like airplane wings – by design air pressure is higher on one side, and lower on the other. The uneven pressure makes them spin around the focal point, and also creates drops in atmospheric pressure. These pressure drops cause severe injuries to bats that venture too close, resulting in damage to their respiratory systems called “barotrauma.” Barotrauma causes internal hemorrhaging. One study suggests that fewer bird than bat fatalities result from barotrauma due to the unique anatomy of a bird’s respiratory system that makes them less susceptible than mammals.

Bat deaths from turbines could be having population level effects. “For [bats],” says Francis, “it might make sense to do selective shut-downs, during peak migration periods, and during nights when conditions are good for bat migration.” A new study has shown that bat fatalities can be reduced substantially if turbine blade speed and operating time are reduced on low-wind nights in summer and fall, when bats are most active.



## Oscar says “Leash Your Cat”

“Cats are challenging, because it’s a question of changing the behavior of cat owners,” says Francis. Many municipalities have imposed bylaws that require cats to be leashed, but compliance remains relatively low. Some folks have trouble with the idea of harnessing their kitties. Think of it this way: domestic cats are subsidized predators. They have all the comfort of food and owner-snuggles at home – and then roam around killing things for fun. It’s not their fault; it’s their nature. Leashes are a little more work, but they’ll get used to it. It’s worth it to save a couple billion birds across the continent.

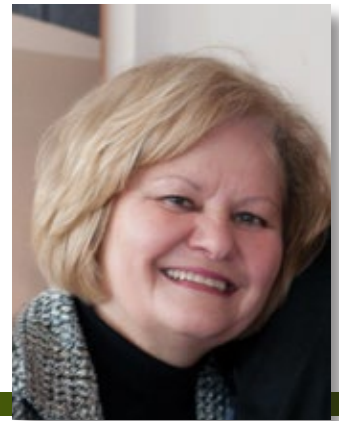
For more on why Niki leashes her cat: <http://www.thegoodsfromthewoods.com/2013/08/08/the-circle-of-death-why-i-leash-my-cat/>.

*Niki’s cat Oscar. Not impressed, but tolerating it.*  
PHOTO: © N. WILSON

# Lorraine Mitchelmore on the Importance of Collaboration and Finding Common Ground:

## The Sixth Annual Martha Kostuch Lecture

By Christyann Olson, AWA Executive Director



I first met Lorraine Mitchelmore, President and Country Chair of Shell Canada Ltd., at AWA's offices 10 years ago. She was part of a Shell team working on the company's Waterton field. Historically, AWA's relationship with Shell has been rocky. AWA was part of the Prairie Bluff blockade in the 1980s, a demonstration Shell didn't take kindly to. The company served an injunction against AWA and some members of the board.

By 2002 both parties realized this pattern of behaviour wasn't getting us anywhere – a theme Lorraine developed in her Kostuch lecture. I like to think both AWA and Shell took some bold steps then to set some of our differences aside and promote what we could agree on. Lorraine helped Shell develop its life-cycle plan for the Waterton field and announce some protection in the front canyons of the Castle.

Since then Shell and AWA have worked to maintain a positive relationship. This certainly doesn't mean we always agree with each other. We don't. AWA applauds the positive and criticizes the negative. When Richard Secord, AWA's President, suggested we should invite Lorraine to offer the Martha Kostuch Wilderness and Wildlife Trust Fund Lecture, I thought it was a great idea. As we do with all our lecturers, we invited Lorraine to challenge us and I believe she did that in her lecture. I also think she made points where we should challenge her.

Two themes stood out for me when I listened to Lorraine deliver her lecture: collaboration and common ground. I hope her audience, like me, was pleased to hear Shell's President first congratulate AWA for our

"ecocentredness," for our history of standing up and advocating for what is voiceless in our politics – wildlife and wild habitats. I suspect Lorraine's appreciation for our values comes, at least in part, from the importance of place and landscape in her personal value system. This is what I heard when I listened to her talk about growing up on the ocean in her home, Newfoundland and Labrador, where "that horizon and the salt air is just in your blood." Alberta's landscapes, whether she's experienced them through boots, saddles, or

is to find ways of providing the energy needed to promote this development that strikes an optimal balance between social, economic, and environmental needs. Such circumstances demand we find common ground. Ignoring these people and their plight is not, in her view, an option.

I would have been shocked if Shell's President didn't make the case that her company recognizes these needs and is making great strides in pursuing them. I'm sure not everyone in the room shared Lorraine's optimistic

"But in order for us to make progress and really quick progress we have to change the way we think. We need to see environmental performance in Canada...as a source of competitive advantage, as an opportunity rather than a cost."

- Lorraine Mitchelmore

cross-country skis, are going some distance in filling the void of being away from home.

President Mitchelmore reminded us of the challenges and opportunities we face, circumstances that loom ever larger with each passing year of this new century. Billions of people live in abject poverty. We, rich and prosperous nations, need to help these people develop what's needed for them to enjoy healthy livelihoods. The challenge, of course,

assessment of where the Canadian petroleum industry is today. It's certainly true, for example, that her industry's oil sands operations have made significant reductions when it comes to the tonnes of greenhouse gases emitted per barrel of petroleum production. These reductions, however, are more than made up for by dramatic increases in total bitumen production. This is why Environment Canada predicted in October 2013



Lorraine Mitchelmore, President and Country Chair of Shell Canada Ltd.

PHOTO: © K. MILHACHEON

that the oil sands will increase total oil/gas sector emissions by 23 percent between 2005 and 2020.

President Mitchelmore offered a key example of collaboration in her speech, the Quest Carbon Capture and Sequestration Project, that she hopes will deflate greenhouse gas emissions predictions such as Environment Canada's. In Quest the collaboration is between Shell, its partners in the Athabasca Oil Sands Project, and the provincial and federal governments. Together they are developing the world's first industrial scale carbon capture and sequestration project. The project, located at the company's Scotford upgrader/refinery operations, will capture one-third of Scotford's greenhouse gas emissions or more than one million tonnes of carbon dioxide every year. The ambition behind this technologically-driven approach to climate change, if the approach proves to be effective and economic, is to capture and store securely 20 percent of the world's carbon dioxide emissions. Shell's project is being closely followed in Europe, particularly in Britain, where the reaction so far has been more positive than Canadian oil sands operators have come to expect.

