

Crucial Year Ahead for Bighorn

By Andy Marshall



The Alberta Wilderness Association is collaborating with other conservation groups in what it calls a "make-it-or-break-it year" to push the long-held dream for a Kananaskis Country-style protected park extending beyond the existing Bighorn Wildland Recreation Area, northwest of Calgary.

The provincial government has quickly rejected the idea, saying Bighorn has enough protection and that the Rocky Mountain natural region habitat that makes up much of this spectacular region is already well represented in Alberta's protected area network.

"If we get nothing in the next year, we're really going to lose this area," warns AWA director Vivian Pharis, helping spearhead the effort to have 7,000-square kilometres of unbroken habitat protected by legislation in a newly-designated Bighorn Wildland Park.

Central Alberta's largest mountain-foothills wilderness landscape, the Bighorn area is a mix of rugged, forested and more

out of sensitive watershed and wildlife habitat, are among areas suffering from off-highway vehicle violations.

The site features habitat for an array of species, including Grizzly, Black Bear, Elk, Bighorn Sheep, Mountain Goat, Wolf and Cougar. The northern area contains evidence of human use for over 10,000 years. Bighorn also makes a major watershed contribution to the Saskatchewan River systems.

Dave Ealey, a spokesman for Alberta Sustainable Development Minister Mike Cardinal, pours cold water on the idea of a Kananaskis Country type area in central Alberta. "I know they have this dream," he says, "but acquiring more protected lands is not in the cards." With the coalition wanting to establish an industry-free buffer zone as far east as the forestry trunk road running up to Nordegg, "we disagree with the boundaries that the AWA and other groups have proposed for Bighorn Country."

He notes that about 80 per cent of the 4,000 sq. km. forming the current Bighorn area is prime protection land under the Eastern Slopes policy, meaning off-highway vehicle activity, logging and oil and gas exploration are already prohibited there. The rest is a critical wildlife zone, which has "stringent guidelines" for any of those activities, according to Ealey. The challenge in the remaining 3,000 sq. km. that the coalition wants included in the protection area "is to balance the different resource uses."

While reasonably satisfied with the content of the Eastern Slopes policy and its priorities for watershed, wildlife and fisheries, conservationist groups are unanimous in their concerns it

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gently rolling grassland that matches the beauty and natural significance of the adjacent Banff National Park or even Kananaskis County, says Pharis.

Extensive energy exploration and logging around the region's boundaries, combined with the soaring use of motorized off-highway vehicles like quads throughout Bighorn, are seen as severe threats to its future preservation. Four Forest Land Use Zones in Bighorn, covering about 1,400 sq. km. and set up in 1985 to keep motorized vehicles



C. Olson

has no legislative teeth. It is only government policy and can be changed by cabinet whim, they contend.

The government acknowledges the wildland value of the whole region and the damage from off-highway vehicles. With quad sales jumping at least fourfold in the past 30 years, according to Alberta statistics, the issue will be addressed. "There's obviously some work that needs to be done," notes Ealey.

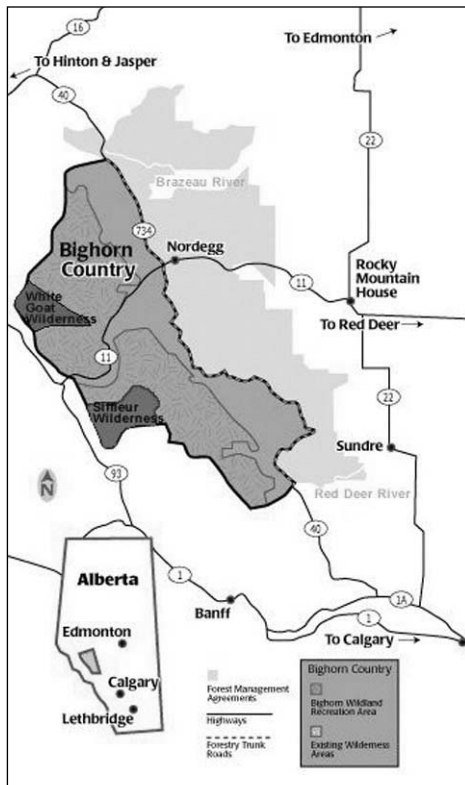
"It is important to find a way to manage access of all types," he adds. As a result, his department hopes to announce within a few months a process involving all those with an interest in the area, including conservationist groups, which would lead to the formation of a Bighorn access management plan. A key aspect would be preventing off-highway vehicle use in prohibited areas. "The trickiest part," Ealey adds, "is that we don't want to raise expectations that we're looking at developing more protected areas."

Pharis and others, such as Dorothy Dickson of the Red Deer River Naturalists, also part of the coalition, have no trouble documenting the degradation from off-highway vehicles in the region. The energy industry often initiates problems by clearing roads to their well sites. Once roads are established, logging interests tend to use them, and then public use is established even if industry leaves the area, explains Dickson, an original AWA member.

Because the newest generation of quads allows people to travel well into the back country, small, one-metre horse trails have been eroded into well-worn swaths three or four times that width. Driven through river beds, these machines create erosion and extensive siltation. The noise and smell plus toxic litter -- from pools of oil to transmission fluid -- endanger the wildlife in the area.

"Wildlife are alienated, and the effect on the watershed is considerable," says Pharis.

The lack of field staff to enforce existing rules further exacerbates the problem. Pharis recalls the chilling experience of



coming across rifle-toting quad riders in the Bighorn prime protection zone who had no regard about being in prohibited territory.

The Alberta United Recreationist Society, representing thousands of off-road-ers, asks environmentalists not to tar all enthusiasts with the same brush. Most are responsible, says society vice-president Kathy Wills, and stick to the network of trails in places like Maclean Creek or Ghost-Waiparous. "There are always bad apples, though," she notes.

Like the conservationists, Wills points to the drastic cutback in enforcement staff and the absence of clear signage to show where off-roading may occur as major problems. Also of concern is the ongoing loss of available trails at a time when the average number of users in the Eastern Slopes on any given weekend is 7,000. A big part of the society's efforts is directed toward educating members, but "the government must play a bigger role."

Ealey, meanwhile, is confident that an education and enforcement blitz -- simi-

lar to a successful clean-up program in the Ghost-Waiparous area west of Calgary two years ago -- will eliminate most of the problems in Bighorn. Dickson, on the other hand, notes the Ghost-Waiparous campaign was confined to a much smaller area. The Bighorn would require a huge contingent of conservation officers and RCMP to make an impact, she says.

An estimated 30 energy companies are active in the Bighorn region. Murphy Oil, Petro-Canada, Talisman, Husky, Suncor and Shell are among the larger players active within and close to the boundaries, particular in the northern Bighorn.

Substantial gas reserves have been discovered in the Mississippian thrust sheet reservoir rock that runs through the Bighorn region from southeast to northwest. Based on an AEUB report on Alberta's reserves, an industry expert conservatively estimates the upper reserve figure of marketable gas in the region to be in the two- to five-trillion-cubic-foot range. At current prices, this is about \$40 billion of gas.

"I don't lay the blame at industry's feet," says Pharis. "The government has encouraged them. Do we need to extract every last morsel (of hydrocarbons)?"

"We can minimize the impact on the land," says Stu Wilson, a spokesman for Arkansas-based Murphy Oil. The company has purchased an 80-sq.-km. lease in a critical wildlife zone in Blackstone Wapiabi, in the northern Bighorn.

The Foothills is a prime exploration area for the company, expecting only one out of every six wells to produce. With experience in pristine areas of British Columbia, "we have a track record of minimizing the impact," says Wilson. This includes using techniques from gated roads, hand-cut trails to helicopter seismic work. "We do a total reclamation after the production scenario is finished," says Wilson.



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Petro-Canada spokeswoman Brita Harrison says her company fully supports efforts to co-ordinate access needs in the region and "minimize the footprint."