Shell then is an important facilitator of this industrial-scale experiment. So too though is the public purse. The federal and provincial governments are picking up two-thirds



Lorraine Mitchelmore, Morgan Yate, and Glen Sine moving through the crowd after a thoughtful talk and rousing discussion of the importance of balancing social, environmental, and economic considerations in our lives.

PHOTO: © K. MILHACHEON

of the project's estimated \$1.35 billion price tag. Alberta has dedicated a whopping \$745 million to the project; Ottawa is contributing \$120 million. It was good to hear that all of the technical information regarding this project will be made available to interested parties. That's the least our \$865 million should buy us.

I have to confess how much I would like to see the Alberta government commit hundreds of millions of dollars, ok...even one hundred million dollars, to a program to buy back oil sands and other petroleum leases and forestry tenures in the boreal natural region. Imagine how much good we could do for woodland caribou if we reduced the promise of industrial activity in critical habitat that is implicit in existing, yet to be developed, leases. Build, in other words, on the important first step taken this spring when Alberta stopped issuing new mineral leases

in west central Alberta.

Lorraine also talked about important examples of collaboration between Shell and conservationists. In British Columbia, Shell relinquished tenures in the Klappan area in the northwest part of the province, much to the approval of the Tahltan First Nation. For its part the BC government will not issue future petroleum tenures in the Klappan. In Alberta, as we describe elsewhere in this issue of WLA, Shell partnered with Ducks Unlimited to establish the Shell Buffalo Hills Conservation Ranch southeast of Calgary. Shell's \$3 million contribution to this project means that Shell has set aside 9,000 acres for conservation in Alberta, an area equal to 35 percent of the lands Shell is mining and otherwise using in the Athabasca Oil Sands Area. These examples of conservation offsets illustrate well the benefits of collaboration and that search for common ground.

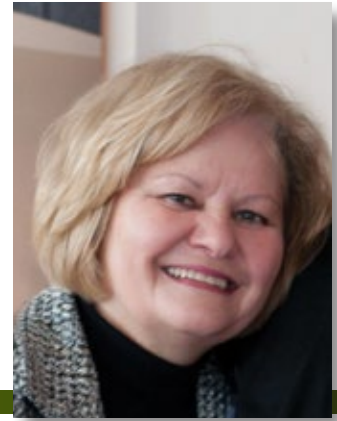
President Mitchelmore also used a portion of this year's Kostuch lecture to recognize the invaluable contributions Roger Creasey made to conservation in Alberta. This year AWA added Roger's plaque to those found on the north wall of the main floor of Hillhurst Cottage School. Roger was tragically taken too early in life from his family and from the Shell and AWA communities, communities that will miss his spirit and insight as we move forward. I know Roger would have welcomed the themes of Lorraine's lecture. She told those who didn't know Roger about the important role he played as a bridge-builder between the industry, academic, and activist worlds. He moved easily among all three communities and helped more than a few of us find common ground over the years.

This year's lecture ended with a very generous gift from Shell to AWA. President Mitchelmore presented me with a \$50,000 cheque that will be used to support and improve AWA's library, the Roger Creasey Memorial Library. AWA greatly appreciates this donation as we do Lorraine's public commitment to collaboration and to trying to make her adopted home a place that finds a better balance between social, environmental, and economic values. 🌱

# Alberta Wilderness and Wildlife Trust

## Wilderness Defender Awards 2013

By Christyann Olson, AWA Executive Director



**O**n October 25th, we were pleased to host the 13th annual Wilderness Defender Awards evening. The Alberta Wilderness Defenders Awards are dedicated to individuals who have inspired us with their love of Alberta's wild lands, wild rivers and wildlife, and their efforts and achievements for conservation. In the past many of AWA's *Wilderness Defenders* weren't recognized and celebrated enough. AWA introduced these awards as a way of bringing to light the difference they made and creating a lasting tribute to them. We all appreciate that Alberta's wilderness is among the most pristine and beautiful in the world. Our wild places are the source of our health, wealth, and quality of life. We also realize

Alberta's wilderness cannot be taken for granted and we must take an active role in its conservation. Alberta Wilderness Association is pleased to present these annual awards to recognize individuals who have made a difference and who have taken the road less travelled to promote the conservation of our wild places.

This year we recognized Roger Creasey. Roger passed away suddenly last year and we wrote about him and his contribution then. Keeping his legacy alive and recognizing him in a lasting way was important for AWA and we were pleased to present him with this award posthumously. Roger's plaque on our wall of Defenders includes the photo below of him in a stunning grove of trees and its accompanying text.

After Mona Creasey, Roger's widow, read Denise Leverton's poem *Sojourns In A Parallel World* to the crowd attending the evening, she offered us some thoughts about Roger and how much he cared. "I think he understood how important preserving natural areas, in his beloved home province is to helping us all maintain sanity in a wildly spinning world. The quiet voices that speak to us there tell us how much nature longs for us to see ourselves as part of the life of the earth, equal to and not separate from all other important species. He understood that we are not just here to take, but that we also have the responsibility to give back ...most importantly, to remain cognizant of our duty of care. Roger gave his heart for his vision."