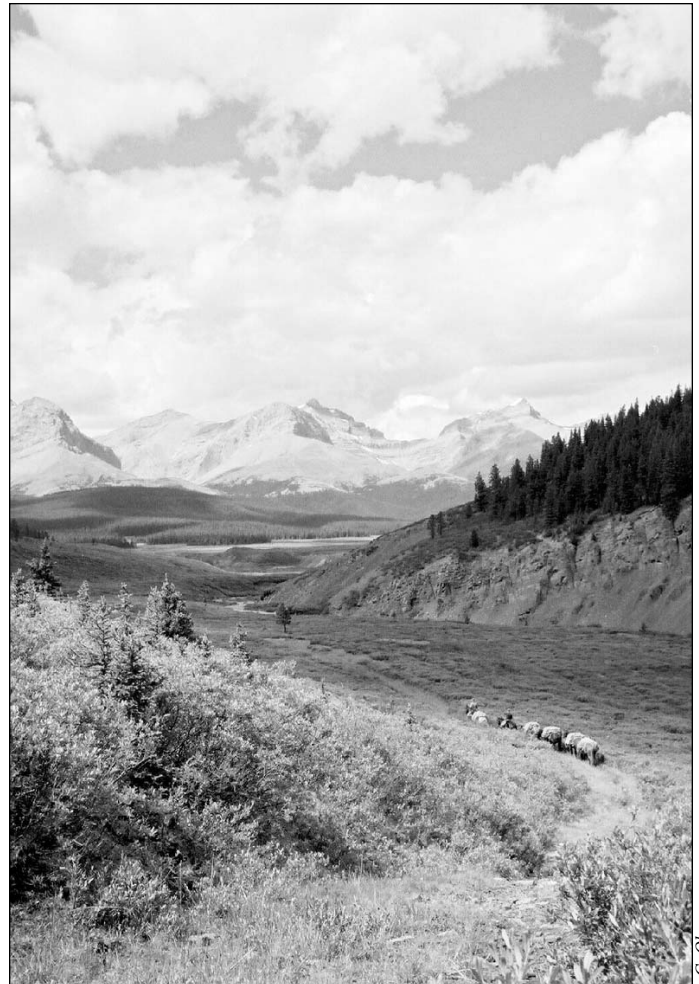
Sunpine, Sundance and Weyerhaeuser are the three main players with logging interests in the area. Sunpine has done some "nasty" cutting in the Cripple Creek area, says Pharis, with photographic evidence showing large, bare patches. Sundance is quite intransigent, she adds, while Weyerhaeuser, with a full-time biologist on staff, is more reasonable to work with.

"They (the conservationists) have moved the line in the sand," says Sunpine spokesman Tom Daniels, referring to the proposal to move the protected area out to the forestry trunk road. His company has a 4,300-sq.-km. forestry management agreement adjacent to the wildland area. He's confident Sunpine "is doing a pretty good job" and having "minimal impact" on watershed. "If your requirement for having a good time is that you won't see anybody or the impact of humans through logging or whatever, then maybe the (prime protection area) is where you want to go rather than where we're logging," he says. "Enough land has been protected."

Daniels points to the 1,000 jobs created through logging activities in the region, a point not lost on Rocky Mountain House Chamber of Commerce president Rex King. Logging and energy industry servicing are the mainstay of his town's economy, and "any overreaction (from conservationists) concerns us." But, he adds, everyone should worry about damage from off-highway vehicles.

Government studies suggest economic benefits from tourism in the Bighorn area could be as high as \$78 million a year.

Alan Ernst, operator of an eco-tourism business on Abraham Lake, explains that increasing numbers from the U.S., Europe and Asia seek out pristine wilderness areas and offer "huge,




potential benefits" for the region. But, industrial activities, clear-cutting and mechanized recreation damage their experience and they won't come back. The unspoiled land mass "is dwindling at an alarming rate."

Adding to the frustration of the conservation groups is their understanding of a promise made by the-then Environment Minister Don Sparrow in 1986 that the Bighorn area would be formally protected.

"We'll have to check the records," says Kathy Telfer, spokeswoman for Community Development Minister Gene Zwozdesky. The issue was not raised when Special Places was first discussed in 1991, she adds.

The AWA remains committed to the cause. Mary Beth Acheson, a geography graduate from Lakehead University in Thunder Bay, Ont., and a graduate of Mount Royal College's outdoor pursuits program, is working full-time on behalf of the Association to research issues on the Bighorn and keep the matter before the public. "The AWA wants formal designation of the Bighorn as a Wildland Park with the boundaries defined in the April 1986 Alberta Government Press release by minister Don Sparrow."

Also hoping to acquire a voice in the future of the Bighorn are the O'Chiese First Nation people who, so far, feel ignored in the consultation process. 



Taking a Role in Wilderness Stewardship

By John Geary

The Alberta Wilderness Association is synonymous with wilderness advocacy. However, while the AWA defends wild Alberta through awareness and action, and while advocacy is an important ingredient in its "action" recipe for wildland protection, other ingredients go into the mix. Land stewardship is one of those.



Members of the AWA and the Carstairs Lacrosse Club pose on about 2200 lbs of garbage from Pinto Lake, waiting beside the Banff-Jasper Highway for pick-up by the Alberta Forest Service in 1972.

"Stewardship" is defined as "the conducting, supervising, or managing of something; especially, the careful and responsible management of something entrusted to one's care." For the AWA, that "something" is wilderness.

Wilderness stewardship takes many forms, and the AWA is in the early stages of establishing definite criteria for future stewardship activities, both in terms of what it requires of stewards and the type of land for which it wants to assume stewardship.

"Someone interested in an area, someone who would commit to visit it and report to us about what they see, someone who would take photos so we can build a record of the area, those are what we look for in a volunteer steward," says Christyann Olson, the AWA executive director.

"Stewardship activities like the Bighorn Trail maintenance can provide a unique opportunity to see wilderness from a different perspective, to share the fears you have about losing a truly wild area with others who feel the same way."

- Christyann Olson, AWA Executive Director

Nigel Douglas, the AWA outreach co-ordinator, says several factors have to be incorporated into a stewardship policy, so the Association can implement stewardship in organized manner.

"We have to determine what sort of sites we're after, how many we can deal with, and we've been setting up an inventory of sites that are available for stewardship," he says. "We're trying to get a geographical range of sites that includes all Alberta's different natural areas. And an area has to fit in with our focus of protecting large wilderness areas."

AWA stewardship is not a recent phenomenon. As early as 1972, Association volunteers helped organize the removal of

1,000 kg of garbage from the White Goat Wilderness Area. During the 1980's, the AWA was involved in numerous wildland clean-ups in the Rockies. In 1990, as a joint steward with Cowley Forest Industries, the Association was instrumental in developing a management plan for the Beehive area.

Judy Huntley has been the AWA's volunteer steward for the Beehive area since 1990. She says there are some very positive aspects to stewardship.

"I've been spending time in that area since I was 16," she says. "Being a steward has allowed me to watch it develop and grow, seeing the changes of the seasons as well as the changes over time during the past several decades."

In June 1990, the Association became a founding member of the Milk River Management Society and that story is told below. Then in 1995, the Association adopted the Bighorn Trail as part of the old Adopt-a-Trail program.


"We've always had a component of our work based in stewardship for the land," says Olson. "It's always an important part of what we do because stewardship for the land means caring for it, and that can mean defending it, having it protected, but also being there with your hands, seeing what's happening from year-to-year, in a specific area."

Offering stewardship activities also provides activities for AWA members who may be more interested in hands-on work than advocacy. A project like the Bighorn Trail maintenance is an example of volunteers getting their hands dirty as wilderness stewards.

"In the mid-80's, I started leading these annual week-long horse trips, systematically cleaning areas out," says Vivian Pharis, a director and founding member of the AWA. "When the forest service came out with the Adopt-a-Trail program, it was quite logical for us to take on an equestrian trail as stewards."

As a steward for a particular area, the AWA may also gain more clout as a stakeholder.

"When there are applications for development in an area in which we are stewards, it can make us an interested party in any sort of plan," says Douglas. "It helps give us a voice where we otherwise might not have one."