### Sojourns In A Parallel World

by Denise Leverton

*We live our lives of human passions;  
cruelties, dreams, concepts, crimes and  
the exercise of virtue in and beside a world  
devoid of our preoccupations,  
free from apprehension - though affected,  
certainly, by our actions.  
A world parallel to our own though  
overlapping.*

*We call it 'Nature' ... only reluctantly  
admitting ourselves to be "Nature" too.  
Whenever we lose track of our own  
obsessions, our self-concerns because we  
drift for a minute, an hour even, of pure  
(or almost pure) response to that  
insouciant life;  
cloud, bird, fox, the flow of light, the*

### Roger Creasey 1953-2012

Roger Creasey was an industry man with a difference. He thought like an environmentalist always seeing beyond to the bigger picture and the farther horizon. He was an environmental biologist and maintained dual careers in the petroleum industry and as a university educator. Full of good humor, Roger had a rare talent for pulling together disparate sides and working towards compromise while ensuring environmental principles underpinned each decision. There were few as capable as Roger at working successfully across a range of sectors: government, industry, science and environment, while always incorporating human values. His legacy is his ability to see and act for the greater good for all. Roger was a friend and intelligent adviser to the AWA.



dancing pilgrimage of water,  
vast stillness of spellbound ephemerae on a  
lit window pane;  
animal voices, mineral hum, wind  
conversing with rain, ocean with rock,  
stuttering of fire to coal...

then something tethered in us,  
hobbled like a donkey on its patch of  
gnawed grass and thistles,  
breaks free.

No one discovers just where we've been  
when we're caught up again into our own  
sphere (where we must return, indeed, to  
evolve our destinies) - but we have changed  
...a little.

Roger's legacy is his vision and we are all  
better for the difference he has made. Shell's  
President and Country Chair Lorraine Mitch-  
elmore, the guest lecturer for the *Martha*



Mona Creasey accepting Roger Creasey's Wilderness Defenders Award  
PHOTO: © K. MILHACHEON

*Kostuch Wilderness and Wildlife Trust Lecture*, shares Roger's legacy and outlook. Shell spent months thinking about how they might

help AWA best recognize and remember Roger. After delivering our annual lecture Lorraine Mitchelmore, on behalf of Shell and the colleagues who joined her that night, donated \$50,000 to AWA for our library in memory of Roger. AWA will rename our library in honour of this gift and the support received from Shell Canada Ltd.

AWA's library is recognized as the only collection on wilderness in Alberta. The collection spans 45 years of history and includes publications, letters, documents, and records of what people were thinking through the generations, the decisions that were made, the frustrations we've experienced as we struggled to create a better, more widespread understanding of the importance of wilderness to our quality of life. The library is recognized as an outstanding collection made possible by the dedication of many individuals. We will be honoured to keep Roger's memory and legacy alive through this gift. 🌱

## Great Gray Owl Awards

### Paul Sutherland

#### "Passionate, Engaged, Outdoorsman"

A few years ago Paul sent in an application form to become a member of AWA while he was living in Fort McMurray. As time passed, and after a chance meeting in the Great Sandhills with Christyann and Dan Olson who were just as surprised as he was to meet someone walking the dunes, Paul let us know he would like to become more involved with AWA. Sometime after, Paul moved to Calgary and contacted AWA. His passion for wildlife, a healthy environment, and his newfound time allowed him to become immersed in AWA's outreach programs. Paul organized some of our most successful hikes and talks programs. He didn't mind braving the icy waters of the Bighorn River to work on monitoring programs and he never said: "No – I can't do that." Paul is the Race Course Marshall for our annual Run for Wilderness. He has been a valued colleague and a tremendous support. We had planned to give him this award last year but couldn't because he was on an extended vacation, learning how to be retired. We are thrilled to honour him with this award.



Paul Sutherland braving icy waters  
PHOTO: © C. WEARMOUTH

### Nuno Fragoso

#### "Talented, Organized, Caring"

Every once in awhile, someone comes to this office to offer their help and they make you stop in your tracks. Nuno did that. He was one of the most willing, most capable volunteers that we had seen for some time. He didn't mind working the nightshift at the casino – in fact he taught us all how to download an app to play monopoly while we waited for our shifts to begin. Nuno is one of that rare breed who sees what needs to be done, musters the resources the job needs, and just does it. He makes a friend of everyone with his easy going personality and smoothes out the bumps in events so no one else knows there were any bumps at all. He has been valuable as a coordinator for one of our most important outreach events, the Wild Alberta Expo at the Climb and Run for Wilderness. Recently he took on the role of silent auctioneer at our Wild West Gala. Nuno ensured with his good humour and incredible patience that all went well and everyone had a great time. Nuno is currently the Program Manager for Advancing Canadian Wastewater Assets and has been integral in the development of the Pine Creek Wastewater Treatment Centre for Calgary.



Nuno and his faithful friend on a Rocky Mountain scramble.

# Updates

## Badlands Motorsport Resort Adopted by Kneehill County

**O**n June 11 2013, despite significant opposition from local residents, the Kneehill County council voted to adopt the Badlands Motorsports Resort Area Structure Plan as county bylaw 1597.

This action paves the way for the proponents to establish a multi-million dollar racetrack and condominium resort in the southeastern corner of the county, a few kilometres from the hamlet of Rosebud.

The proposed resort is situated at the edge of the Rosebud River. Development plans allow for a significant part of the racetracks to descend into the valley, overlapping with the undisturbed coulees and riparian areas along that river that form a part of the Drumheller Badlands.

These undisturbed natural areas form an ecologically sensitive area that is important to the natural wellbeing of this province, its wildlife and wild waters. AWA believes they are not an appropriate place for a development of this scope and magnitude.

The entire proposed development site is encompassed within an Environmentally Significant Area (ESA) identified by Alberta Environment and Sustainable Resource Development (AESRD). This ESA is identified as being of national significance and home to eight animal species included in the provincial *Species at Risk* listing. Very notable members of that list are the leopard frog, ferruginous hawk, peregrine falcon and western burrowing owl.

At the turbulent June 11 hearing, many residents of the county and the area near the development site opposed the plan. AWA joined that opposition in our submission. AWA noted that the county's own Integrated Community Sustainability Plan opposes developments in ESAs such as the one being considered.