The Association applied for stewardship in the Plateau Mountain area earlier this year. The AWA worked hand-in-hand with Husky Oil to have the area declared an ecological reserve, so the Association would be a natural fit as a steward there. The AWA has received verbal confirmation of being awarded official stewardship status for the area, located approximately 80 km southwest of Calgary. 



Laying stringers: 1996 Bighorn Trail maintenance trip

Milk River - Sage Creek: Coming to Terms on a Grassland Wilderness

By Cliff Wallis, President

This is the story of how the AWA became a founding member of the Milk River Management Society in which it is still an active member today.

Situated between the Cypress Hills and the Canada-U.S. boundary, Milk River-Sage Creek is one of the least fragmented, most extensive and most diverse prairie upland, wetland and valley landscapes on the glaciated plains of North America. This 5000 sq. km area is hard to describe in anything less than superlatives. Its size, unique geology and diverse ecosystems make it a national treasure.

The Great Plains has been profoundly altered by human activities. In just over 100 years, more than 70% of Canada's grasslands have been destroyed by cultivation. Direct loss and fragmentation has changed species' distributions and numbers while transforming entire landscapes and natural ecological processes. It is one of the most endangered natural regions in North America. Despite this, less than 1% of Alberta's remaining grasslands are "protected". This has contributed to the high numbers of species at risk. Of Alberta's vertebrates at risk, over half occur at Milk River-Sage Creek.

The area abounds in unique and rare phenomena, but it is the variety in both the rare and the common features that gives Milk River-Sage Creek its tremendous value. Resting atop a badland butte and gazing across the Milk River canyon and rolling grasslands to the forested Sweetgrass Hills, one can contemplate the natural majesty of the Great Plains. For anyone who has heard the melodies of grassland birds riding the warm summer breezes or watched as a Golden Eagle drifts low over a coulee rim, Milk River-Sage Creek will always be one of the world's special places.

Conservation and Ranching

Grasslands evolved with grazing by large herbivores like bison. While many wild plants and animals prefer moderately grazed lands, several thrive in the luxuriant grass cover of ungrazed sites. Still others like the endangered Mountain Plover seek out sparser, heavily grazed areas. Larger ranch holdings provide flexibility to allow for all types. This uneven grazing is considered wasteful by some range managers. In an attempt to maximize production, they evenly distribute cattle by constructing a myriad of fences, water developments and salt licks. The romantic notion of the west with wide open ranges has largely become a myth in today's highly managed cattle industry. The late George G. Ross, whose family has ranched in the area since 1910, recognized the grasslands' sensitivity. By maintaining native grasslands, Ross won acclaim as a conservationist. He warned of the trend to more complete and damaging use of the range on smaller units of more intensively managed land.

As demand for dwindling public grazing lands grew, new legislation restricted the amount of land which a lessee could hold. The Ross holdings, particularly the Lost River Ranch, far exceeded the new limits set by Alberta Public Lands and, despite protests from Alberta Parks and the AWA, large areas were removed from the Lost River Ranch lease. Most deleted lands became a new provincial grazing reserve, while a remote, largely ungrazed area south of the Milk River Canyon was proposed as an ecological reserve.

Seeking Protection

In 1972, the Lethbridge Fish & Game Association recommended wild river designation for the lower Milk River. Both the AWA and the Alberta Fish and Game Association recommended a large wilderness area even if it meant the excluding hunting. Through the mid 1970s, the Ross lease reductions proceeded. Public Lands proposed to sell some lands for cultivation and suggested increasing water development, fencing and intensive management. Alberta Parks became concerned about the Lost River Ranches' loss of flexibility and the resulting ecological damage. To counter Public Lands, Alberta Parks recommended a preservation park in 1976. Land use, including grazing, was to remain unchanged except for the exclusion of petroleum development and control of vehicle use.

In 1977, the Minister of Recreation, Parks & Wildlife assured the AWA that his department and Energy & Natural Resources had agreed to prepare an integrated land use plan for the Milk River-Sage Creek area. Instead, we got only a grazing plan on a small portion of the Ross leases. The AWA was told by the minister, "the comprehensive land use plan will ensure the preservation of the outstanding natural features". Instead, there were more roads, more fencelines, more exploration wells, more stock-watering facilities, more uncontrolled vehicle access, and grazing in previously ungrazed sensitive areas in the proposed ecological reserve.

Some of the problem resulted from within the conservation community -- they wanted the area protected but did not fully support designation of an ecological reserve with its restrictions on hunting. With no clear support for protection, development forces succeeded. Two tactical errors were made: failure to form alliances with government departments and failure to communicate with local residents.

In the early 1980s, public debate heated up over the new Wilderness Areas, Ecological Reserves, and Natural Areas Act. Alberta Parks, which administered Ecological Reserves, wasn't communicating with affected local residents. Misinformation spread and ranchers thought that leases were being further reduced to make way for Ecological Reserves. The first verbal shots were fired in smaller public meetings and a big battle was brewing.



Milk River Canyon area

C. Wallis

On March 21, 1984 people from all over Alberta went to Lethbridge to show their support for the Milk River Canyon ecological reserve. Others came to vent their anger and frustration. The room was packed beyond all expectations of the Wilderness Areas and Ecological Reserves Advisory Committee who convened the public forum. So hot were the tempers that one local rancher accused a Federation of Alberta Naturalists' spokesperson of being a Trotskyite and, gesturing with his fist to me, suggested we settle our differences outside. Local Fish and Game members were incensed at the apparent ban on hunting. Others, reflecting earlier Fish and Game stances, expressed unqualified support even if hunting was eliminated.

Some ranchers and farmers outside the local area also lent their support for the reserve. Most briefs supported the Milk River Canyon becoming Alberta's first ecological reserve and about 200 people left the meeting elated at their apparent "victory". Another 50 left disgruntled and surly -- mostly ranchers, farmers and hunters, people who had lived near the Milk River for generations and, in some cases, had protected the area. There was little assurance that they would have much say in the area's future. They felt threatened and betrayed -- conservationists and government had ganged up on them. The next day, the local MLA's telephone nearly rang off the wall.

Unhappy with local reactions, and recognizing the value of past local management, the AWA demanded, and got, a task force comprised of local citizens and provincial conservationists, with no government members. The task force was asked by the Minister of Recreation & Parks to develop a plan to "protect the ecological character of the Milk River Canyon". Major participants included a local county councillor, two local ranchers (including the one who shook his fist at me), three members of the local Fish and Game Association, an instructor from Mount Royal College in Calgary, and a representative of the AWA. A rancher from outside the area chaired the task force.

Submissions by task force members showed great concern for the area. Almost everyone opposed any activity, such as roads, pipelines, or cultivation, which would alter the land surface. The contentious issues were hunting, vehicle access, and legal aspects of designation. Task force meetings were sometimes stormy and there was considerable soul-searching.

Conservationists pushed for a better deal for the ranchers, including long-term tenure to ensure management and ecological stability. They also suggested that the government contract the ranchers to manage the protected area. Even the fist-shaking

rancher came up with outstanding ideas. Concerned that the task force would win protection on the smaller area and let the surrounding land "go to hell", he pressed for better management on the larger area. As some of the task force members noted from the outset --much of the conflict was often more perceived than real.

Giant Steps Forward

To the surprise of many, the task force recommended establishment of a 72 sq km natural area with no grazing in sensitive wetlands, the Kennedy Creek valley and adjacent uplands. Grazing elsewhere would be at much reduced stocking rates.



Eagle Butte, Sage Creek area, looking south over the whole Milk River-Sage Creek area

"The absence of any commitments on this land allows the opportunity to develop a grazing strategy which is more in harmony with the ecological character. Modern range management is not totally compatible with protection of the ecological character of an area."

Recreation facilities, roads, oil and gas drilling, pipelines, power lines, cultivation, removal of natural materials, and disturbance of archeological sites would be prohibited. Local citizens and conservationists would be responsible for

long-term management. Other recommendations included long-term contracts with local ranchers for management and encouragement of scientific research. Hunting was allowed on a draw basis and vehicle access only permitted on a designated trail on the upland immediately south of the Milk River Canyon. Changes to the Wilderness Areas, Ecological Reserves, and Natural Areas Act were requested to have more flexibility on hunting.

In May 1985, Alberta's Advisory Committee on Wilderness

Areas and Ecological Reserves recommended to the Minister of Recreation & Parks the establishment of a natural area/ecological reserve on the entire 72 sq. km area. They also asked for an inventory of special features; consideration of bison for management; revisions to legislation; participation of local residents in developing a management plan; and an integrated plan for the surrounding area. The long promised integrated plan never materialized but most recommendations were acted



Rare igneous intrusive dike

upon. Though unsuccessful, the AWA submitted a joint proposal with a local rancher to use bison for management.

What Have We Learned?

Communication should be the first resort, not the last. Conservation networks must extend to affected local communities. The rural contribution is not only helpful; it is essential to long-term management. Urban conservationists must be receptive to ideas of the local community and must appreciate their fears about changes that they perceive, sometimes correctly, will upset their way of life. Local communities, on the other hand,

must realize that these prized areas are not just local treasures.

The Milk River Task Force took some giant steps forward, recommending more protection than was ever thought possible. The government accepted the task force report, defusing a volatile situation with practical and ecologically sound solutions. Ranchers, hunters, academics, conservationists and local authorities

demonstrated a willingness to cooperate on conservation despite differing philosophies.

Lots of Work to Do

The AWA is a founding and still very active member of the Milk River Management Society that was established in June, 1990 with members from local government, the ranching community, conservation groups, and provincial agencies. The society holds the lease for the Milk River Natural Area and advises on resource use and management of the Milk River Natural Area and Kennedy Coulee Ecological Reserve. An Operational Management Plan prepared by the society was endorsed by the Alberta Government in September 1992. The society works on plan development, implementation and monitoring. The protected area is one of the longest term monitoring sites for vegetation, bird, mammal, amphibian and rare plant



Northern Leopard Frog

C. Wallis



Short-horned lizard

C. Wallis

work in the grasslands of Canada. Researchers from Montana are considering its use as a benchmark riparian area since they have nothing of similar quality.

There have been recent additions to the protected area network along the Lost River valley and on the Pinhorn Grazing Reserve. While we have been successful in protecting significant small blocks, the long-term conservation of the entire 5000 sq. km Milk River-Sage Creek wildland is not assured.

Milk River-Sage Creek is a high plains survivor, for generations protected by its isolation. Those factors are changing rapidly and there is a high degree of urgency to securing long-term protection on the entire wildland. In 2000, the AWA was successful in blocking industry attempts to secure mineral leases on the legislated protected areas. What started as a trickle of energy development may soon turn into a flood. Energy companies have "rediscovered" this once forgotten corner of Alberta and there is every indication that some parts may be intensively developed. A major pipeline corridor was approved in the late 1990s and constructed despite opposition from environmentalists and a dissenting opinion on approval from one National Energy Board hearing panel member.

The AWA remains at the forefront of efforts to secure protection for Milk River-Sage Creek. The lessons learned and relationships built over the last thirty years give us hope that we will be successful. We must continue working with the local community and seek new ways to protect this outstanding area on the glaciated high plains.



Pronghorn Antelope

C. Wallis



A Personal Account of the Bighorn Trail Trip 2001

By Rod Burns

This year the annual Bighorn Trail maintenance trip took place in mid July. The trail crew, which consisted of Vivian Pharis, Christyann and Dan Olson, Rod Burns and Mary Beth Acheson rode the trail from Crescent Falls to the George Creek valley.

Upon arrival at the Sunkay camp for the first night, the eerie howl of a lone wolf from across the meadow welcomed us back to this unique wilderness. For the next several days we rode and camped along the Wapiabi and George Creek valleys. Most of the trail was in good condition with some deadfall to be cleared. An area that had been worked on a few years earlier, where the trail had been re-routed and corduroy constructed over a wet area, needed some work. This was accomplished in half a day.

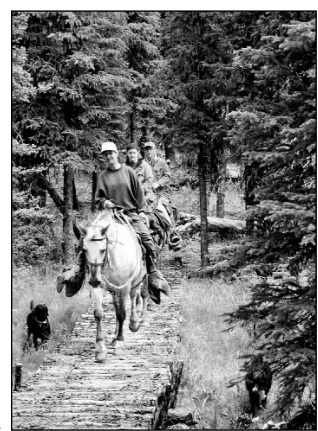
One day was spent riding up from Wapiabi Creek on to a ridge that parallels the Bighorn Range. From this vantage point one gets a magnificent view of the surrounding country. Our ride along the ridge was curtailed due to a storm, which we could see forming in the northwest. Although the day trip was shortened

due to the weather, the steep climb up the slope to the ridge top and the view of the rugged Bighorn Range gives one an appreciation of the beauty of this area.

A half-day ride up Mons Creek took us to an area where an oil well had been drilled in the 1960's. Although this lease had been established years earlier, there is very little evidence of reforestation and it remains much the same as it was when first constructed. This is an example of how long it takes for these areas to re-establish themselves once they are disturbed.

During the eight-day trip there was much discussion on the significance of this area and what its future may be. With impending pressure from industrial interests for development in the Bighorn Wildland, support for its existence is important.

It is a very satisfying experience to be able to contribute to the maintenance of this historic trail. This is an opportunity to participate in the preservation of Alberta's history with individuals who share the same interest.



From front to back, V. Pharis, M.B. Acheson, R. Burns

C. Olson

A River For the Taking?

A report of the Meridian Dam Public Forum, Oct. 5, 2001

By Shirley Bray



Medicine Hat mayor Ted Grimm, a self-professed prairie boy, used to be a proponent of the Meridian Dam. But a long leisurely plane trip over the South Saskatchewan River canyon changed his mind. "I flew over the River and I had a spiritual experience," he said. He used to think that growth and change were the important things, but now he believes that we are here to be good stewards and that we must consider the impact of our decisions on the seventh generation. Such was the opening address of the Meridian Dam public forum, sponsored by the Grasslands Naturalists to provide information on the area and the dam. Lorne Scott, a farmer from Indian Head, Saskatchewan, executive director of the Saskatchewan Wildlife Federation and a former Saskatchewan Minister of the Environment was an enthusiastic chair of the meeting.

Terry Sly of Alberta Environment and the Alberta Project Manager for the Meridian Dam Pre-Feasibility study reviewed the elements of the study - a repeat of what he presented at the public meetings. Items brought forward for consideration at the public meetings were not covered in the original study outline included climate change, evaporative losses from the reservoir, filling rates, potential flooding due to upstream ice jams, CFB unexploded ordnances, and identification of key fish, wildlife and tree species. Developers of the study framework had also underestimated the impacts of oil and gas developments and downstream impacts. The study is to be completed by January 18, 2002 and will be available to the public.

Dr. Dixon Thompson, a Professor of Environmental Design at the University of Calgary, who has studied water management for over 25 years made many interesting points. He noted that there are 3 options for water management in the river: storage options, non-storage options, and making better use of what we have. He said that we have technical and economic solutions to supply management but politics and social issues often prevent their implementation. Water is a free resource and free resources are almost always open to abuse. The problem, he said, is not water, but clean water, which we tend to take and pollute. The promised benefits of the dam, irrigation, recreation and power cannot be maximized at the same time. The dam would not help with drought; it would only help those individuals who were

using irrigation. Since irrigation is always subsidized, the question is how big should the subsidy be and which are the best soils to irrigate to maximize the return for the subsidy. He strongly suggested that environmental groups make a strong stand prior to any commitment to building the dam, rather than afterwards as in the case of the Oldman Dam.

Arlene Kwasniak, Executive Director of the Environmental Law Centre in Edmonton, gave an excellent presentation on the relevant acts and regulations that would be called upon should the Meridian Dam be given further consideration. At the federal level, the Fisheries Act, the Migratory Birds Convention Act, the Species At Risk Act, the Wildlife Act and the Navigable Waters Protection Act would be called into play. At the provincial level some of the acts involved would be the Wilderness Areas,

Ecological Reserves and Natural Areas Act, the historical Resources Act, the Water Act, the NRCB Act and others. Environmental assessments at federal and provincial levels would be required. If Prairie Coulees Ecological Reserve is flooded, then it must be de-designated, which requires public notice and a comment period. Kwasniak made a point of saying that these legal requirements were not "regulatory hurdles, hoops or impediments" as suggested by some, but "bona fide

legitimate requirements. It is slapping the government on the face to call them hurdles."