Nevertheless, at the end of the protracted hearing Kneehill County council adopt-

ed the Area Structure Plan. This essentially gives the developers of the resort a green light to proceed.

When occurrences such as this happen despite local opposition and despite the establishment of a provincial network of identified Environmentally Significant Areas, they call into question the utility of that ESA network. Outcomes like the one from June 11 point to the need to establish formal protected areas in some of those ESAs.

Currently only about 0.8 percent of the area within the grasslands is under any form of formal protection, making it the least represented of Alberta's six Natural Regions. AWA is calling on the provincial government to establish protected grassland areas under the upcoming South Saskatchewan Regional Plan, as recommended by the Regional Advisory Council.

*\* An official redesignation of the land to allow recreational use is still pending second and third reading, which are expected to occur in December 2013.*

- Sean Nichols

## Shell Buffalo Hills Conservation Ranch

In early September Ducks Unlimited Canada (DUC), along with Shell Canada, celebrated the launch of the Shell Buffalo

Hills Conservation Ranch southeast of Calgary. The ranch, DUC's largest and most ecologically important acquisition to date, emphasized DUC's 75th anniversary year of developing habitat projects benefiting North American waterfowl and waterfowl habitats. I was pleased to join the celebration and get a sense of the 4,130 acres of pristine, native grasslands. Adding 1,769 acres of tame hay lands means DUC purchased 6,000 acres to support the breeding, migrating, and wintering of 159 bird species that use both native prairie and the boreal forest of Alberta.

Shell Canada contributed \$3 million towards the purchase with the balance coming from DUC and the North American Wetlands Conservation Act partnership. Lorraine Mitchelmore, Shell Canada President and Country Chair, spoke of the need for multiple stakeholders to work together in the best interests of generations to come. The long-term vision that brought this project to reality is one that recognizes migratory birds need this resting area as they make their way to and from our boreal forests. Mitchelmore also emphasized Shell's commitment to help mitigate habitat disturbances resulting from mining operations.

There are almost 800 basins within the existing native prairie and small wetland habitat characterized with a knob and



*Some of the native grassland habitat to be protected by the Shell Buffalo Hills Conservation Ranch*  
PHOTO: SHELL CANADA



kettle terrain. Walking through the rich rough fescue, it was a pleasure to flush a red-tail hawk and see deer off in the distance. Ponds were dotted with ducks and shorebirds.

DUC President Mac Dunfield emphasized the property demonstrates “how DUC’s work to conserve critical waterfowl habitat also provides many other societal benefits including carbon storage, improved water quality, as well as mitigating impacts of floods and drought.”

This prairie treasure is a welcome island in a landscape dominated by intensive grain production, combines, and trucks loaded with grain. DUC acquisition of the land from the Marsh family will mean this native habitat will remain intact and be-

come an important area for generations to visit and learn about native prairie.

- Christyann Olson

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## **World Renowned Ecologist Retires from the University of Alberta**

On October 30th, I was very fortunate to attend a tribute event at the University of Alberta for retiring water scientist Dr. David Schindler. The Faculty of Science organized the evening and invited Dr. David Suzuki to address the audience on the subject of the global ecological crisis – “Setting the Real Bottom Line.”

AWA joined a number of other organizations to commission a water-themed painting by Aaron Paquette that was

presented to Dr. Schindler. It was a very touching moment.

Dr. Schindler’s accomplishments are humbling. His experiments on whole-lakes led to banning harmful phosphates in detergents. He is noted for his research on acid rain. He has studied fresh water shortages and the effects of climate change on Canada’s alpine and northern boreal ecosystems. This has earned him the Gerhard Herzberg Gold Medal as well as the prestigious, first Stockholm Water Prize.

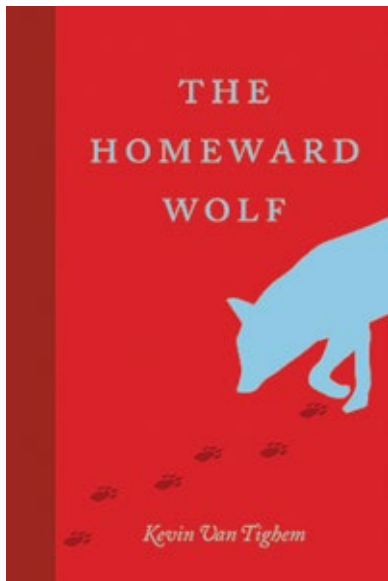
It was a thoroughly entertaining evening as both “Davids” got into a question and answer period and regaled us with their adventures together. Although Dr. Schindler is retiring, I’m sure that his work isn’t done!

- Gail Docken



*The Shallow Pool, oil on canvas, 36 x 45"* PHOTO: © G. DEAGLE

# Reader's Corner



**Kevin Van Tighem,**  
**Homeward Wolf,**  
(Canmore: Rocky Mountain Books, 2013)

**By Don H. Meredith**

If there is one animal that creates controversy among outdoors people, it is the wolf. Long denigrated by ranchers and others who have lost livestock to them, or by hunters who believe wolves are a chief cause of game animal declines, they are praised by many who believe they are an important element of a truly wild ecosystem. However, as Kevin Van Tighem illustrates in his recent book, *Homeward Wolf*, these categories of outdoor people are not mutually exclusive. When it comes to arguing about how wolves should be managed, people are too easily stereotyped into roles they do not always fit. Sometimes, if we seek to understand another's point of view, we find lots of common ground.

*Homeward Wolf* is an informative and easily read history of wolf management in Alberta. Van Tighem opens the book with his journeys as a young man seeking wild wolves in southwest Alberta in the early 1970s, only to confirm what he feared: that the wolves were gone. Then one day in 1975 he found the distinctive tracks of wolves in the snow in the upper Cascade valley of Banff National

Park. That very night, by himself in his tent, he heard two members of the pack howl just metres away. After coping with the “instinctive terror” he felt, he rejoiced that wolves had returned to Banff National Park. However, it wasn't long before he learned that the Alberta government had poisoned that very pack outside the park as a result of complaints from ranchers.