A letter by Dwayne Good Stryker, on behalf of the Blackfoot Sovereign Nation, was read. They do not support the dam.

Lorne Fitch of the Alberta Fish and Wildlife Service, currently the Provincial Riparian Specialist and well known for the Cows and Fish program spoke about the differences between reservoirs and dams. The rapid and severe fluctuations that occur in irrigation reservoirs do not allow the creation of a littoral zone around the edge where vegetation and fish can flourish. Studies have shown that fish migrate down the South Saskatchewan River past the site of the dam and into the Red Deer River.

"We are not against you, we are against the dam," Major Stu Gibson from CFB Suffield told proponents of the dam. The military has spent \$600,000 for an inventory study of the area and more on additional wildlife studies. Part of their training grounds will be flooded, and this would affect an agreement Canada has with Britain. With unexploded ordnances and live fire training, there is concern over the legal liability of the military regarding recreationists using the area. Currently travel on the river is




Panel of Speakers: from left to right: Lorne Fitch, Stu Gibson, Cliff Wallis, Lorne Scott (standing), Arlene Kwasniak, Dixon Thompson, Tom Power, Terry Sly

restricted during periods of live fire training exercises.

Cliff Wallis of Cottonwood Consultants and AWA President asked why would we want to trade a nationally significant area for low value agriculture. Agriculture landscapes have a role to play but we have a lot of those already. The Great Plains is one of the most endangered natural habitats in North America. "I've been told to take the objective view," he said. "Why should I? The other side doesn't. This isn't about science. It's about a clash of values." You can't mitigate the loss of a landscape, he said.

Dr. Tom Power, a professor and Chairman of the Economics Department at the University of Montana told the audience that

rural economies need to diversify in order to allow farming and rural living to continue. The future is unlikely to be built on agriculture, which is an important, but declining economic activity. "Free-flowing rivers, like dammed rivers, provide important economic values. The choice to dam or not to dam a river is not a choice between environmental values or economic values. Environmental values are economic values and dam construction in certain circumstances can be grossly uneconomic," he said. Tom was involved in an economic analysis of the Oldman River Dam. His book, "Lost Landscapes and Failed Economies" is well worth reading. 

Hay-Zama Wildland Park Management Plan Keeps Protection on Track

By Cliff Wallis



A management plan has been developed for the Hay-Zama Wildland Park that will see a continued winding down of industrial activities within the Park. The plan was developed following extensive consultation with environmental groups, government, industry and Dene Tha' First Nation, and Alberta Community Development. The plan was

endorsed in Edmonton today by the Hay-Zama committee. Key elements of the plan include:

- Allowing natural processes to function largely unimpeded by human activities
- Permitting traditional uses by the Dene Tha' to continue
- A commitment to further negotiate cooperative management by the Dene Tha' and Parks and Protected Areas
- Encouragement of scientific research and interpretation of the area's natural and cultural heritage
- Restrictions on oil and gas activities as defined by previous agreements will remain in place
- Hay-Zama Committee will continue to advise on research, management and oil and gas activities in the Park




Wetlands at the west end of Hay-Zama lakes

P. McIssac

The Hay-Zama Lakes Complex is situated in the NW corner of Alberta, 50 km NE of Rainbow Lake. It is a large, diverse area encompassing marshes, open water, willow swamps, floodplain

woodlands and wet meadows. It has been designated an internationally important wetland under the RAMSAR Convention and 486 sq. km were designated a Wildland Park under the Provincial Parks Act in 1999. The Complex provides habitat for a wide array of nesting and migrating waterfowl, shorebirds and marsh birds. During migration, up to 30,000 geese and 100,000 ducks use the area. Hay-Zama Lakes is an important traditional fishing and hunting area for the Dene Tha' First Nation at Chateh.

The Hay-Zama Committee was established in the 1980s to address issues related to oil and gas activities that were previously authorized in the Complex. It was re-activated in 1994 to cooperatively resolve conflicts on the development of oil and gas reserves and protection of the area's cultural and natural heritage. The committee includes representatives from the Dene Tha First Nation, Alberta Energy and Utilities Board, Governments of Canada and Alberta, Ducks Unlimited, Alberta Wilderness Association and the energy industry. It is committed to an accelerated winding down of activities that have a high potential to impact this internationally significant wetland. The committee received an Emerald Award in 1996 in recognition of its accomplishments. 

For more information, see our website for the news release, Oct. 12, 2001.



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Kananaskis Country: Spray Lake Sawmills' Forest Management Agreement (FMA)

By Joleen Timko, AWA, Conservation
Specialist

Spray Lake Sawmills is beginning to formulate the terms of reference for the public consultation phase of their newly signed FMA. They intend to have the terms of reference completed by December 2001. The AWA will continue to monitor Spray Lake's activities in the Kananaskis region, and will no doubt play an important part in the company's public consultation process.


On September 12, 2001 I attended the Bow River Basin Council's (BRBC) General Meeting. Gord Lehn, the Woodlands Manager for Spray Lake Sawmills, made a presentation regarding how watersheds would be treated within the new FMA. It was frustrating to hear the rhetoric regarding the company's "environmental stewardship" given the impact that their logging practices have had on various parts of the Kananaskis already.

However, the AWA wants to work with the company to indeed ensure that its practices are as compatible as possible with the Kananaskis' watershed, wildlife, and recreational values. This is especially critical as the BRBC meeting highlighted the

fact that the Bow River is now at only 70% of its projected flow volume. One recommendation that also arose out of the meeting was that Spray Lake Sawmills should conduct site visits to showcase its forestry practices.

I encourage anyone out there concerned about this FMA to call Gord Lehn at #932-2234 to request that site visits to various clearcuts be arranged for the general public. As well, all of the company's forestry plans can be viewed at Sustainable Resource Development's Bow River Office. To get more information, call Rick Blackwood at #297-8806.

On September 12, 2001, I also attended the Calgary Parks Foundation-River Valleys Committee meeting. I was asked to make a short presentation about a letter I had sent to the Mayor and the city councillors in July regarding the potential impact that the Spray Lakes FMA could have on Calgary (and other downstream communities) water supplies.

In continuing to call for a thorough planning process for the Kananaskis region, we have developed a postcard that is addressed to Premier Klein. The postcard asks the Premier to stick to his 1999 promise to carry out a Regional Sustainable Development Strategy (RSDS) for the Kananaskis and to postpone the FMA until such planning has been completed. The RSDS would incorporate economic interests and community values into the ecological context in which developments would occur. Postcards can be picked up at the AWA office or call 283-2025 or email a.w.a@home.com 

Game Farming

Dear Mr. Klein:

Re: Montana Judge Rules Against Pen Shoots on Game Farms

I have written to you many times on the matter of the dangers of farming wildlife. My fear is that because certain Alberta Government members have such close personal ties to this industry, our government is not able to view game farming objectively. It therefore cannot protect wild wildlife, conventional agriculture, hunters and the general public from its very real threats. Alberta's neighbor to the south, Montana, has just dealt game farming a new lethal blow. Is Alberta paying attention as to why?


*As you undoubtedly know, Montana citizens voted out game farming and penned shoots last November, through Ballot Initiative 143. This ballot decision was subsequently challenged by game farmers through a court injunction. The injunction has just been denied by Judge Donald W. Molloy. The reasons for his denial are startling and include these **STATE** considerations for wildlife: disease prevention, hybridization, loss of habitat.*

*And, they include the following **STATE** considerations for Montana's hunting heritage: fair chase, maintaining true hunter ethics.*

Although I have been working for the protection of Alberta wildlife and its habitat for 35 years, it has been at least 25 years since I can recall any similar official interest in Alberta's wildlife like that expressed in Montana's recent landmark judgement. Certainly Alberta's Wildlife Act and Policy reflect no such provincial interests in wildlife or hunting.

Why is it that Montana, the state on Alberta's border with such similar landscapes, wildlife populations, industries and peoples as ours, can recognize the value that wildlife contributes,

while Alberta regards wildlife as little more than something to be exploited (Act and Policy) or else something that is in the way of industry and always expendable? Alberta has no protective provincial legislation for wildlife and only a few policies that afford some protection. Why is wildlife valued there, but not here? Why is Montana taking such extraordinary measures to oust game farms in order to protect wildlife, while Alberta apparently continues to regard game farming as benign?

Will Alberta undertake to seriously examine Judge Molloy's decision in Montana and commit to a promised public examination of the whole, dangerous game farming industry? 

Yours sincerely,
Vivian Pharis, AWA Director.



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Resource Dependent Communities:

*A report on the Symposium
Hinton, September 5-7, 2001*

By Jillian Tamblyn

I must admit that writing this article is very difficult for me as I was very troubled by this symposium hosted by the Alberta Council for Sustainable Communities and the Environment (CSCE) out of Hinton. I was very troubled because I could see how very far apart people are within this community when it comes to sustainability, the environment and resource extraction. Some locals did not attend the conference, because they felt it was so far from a balanced look at the issues and that it was skewed towards the status quo of big business and development. I suspect that this is just one extreme example from around the province.

The topics of discussion were bound to be controversial: Yellowstone to Yukon (Y2Y) from the perspectives of Jim Pissot, Executive Director of Y2Y, and Robin Campbell, president of the CSCE and spokesperson for the Mining Union; What Lessons have we learned from the Cheviot Mine experience presented by Fred Munn of Cardinal River Coal; and Sustainable Forestry by Bob Udell of Weldwood, to name a few.

Our information package contained, amongst other things, a bumper sticker HEALTHY ECONOMY = HEALTHY ENVIRONMENT. On the surface this should not be a controversial sticker. I believe that we cannot have a sustainable healthy economy without a healthy environment. It is a two way street, right?

Maybe not. Another part of our information package was a membership form for the CSCE with large black capital letters emblazoned across it: "THIS FAMILY SUPPORTED BY NATURAL RESOURCE DOLLARS: CHOOSE BALANCE SUPPORT CHEVIOT". On the other side I read, "We want a balanced and responsible use of our natural resources, not rhetoric, emotions and fear mongering."

Robin Campbell, the president of the CSCE gave us an introduction about who the group is and what they do. He proceeded to tell us how the Special Places program is taking away land from being developed. (Presently less than 2% of the Foothills are protected, 98% is open to development.) He informed us that many environmentalists told him that they didn't care about the people of Hinton, but he couldn't name any of these environmentalists when questioned. He told us that tourism doesn't pay, but then told me at dinner how he takes the summer off from the mine to run a fishing and wildlife watching business in Jasper National Park where he lives.


Our guest speaker was Senator Robin Taylor from the Alaska State Legislature, who has been very involved in the Western Legislative Forestry Task Force, which deals with Forestry Issues in Western Canada and United States. Taylor had many inspiring comments that rallied the audience. As an American Senator he helpfully told us how we should not let well-funded American environmental groups tell us what to do.

Apparently that is a role left exclusively to American Senators with law degrees.

Taylor also informed us that the devastating forest fires that have been happening are due to the fact that we have not been logging enough of our forests. He did not seem to think that drought, climate change, or years of fire suppression, leading to heavy fuel loads, had anything to do with the problem. Taylor sees Alberta as a shining light example of how industry and the government should work together all over Western North America.

Despite all of the interesting opinions and misinformation there was some solid science and interesting research presented out of the Foothills Model Forest. More importantly, attendees raised concerns that I think everyone who attended could share. These concerns could be a basis of discussion and community building given the proper opportunity.

The Breakout sessions were probably the best parts of the discussion. Concerns were raised about income gaps widening, some people talked about getting more jobs out of each log. Some were concerned that, with mills and mines shutting down, there did not seem to be any support from the government for transition funding. The communities want to be attractive to new business and diversify the economy. The people at the conference like their communities and want to keep them viable.

Perhaps one day there will be a proper venue in Alberta that is mediated by talented, unbiased facilitators to discuss the issues and get to the core that we can agree on. We all want good jobs, a high quality of life and we want our children to inherit a socially, economically, and environmentally healthy world. 

AWA Receives Membership in Forest Stewardship Council

By Jillian Tamblyn

The FSC Board of Directors has approved the Alberta Wilderness Association application for membership in the Forest Stewardship Council in the ENVIRONMENTAL - NORTH Chamber. The Forest Stewardship Council is an international non-profit organization founded in 1993 to support environmentally appropriate, socially beneficial, and economically viable management of the world's forests. In Canada an FSC Canada Working Group, was created in 1996. FSC Canada is designed to promote good forest management across Canada and increase the level of market participation in the FSC system through outreach, education and communications.

Several Conservation Organizations in Alberta, including the AWA, have been looking into the opportunities and challenges for FSC Certification provincially. The AWA has recently applied for and obtained membership status in FSC that gives us the opportunity to vote in and participate in the development of an FSC process in Alberta and Canada. We have become involved in FSC because unlike other certification programs, environmental, social and economic concerns are represented equally.

A great deal of work has been going on in Alberta and Canada. In August FSC Canada held a conference on Indigenous Peoples and FSC. In September FSC held a meet-

ing to set the stage for a standards process for the vast boreal forests of Canada. In November Albertans for a Wild Chinchaga, AWA, CPAWS Edmonton and Federation of Alberta Naturalists will be releasing a report entitled Structural Impediments to Forest Stewardship Council Certification in Alberta, Overcoming Barriers to Well-Managed Forests. This report will focus on the lack of protected areas and the petroleum industry's undermining of forest tenures and planning. These issues are challenges we must address to enable FSC Certification in Alberta.

As the FSC Council representative for the AWA I will use this as one many tools to work towards the protection of more wilderness in Alberta. A secondary benefit is improved forestry practices that will produce many beneficial results including protecting wildlife and their habitats outside of parks. ✍



Managing Roads for Wildlife:

A Report on the Workshop

October 1-2, 2001

By Mary Beth Acheson

I attended a workshop in the Crowsnest Pass entitled Managing Roads for Wildlife. The workshop gathered American and Canadian conservation groups and individuals together to share information, experiences and knowledge as part of the Yellowstone To Yukon Conservation Initiative. The topics covered aspects from ecological effects of roads, managing roads for wildlife, and policies and legislation.

Colleen Cassidy St. Clair, a professor at the University of Alberta, described the effects roads had on bird habitat fragmentation by studying bird movement behaviour. The results were not what many would expect. Barriers, such as roads or rivers, may not be the main determinants of landscape permeability for certain types of birds. For example, birds of a migratory nature were more likely to cross road barriers than species with smaller habitat range. One species of non-migratory birds had more trouble flying parallel to barriers than perpendicular to them.

Wayne Sawchuk of the Chetwynd Environmental Society of British Columbia discussed better ways to manage natural gas exploration access via seismic lines, roads and interesting alternatives. In the Costa Rica rainforest, heli-drilling is the normal method of extraction, due to the importance the people of this country place on their forests. The only trees cut down are for the small drilling pad used. No roadways are cut to the site. The pipeline, along with electrical cables to power the pipeline, is placed above ground on hand-made wooden carriers that fit underneath the canopy. These are ideas to consider for use in Alberta.

Perhaps the most interesting moment (for the Canadians) came when a topographic slide was shown of a northern Alberta gas field. While the landscape was definitely fragmented, it did not represent the massive linear disturbance that is the norm in Alberta. Yet, one man from the US asked how we could let the

Alberta government get away with that amount of damage. Who was responsible and how was it going to be reclaimed? The answer was yelled out from a few of the Canadians in attendance... "This is called The Alberta Advantage"! ✍

Government Wants to Erase the Bighorn Wildland Off the Map

By Mary Beth Acheson

On September 25th, 2001 the Alberta government confirmed the Bighorn has no protection from industry under legislation. This was a blatant dismissal of the 1986 announcement by Minister of Forestry, Lands and Wildlife Don Sparrow to create the Bighorn Wildland Recreation Area.