Other packs attempted to establish in the park with varying degrees of success through the 1970s and '80s. The problem for many was they quickly adapted to the lack of human harassment and became accustomed to being around people. Wolves don't recognize artificial boundaries, and outside the park, their attitude toward humans was not tolerated. However, because Banff park decided in the 1990s that wildlife corridors were more important than uncontrolled development in the Bow Valley, many wolves did succeed to populate river valleys north and south of the park.

This would not have been possible without a considerable change in attitudes among wildlife managers. Van Tighem chronicles how the elimination of all wolves south of the 49th parallel led to catastrophic problems with game populations and the habitats they occupied. This was especially true in Yellowstone National Park, where annual culls of elk took place to keep the populations in check without noticeable improvement to the habitat (as happened in Banff N.P.). This was a public relations nightmare that was eventually solved by transplanting wolves from B.C. and Alberta to the park in the 1990s. The latter was possible because the wolf was declared endangered under the *U.S. Endangered Species Act*—as Van Tighem points out, an act with a lot more clout than the “weak-soup *Species at Risk Act* that Canada finally, belatedly, put in place two decades later.” The predators flourished doing what they do, and in the process, improved elk herd vigor while reducing that population to within the limits

of its habitat.

Van Tighem takes readers on the topsy-turvy ride of wolf management in Alberta. Like in the States, wolves were treated as vermin from the start. Massive poisoning campaigns reduced the numbers to near extirpation. It didn't help that at the turn of the 20th century, game populations had been badly decimated through lack of hunting regulations. The fledgling Alberta Fish and Game Association (AFGA) was formed at that time mainly to address this issue. The Alberta government responded with seasons and bag limits, but ranchers and hunters lobbied for more wolf control as they felt the wolves would counteract any gains made by limiting the impact of hunters; and they may have been correct at the time. However, that attitude continues to this day among some, despite the progress in understanding the importance of wolves in ecosystems.

The application of scientific wildlife management in the latter part of the 20th century did build game populations to record levels by the turn of the 21st century. However, it is still too easy to fall back on old ways of doing business. Van Tighem uses the woodland caribou as the obvious example. Despite the AFGA's success at lobbying the government to close the caribou hunting season, in 1948 (briefly) and 1981, caribou numbers continued to decline, mainly as a result of the government subsidizing expansion of the forest industry. How does the government respond to the continuing decline? by poisoning and aerial shooting of wolves, a short-term fix that does nothing to solve the long-term problem.

Van Tighem goes on to describe how wolves indeed help maintain healthy ecosystems while governments continue to make them a problem by not preserving the integrity of those ecosystems. His examples are numerous but perhaps the most disturbing is the expansion of chronic wasting disease (CWD) in deer populations. Highlighting

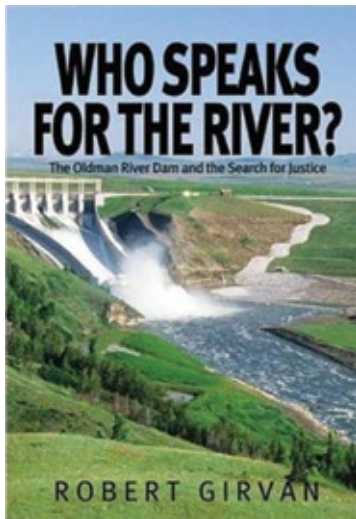
how the CWD issue is a problem created by governments, through the commodification of wildlife with the establishment of game farms, Van Tighem describes how the disease thrives in areas around game farms where wolves are absent, and is absent around game farms where wolves are present. Costly government deer-culling programs have not worked. Governments' unwillingness to address the cause of the problem (game farms) and willingness to persecute the predator that could control the disease does not bode well for the future of many of our large ungulates. As described by Van Tighem, who partici-

pated in many of the negotiations, much effort has been made to accommodate wolves along the foothills of southern Alberta. Old attitudes do die hard but there has been some progress as people come to understand under what conditions wolves decide to take livestock. What is clear is that once a pack has learned to kill livestock, it must be eliminated. However, if efforts are made to ensure a pack does not learn to take stock, it can coexist with ranches adjacent to wild lands.

*Homeward Wolf* is a must read for anyone interested in wolves and their conservation, especially in Alberta. It is well researched

and written and does make the case that wolves can coexist with us if we are willing to accommodate them as well as the concerns of our neighbors. However, that is a tall order in our world of ever increasing human population and its demand for resources, especially for governments who value an ever-growing economy over the ecosystems that sustain us all. 🍀

*Don H. Meredith operates a professional writing services firm and may be reached at don@donmeredith.ca*



**Robert Girvan, Who Speaks for the River?**  
**The Oldman River Dam and the Search for Justice**  
**(Markham, ON: Fifth House, Ltd., 2013)**

**By Sean Nichols**

As is the case with any good book, Robert Girvan's book "Who Speaks for the River?" starts out as a story about the author. Girvan chooses not to open with any kind of high-handed "here's why you should care about this issue" message; instead he tells his own story: "this is how I discovered why I cared."

The distinction may seem trivial but it makes a difference. I was pulled in easily to the story, curious to know more. By tying the spectre of the Oldman River Dam to his own curiosities and questions as a lawyer, Girvan erects a stage upon which those questions are to be answered, mirroring neatly the stage

where his story is set: that of the breathtaking southern Alberta landscape. The audience needs no further invitation to sit down to witness the unfolding as we too are now already invested in the drama, curious for answers. It's a strong start.

Unfortunately, parts of the book don't live up to that promising start.

Subtitled "The Oldman River Dam and the Search for Justice," I expected the book to largely be about the dam. It is to some extent. But the book is about many other things as well and isn't necessarily the stronger for that.

The book is divided into four main sections: *Gathering the Evidence*, *The Players*, *The Showdown*, and *Cry for Justice*. The first of these serves as an extended introduction of sorts. It walks us through the author's introduction to the story as above and to southern Alberta more generally. The remaining three sections divide 307 pages roughly into thirds.

*The Players* gives, ostensibly, arguments for and against the dam through interviews with many of the key figures. Continuing the premise of the introduction, the intended approach is to let those involved tell their own stories, leaving the reader to draw their own conclusions. Indeed, Girvan sets this out quite explicitly, writing, "rather than merge their words into one narrative line created by the author, I would try to put (the participants') perspectives in their own words, in their own sections. Readers could then form their own conclusions based on the clash of views presented."

*The Showdown* tells the muddy story of those days in the summer of 1990 when op-

position coalesced into action as, simultaneously, earth movers ground into action and construction of the dam started.

*Cry for Justice* finally, leaves behind the dirt of southern Alberta to follow the trials of Milton Born With A Tooth, a First Nations Lonefighter opposed to the dam who became embroiled in Alberta's thorny judicial system. This last section examines the cultural battle that developed between Born With a Tooth and the courts. Their perspectives were so disparate that even the slightest degree of mutual understanding was hard fought-for.

This last section was the most frustrating for me. This wasn't because the Born With A Tooth chapter isn't interesting or worth telling. It certainly is. However, it departs significantly from the story of the Oldman Dam that we have been following until now. One chapter introduces us to the 1992 Supreme Court of Canada ruling that the dam's construction was illegal. However outside of this, the dam largely does not figure in this final third of the book, except as background context for Born With A Tooth's trials.

It's a choice I was frustrated by. What has been the main act until this point largely fizzles while the Born With A Tooth story becomes the focus. By its end, the book feels like its told us two different, significant stories. The fact some may regard them as different stories is because they are not tied together. The needed thread is missing.

Perhaps this is unfair. Perhaps this unsettled ending is not a weakness but rather a natural and inevitable consequence of its story. Per-

haps what we feel is no more, no less, than the frustration the dam opponents felt in 1992. After all their work, all the organization, all the protesting, all the battling, all the petitions, and all the court victories the Oldman River Dam was built anyway. “All this, and for what?”

You might look at the book in a different way, too. This review until now presumes that the story of the Oldman Dam is the book’s intended centrepiece. But perhaps it is not the book’s content that is adrift so much as its subtitle. If the book is “really” about *Born With A Tooth’s* trial, and “really” about the clash of cultures between the First Nations of Southern Alberta and the Euro-centric government and court systems, then a different and arguably clearer picture emerges.

The story of the dam is just context in this second narrative. It is the setting for the real story that emerges in full strength in the book’s third act. This is a more interesting reading of the book and perhaps a stronger one. Those interested in the history of the First Nations and the Governments of Alberta and Canada may find the book more interesting than those interested mostly in the history of the dam. In this regard it may be unfortunate that the story of the dam is promoted so prominently in the title, the front cover, and so forth. One gets the sense that this other story may have been the one that Girvan really wanted to tell.

*Who Speaks for the River?* is strongest when it works to draw the reader in and to make us emotionally invested in the case, whether we were previously or not. It is also at its strongest when Girvan, a lawyer, untangles the intricacies of Alberta’s court system and provides insights into the ramifications and meaning behind the various courtroom proceedings.

But by the end of the book, there is a sense of “too much, all at once” going on. There are so many different pieces that it’s hard not to feel that something important has been lost. 🍄

## Gear Ideas

### “The Gift of Preparedness” – the FRX2 Radio & Blackout Buddy LED Light Combo

**By Kristina Vyskocil**

Many hikers and campers know the value of preparedness and will carry an emergency kit when spending time in the backcountry. The drawback to carrying this kit in and around the backcountry is that it can be cumbersome and, if it hasn’t been used, it might feel like a waste of space and money. Eton, maker of radios and tech accessories, aims to save space in your pack and money in your wallet while ensuring your safety with its multi-powered, smartphone-charging, weather radio, flashlight: the FRX2 Radio & Blackout Buddy LED Light Combo (\$42 at MEC; user manual, warranty card, mini USB cable and wrist strap included).

#### How does the Eton FRX2 work?

The rechargeable weather radio has its own solar panel and hand crank to keep you in the know and well connected.

#### What does the Eton FRX2 do well?

The built-in rechargeable battery is recharged via USB, solar panel or hand crank. The internal battery is full in about 3 hours if charged via USB. The built-in solar panel also means the Eton FRX2 is easily charged in the sun as you hike or lunch: ten to twelve hours of solar charging will produce about 3 hours of play, depending on radio volume. Cranking the hand turbine for five minutes produces enough power to listen to the radio on low volume for 10 minutes or to use the flashlight for 2 hours.

The AM/FM/NOAA weather band analog radio will keep you tuned in, up-to-date and in the know. When you don’t want to disturb others just plug your headphones into the jack.

You can also charge your smartphone or other mobile device using the USB con-



nection. It will automatically charge your smartphone or mobile device the same way as if you plugged it into a wall. All you have to do is use the handcrank. Ten to 15 minutes of hand cranking will give you about 1 minute of talk time.

A glow-in-the-dark locator comes on after dark or in a power outage and will stay on for 8 hours, making the FRX2 easy to find when you need to use the flashlight.

When the battery is fully charged, the LED flashlight will light your way for four hours.

#### What are some drawbacks of the Eton FRX2?

The combo-device doesn’t feature an AUX input, which means that you aren’t able to listen to the music as you charge your smartphone or mobile device.

The battery recharge indicator doesn’t change symbols to notify when the internal battery is fully recharged. This means that if you’re charging the internal battery via USB or hand crank, you need to time how long the internal battery is charging. If you’re charging via solar panel, you’ll just need to guess for how long the internal battery is charging.

Hikers and campers are recommended to only use the Eton FRX2 in moderate weather conditions (not in high humidity or rain and between the temperatures of 0° and 40°C). The Eton FRX2 isn’t designed with extreme cold, hot, or wet weather in mind.