In response, the AWA has written to six major oil companies active in this area, the Energy & Utilities Board (EUB), the Assistant Deputy Minister of Community Development & Parks, the Deputy Minister of Alberta Sustainable Resource Development and the Minister of Alberta Energy asking them to make a commitment to respect the 1986 Bighorn Wildland boundaries.

Three specific aspects have been called for:

- 1) Full respect for the 1986 boundaries of the Bighorn Wildland, including no surface access within the wildland, including the area's Forest Land Use Zones.
- 2) A moratorium be placed on activities within the Bighorn Wildland Country west of the Forestry Trunk Road to the Bighorn Wildland boundary, until cumulative effects assessments determine whether or not Environmentally Significant Areas in this portion of the Foothills Natural Region can tolerate any further human disturbance.
- 3) That within the Bighorn Wildland, there be an industry commitment to no surface access, and an application of the CAPP-ENGO Agreement to return leases in this region to the public trust. ✍

See our website for our news release on September 27, 2001.



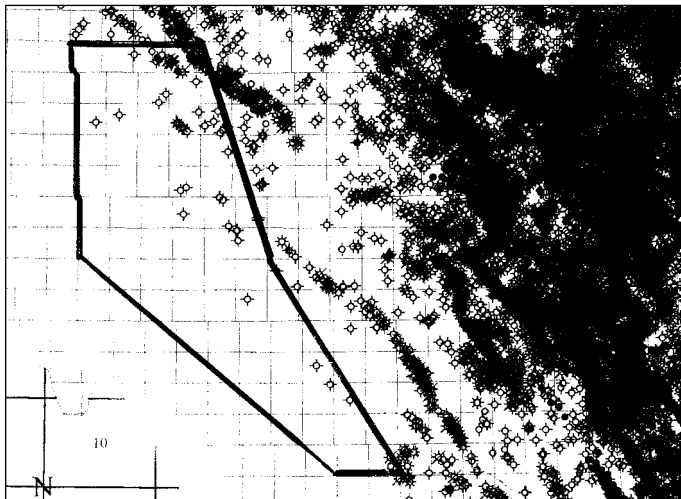
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Gas Reserves in the Bighorn Worth Millions

By Mary Beth Acheson

The Bighorn Wildland Area is currently a 'hotspot' of hydrocarbon exploration and development activity in this province. According to the Alberta Energy and Utility Board's (AEUB) report on Alberta's Reserves for 1999 there is a conservative estimate of 129 billion cubic feet (BCF) of proven gas reserves in the upper northeast corner of the Bighorn. This gas is located in the Cordell and Nordegg Fields.

However, further exploration since 1999 has resulted in the discovery and initial development of the Chungo, Bighorn and Bighorn East Fields. A reasonable extrapolation of reserves for these additional fields would be in the neighbourhood of 71-121 BCF, for a total of 200-250 BCF of sales gas in the northeast corner of the Bighorn Country. In economic terms, this means that, at a gas price of \$2.00 per thousand cubic feet, there is approximately 400-500 million dollars worth of gas to be recovered from this area.



Oil and gas wells in and near the Bighorn Wildland

Four separate gas fields are shown on the accompanying map at the top right hand boundary. The gas reserves are located primarily in reservoir rocks of Mississippian age.

Reserves are described as Initial Volume in Place and Initial Established Reserves. Initial Volume in Place is the total volume of gas contained within an identified field. No data are available for the Bighorn and Chungo Fields because they were identified after the 1999 Alberta Reserves report was released. The Cordell Field has been assigned 217 BCF and the Nordegg Field has been assigned 40 BCF of Initial Volume of gas in place.

The AEUB then determines Initial Established Reserves or marketable gas reserves. The recovery factor of Initial Volume in Place gas is in the 70-90% range. Constituents such as helium, nitrogen, carbon dioxide and hydrogen sulphide must be removed from the raw gas before it can be classified as sales gas. No data were available for the Chungo, Bighorn and Bighorn East Fields. The Cordell Field has 108 BCF and the Nordegg Field has 21 BCF of Initial Established Reserves. ✂

The Health of Southern Alberta Grazing Leases

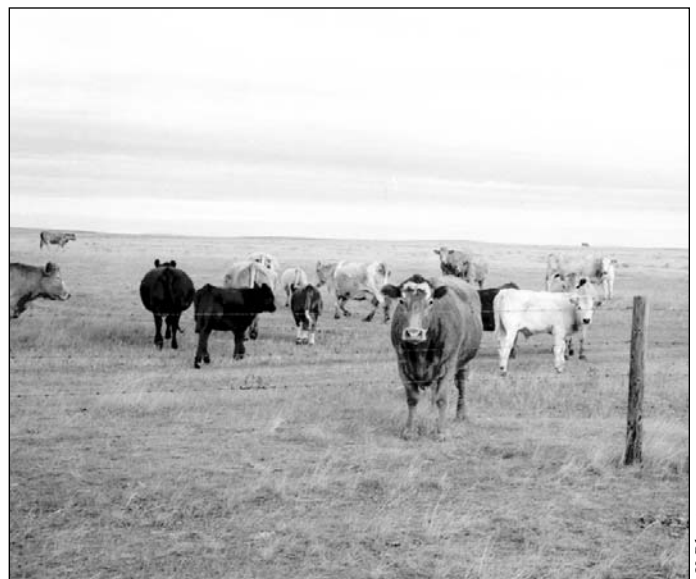
By Hyland Armstrong

The tensions that have existed in the past between lease holders and the public over the management of southern Alberta's grazing leases, have been exasperated by the recent drought conditions. The drought conditions have made landowners and naturalists that much more wary of one another. Perhaps the biggest cause of this mistrust is the lack of communication concerning the status of the health of these grazing leases.

Drought alone can have a negative impact on the health of southern Alberta's grasslands. Without proper management, the combination of livestock grazing and drought can cause the health of these grasslands to deteriorate that much more rapidly. Despite the drought conditions, the lease holders have managed to maintain the health of their grazing leases. This is due to reductions in stocking rates and improvements in livestock distribution.

Human nature being what it is, there are exceptions to this rule. In these cases Public Lands have taken steps to punish the offenders. There are instances where the lease inspector has ordered the lessee to remove his cattle from the lease, until the health of the lease improves. More significantly, Public Lands, in co-operation with other groups, is helping lessees find the resources they require to manage their resources sustainably. These groups include: PFRA, Alberta Conservation Association, Natural Resources Service, Cows and Fish, Nature Conservancy Canada and Ducks Unlimited.

It would be naive to suggest that the present drought conditions are not having an impact on the health of southern Alberta's grasslands. It would be equally naive to suggest that all leaseholders are managing their lease in a sustainable manner. However, it is realistic to state the majority of leaseholders are working in cooperation with Public Lands and other groups to maintain the health of their grazing leases. ✂



Cattle grazing

V. Pharis



A Recovery Project for the Lethbridge Population of the Prairie Rattlesnake (*Crotalis viridis viridis*)

By Reg Ernst

The Lethbridge Rattlesnake Recovery project is being funded by the Alberta Fish and Wildlife Division Species at Risk Program and the Alberta Conservation Association (ACA). Richard Quinlan is the species at risk biologist for southern Alberta and is the project manager. Randy Lee is the local representative for the ACA and I (Reg Ernst) am the project coordinator. The City of Lethbridge is a cooperator in the project.

In 1997, as part of an ecological inventory of the natural areas of Lethbridge, a search was initiated to locate rattlesnakes, examine their habitat, and locate denning areas (hibernacula). Three hibernacula were discovered, all adjacent to and on the west side of the Oldman River. Monitoring since 1997 indicates that Lethbridge is home to a small population (estimated to be less than 50 adults) mainly located in the Popson Park area of southwest Lethbridge and with annual mortality rates believed to be unsustainable.