## What's the bottom line?

Whether you're a hiker, backcountry camper or someone who just wants to be prepared for any emergency, you'll find the Eton FRX2 a great value combination. Given that Canada has experienced some of the worst disas-

ters this year (such as the Alberta floods), the Eton FRX2 complements a comprehensive emergency preparedness kit designed for short-term power outages or major disasters. With the holiday season upon us, everyday Canadians and outdoor enthusiasts alike can

appreciate giving and receiving the gift of preparedness this year. 🍂

*Kristina currently works at Mountain Equipment Co-op and is a third-year English student at Grant MacEwan University.*

## Recall of the Wild

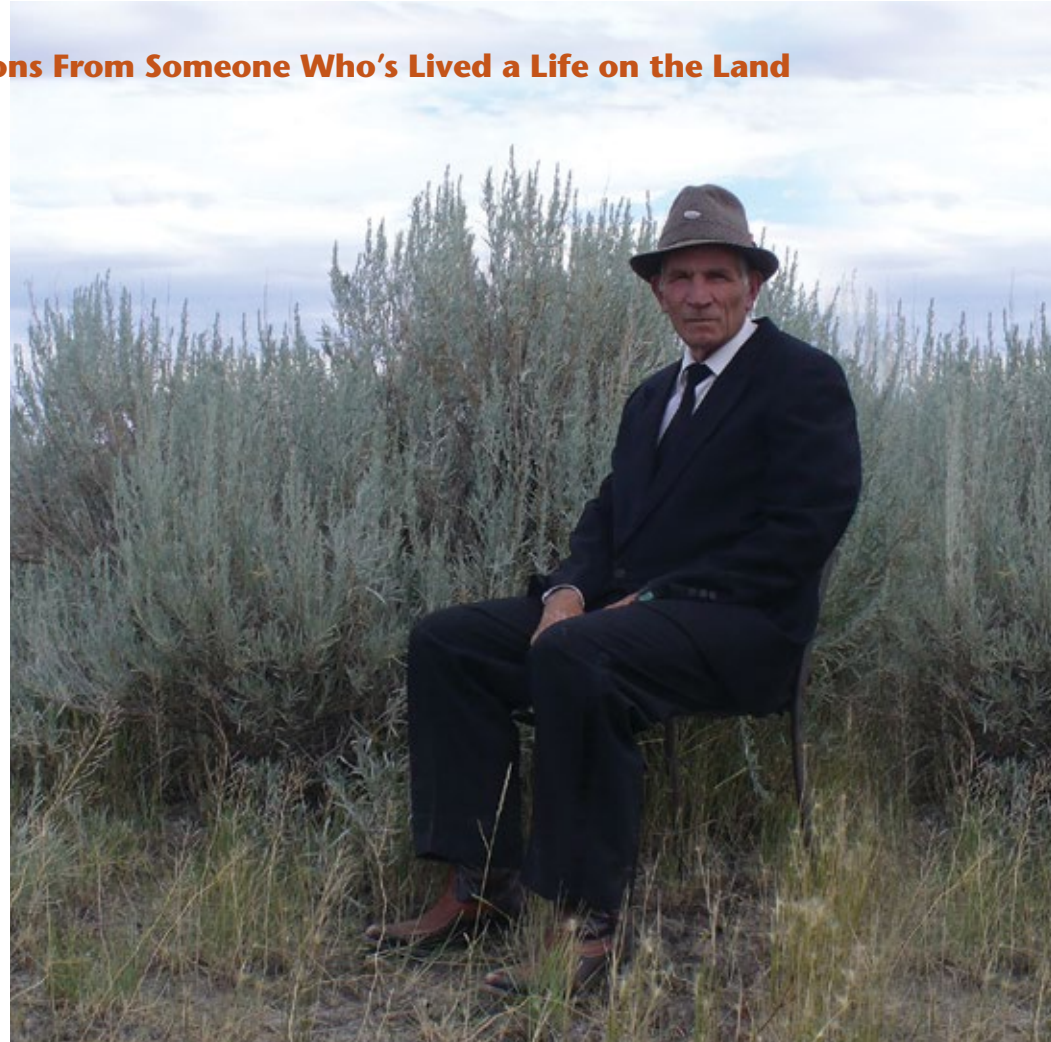
### Greater Sage-Grouse: Reflections From Someone Who's Lived a Life on the Land

**By Ralph Heydlauff**

#### The Past

Fifty years or so ago when I was a bit younger many of the low level flats had sage that looked like the photo accompanying this note. Ranchers who lived in the area held most of the leased area at that time. These flats had been protected due to the fact that, particularly during late fall storms, they offered both the best protection from the weather and grazing opportunities. About that time the provincial government decided that seasonal occupation of much of this area was a better way to manage a large portion of this area. Grazing reserves and community pastures were established. Cattle are trucked in from outside the area and the pastures are not grazed in the latter part of the year.

Management practices reflected the fact that these flats were no longer essential to survival of the patrons. A shorter grazing season resulted in higher densities of cattle and a different view toward these taller sage areas. The higher cattle densities meant more of the sage was grazed. It did not cause the sage to die but over the years it became shorter over a large portion of the area. Dividing pastures into smaller fields and putting even more cattle on them for short periods of time accelerated this change to the sage. When this is done it becomes critical that the cattle are moved as soon as the grass reaches the desired level. Even a day or two delay in moving them causes the cows to eat more of the sagebrush. To complicate it even further the management of these pastures seems to have changed fairly regularly. I have noticed through the years that it seems to take about 5 to 10 years to fully gain an understanding



*Ralph Heydlauff and Healthy Silver Sagebrush (Artemisia cana)*

of a micro-climatic area. As the climate can change in as little as 10 to 20 miles the patrons of these areas who generally live well outside that area are living in a different climatic zone.

#### Present

Over time these community pastures and grazing reserves have become the model for good range management. They are perpetual entities and are very unlikely to go away. The good news, however, is if the patrons and managers of these areas recognize the value of

the sagebrush habitat these areas will restore themselves. I have noticed a significant recovery in one pasture in the last few years. Also in one area at home where the sage was getting short we accelerated its recovery by putting in a water pipeline that drew the cattle away from that area.

Rangeland agrologists are vital but the advent of geomorphology has tended to reduce their numbers and their effectiveness. They are however the ones who can do the greatest good or the greatest harm. The traditional rancher who lives on his or her land and must

care for the environment because his existence depends on it is more of an endangered species these days. Absentee leaseholders and faraway investors who hire someone else to look after the individual areas are replacing the traditional rancher. The information that has been passed down through generations of ranch families has been for the most part either lost or discredited. The people who maintained these habitats well in the past are leaving the business because they find it difficult to make a living in the cattle industry on the primary cow calf level.

## Opinion

I believe that the height of the sage is an indicator of its health. I am skeptical of those who have told me the sage is as healthy today as it ever was because the number of plants today is close to the same as it was years ago in many areas. A study conducted during relatively low snow years found that the sage grouse wintered in a relatively small area near the lek. Studies done elsewhere indicated that some populations migrate to where they can find feed. I think that areas of taller sage supplied vital feed in the deep snow years. I know that I have seen them in these areas in late fall and early winter. Pronghorn also come to these areas in the winter competing for the same diminishing food supply.

In times of crises, like the greater sage-

grouse faces today, society will spend a lot of money and resources on studies trying to find someone to blame. We are all grasping at straws. I personally like to blame new predators in the area, such as the red fox and the raccoon, along with the perception that the raptor and coyote populations are out of balance and the quality of the remaining habitat is diminishing. Others will blame the swift fox and of course everyone blames the oil and gas industry. It may be thought that recreation has little impact since one is only in the area for a short time. However there may be a cumulative effect as the numbers seem to keep growing. Studies in times of diminishing sage-grouse populations supply vital data but may be an added stress. Urban people tend to blame the rancher. In reality we are probably all partially correct.

Can anything be done to reverse this degradation of habitat and decline in the species. I would like to think so. As science and the public in general seems to want to isolate specific parts of an ecosystem the focus is now on the sage grouse. It may be too late to save this species on this rangeland but we will not know unless we try. We need to change our focus from finding the cause of the problem in order to promote co-operation.

As the traditional rancher has disappeared in favour of the distant investor and absentee leaseholder day to day management of

the land becomes more difficult – difficult, not impossible. The new manager cannot rely on memory therefore the sharing of information becomes very important. Average conditions become the main guidelines. Averages can be deceiving as natural occurrences may be to the extreme and within the given area of the sage grouse habitat there may be many mini-ecosystems. It is essential for the leaseholder to develop a good working relationship with the local agrologist who will have the best records of each operation especially if the many mini-ecosystems are taken into account. Another reason for sharing information is to remember that many ideas have been tried but did not work. Excessive stocking rates did not work, stopping all grazing did not work, and Allan Savory's Grazing Method (Holistic Range Management) did not work.

Other considerations, such as reducing oil-field activity and building fewer structures, also need to be made – especially given how low the sage-grouse population is today. ▲

*Ralph Heydlauff and his brother David are themselves part of an increasingly rare breed – people who live on the land and care for it passionately every day. It has been a privilege for the staff and board members of AWA to meet and work with them on the Sage-grouse Partnership.*



*Prairie de la Vache I, oil on canvas, 12 x 16"*  
PHOTO: © G. DEAGLE



*Prairie de la Vache II, oil on canvas, 12 x 16"*  
PHOTO: © G. DEAGLE

# Winter Events

## Talk: New Concepts in Wildlife Monitoring By Clio Smeeton and Ken Weagle

**Tuesday January 28, 2014**

Clio Smeeton and Ken Weagle are with the Cochrane Ecological Institute and they will be presenting on some of their work in wildlife monitoring, as well as outlining problems they have found with other presently used monitoring techniques. They will be using illustrations from their work with endangered species and wildlife rehabilitation.

**Location:** 455 – 12 Street NW, Calgary

**Doors open at** 7:00 p.m.

**Tickets:** \$5.00

## Music for the Wild

**Saturday, February 1, 2014**

### Headline act: Clea Roddick

Clea Roddick is a singer, songwriter & poet who was born in Athabasca and currently lives in Calgary. She writes about the connections between people and the natural world and has been a finalist for numerous song writing awards. Clea recently completed a Writing Studio residence at the Banff Centre, where she was working on her forthcoming collection of poetry. [www.clearoddick.com](http://www.clearoddick.com)

### Opening: Blue Rambler

Blue Rambler is made up of good friends who like old music. They play blues, old country, swing and new music that harkens back to a simpler time. We like to have people join us in singing, in tapping their feet and in listening to the stories in our favourite songs. Blue Rambler is Don Gowan, Murray Little and George Campbell. [www.bluerambler.ca](http://www.bluerambler.ca)

**Location:** 455 – 12 Street NW, Calgary

**Doors open at** 7:00 p.m. Music at 7:30pm

**Tickets:** \$20.00

**Registration:** (403) 283-2025

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

## Talk: Threats to Bird Populations by Gus Yaki

**Tuesday March 4, 2014**

Gus Yaki has been a life-long naturalist, famous birder and wildlife advocate. He has lead nature tours all across Canada and around the world. He will be sharing his expert knowledge on birds in Alberta and serious threats to their populations.

**Location:** 455 – 12 Street  
NW, Calgary

**Doors open at** 7:00 p.m.

**Tickets:** \$5.00

**Registration:**

(403) 283-2025

**Online:**

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

## Members Night in Edmonton

**Friday, February 21, 2014**

A chance to find out what AWA is busy working on and what's ahead.  
Details about the location and time have yet to be finalized... so stay tuned!

Sage-grouse have been endangered for many years but governments have done very little to eliminate human disturbances in critical sage-grouse habitat.



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

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