Subdivision and recreational development causing increased road-kills is the main sources of rattlesnake mortality, but deliberate killing by humans is also a factor. Besides mortality, factors affecting population recovery include late maturity and a biennial breeding cycle (or longer) by female rattlesnakes and low survival rates of neonates.

In 2000, funding was applied for and received to develop a management plan for the Lethbridge population of rattlesnakes. All affected jurisdictions, groups and individuals were invited to and agreed to participate in the management plan process. Reducing human/snake conflicts and educating citizens were major objectives of the plan.

Efforts during 2001 have been aimed at achieving those objectives. Education has been in the form of rattlesnake displays, media articles and interviews, and wide distribution of a brochure developed during the management plan process. Response to a questionnaire distributed during an open house held in conjunction with the management plan process, demonstrated that more than 90% of the respondents supported efforts to conserve the Lethbridge population of rattlesnakes.

Because of ongoing recreational and subdivision development in the Popson Park area, a decision was made to relocate a portion of the Popson Park population to a more secure site where the potential for human/snake conflicts will be reduced. This is very experimental; it is not known if similar projects have been tried at latitudes where rattlesnakes must hibernate for long periods. Only problem and "at risk" rattlesnakes were targeted for capture and relocation.

We define problem rattlesnakes as ones that come in conflict with people in subdivisions and recreational areas; "at risk" rattlesnakes are those that are observed along busy roads or other areas where the likelihood of them being killed is high. We did not target any rattlesnakes using the natural areas on city owned property. We are hoping that by relocating the rattlesnakes to a secure site where they can survive the winter in a suitable den, they will bond with their new home and return there for hibernation in subsequent years. As well, any rattlesnakes born at the new site should recognize it as their home.

Based on habitat, topographical, and security features, a site was chosen in a Lethbridge park away from development and high impact recreational use but where interaction with the Popson Park group of rattlesnakes would be likely and possible. In May of 2001, we constructed a hibernaculum at the chosen site, complete with a birthing area (crèche). The winter chamber of the den is located about two meters below the soil surface and is serviced by an eight foot tunnel leading from an outer chamber which in turn provides security and thermal characteristics for sun basking snakes. A probe was placed in the winter chamber to allow temperature monitoring during cold weather. A 40 m perimeter fence was installed around the den to contain relocated rattlesnakes.

During the spring and summer of 2001, in response to calls mainly from the Paradise Canyon area of southwest Lethbridge, we captured and relocated 18 problem and "at risk" rattlesnakes to the newly constructed den site. Rattlesnakes were fed and watered regularly throughout the summer. No live animals were fed to the rattlesnakes, only carcasses. In the spring, I fed road-killed and trapped juvenile ground squirrels. The Lethbridge Country Club provided the trapped squirrels and a Lethbridge resident provided a number of trapped mice. When the ground squirrel supply ran out, the vivarium at the Lethbridge Research Station supplied us with non-toxic dead lab mice. Feeding dead prey did not seem to be a problem; at least some rattlesnakes were feeding on a regular basis and seemed to prefer the smaller prey to the larger ground squirrels.

So far, the project is going very well. Rattlesnakes are feeding, we witnessed mating activity on several occasions, and we had at least one clutch of neonates born at the birthing area. We suffered one set back over the summer; someone crawled into the pen and killed one or more rattlesnakes. Since then, we have installed a chain link fence with a locked gate to provide additional security.

Besides biological success, we have been successful at enlisting the cooperation of affected groups, jurisdictions, and individuals and our efforts at education seem to be paying off. The ultimate and only real measure of success however, will be if the rattlesnakes migrate back to their new home in

the autumn of 2002 after completing their annual migration to forage and breed.

(Reg Ernst is a natural resource ecologist and past director of the AWA who works in Lethbridge).



Entrance to constructed den



Pen built to keep snakes from escaping



Rattlesnakes

Ecology and Behavior of Bighorn Sheep in the Sheep River Drainage

By Marco Festa-Bianchet

In 1978, several bighorn sheep in the Sheep River Wildlife Sanctuary died of pneumonia. Bill Wishart, head of the Research section of Alberta Fish & Wildlife, suggested that the die-off may have been due to lungworm infection in sheep that no longer migrated to alpine ranges in summer. In 1981, I got a 4-month contract to investigate this problem. I thought it would be a one-summer deal. More than 20 years later, I am still studying bighorns at Sheep River.

After working for the Alberta government, I continued as a Ph.D. student at the University of Calgary, then as a postdoc at the University of Cambridge, and since 1990 as a professor in Sherbrooke.




Large mammals have a long life expectancy and their survival and reproduction can vary widely across age classes. Year-to-year changes in predation, disease, weather and population density can affect population growth. Therefore, only long-term studies can tackle important questions about the ecology of large mammals such as bighorn sheep.

The Sheep River study is based on monitoring individually marked sheep from birth to death: some ewes have been monitored for 18 years. Over 650 bighorns have been marked during this study.

The idea that the timing of seasonal migration affected lungworm infection turned out to be incorrect, as did the claim that lungworms caused pneumonia. The Sheep River research project did reveal, however, that the timing of parturition affected a lamb's chance of surviving, that a lamb's sex affected the lungworm larval count of its mother, that male lambs are costlier to raise than female lambs, that parturient ewes move to the alpine range to avoid predation and not to find better forage, and that cougar predation has a major but unpredictable effect on bighorn populations: Ian Ross and Marty Jalkotzy found that only a few individual cougars specialize in hunting bighorns.

Work by Jack Hogg combining behavioral observations and DNA analyses showed that young rams successfully father several lambs by eluding mature rams that try to defend estrous ewes. Kathreen Ruckstuhl discovered that rams and ewes form separate groups because they have different time budgets: the length of active and ruminating bouts is very different according to sex. Fanie Pelletier is now studying the effects of lungworm infection on ram behavior. The Sheep River study has become part of an international network of long-term study areas of marked ungulates, including bighorns at Ram Mountain, mountain goats at Caw Ridge, and ibex, chamois and roe deer in France and Italy. Not bad for a 4-months contract.

The Sheep River Wildlife Sanctuary is the winter range of the resident bighorn sheep herd, but is also visited over the course of a year by sheep from other herds. Rams tagged here have been seen from Plateau Mountain to Highwood Pass to the Evan-Thomas drainage. Therefore its protection is key to the conservation of bighorn sheep over a very large area.

Over the past 20 years the area has suffered considerable abuse from road construction, overgrazing by cattle, increasing recreational use and the threat of hydrocarbon exploration. It is now a Provincial Park and its medium-term future appears relatively secure. Alberta Fish & Wildlife deserves credit for a winter road closure, exclusion of cattle from a small key area of the winter range and the closure of the area east of the Sanctuary to sheep hunting, following a number of sorry episodes where "hunters" shot large rams after an easy stroll. The lambs born in 2001 are being tagged, free-ranging sheep are now weighed with electronic platform scales, and the study is set to continue for a good many years. 

Visit <http://callisto.si.usherb.ca:8080/caprinae/marco.htm> for more information.

(Marco Festa-Bianchet is a professor at the Département de biologie, Université de Sherbrooke, Sherbrooke, Québec, J1K 2R1)



The Long-term Study of Mountain Goats at Caw Ridge, Alberta

By:

Steeve D. Côté, *Université Laval, Qué.*,
Marco Festa-Bianchet, *Université de Sherbrooke, Qué.*
Kirby Smith, *Alberta Fish & Wildlife*

Mountain goats were extirpated from much of their range in southern Alberta during the past century, and their numbers declined in the 1980's. Caw Ridge has been the site of a long-term study of mountain goat ecology since 1989. Caw Ridge is about 25 km NW of Grande Cache and its goat population is the largest in Alberta. Its fragile alpine vegetation is similar to that found in the Arctic and the ridge is on the route used by the largest of Alberta's two migratory herds of woodland caribou.

Mountain goats have not been hunted on Caw Ridge since 1969. In September 2001 the population included 120 individuals, of which 92 were marked. Since the beginning of the study, 277 goats have been captured, marked and released. Our research, based on long-term monitoring of marked individuals, aims to measure variation in individual reproductive success, document variation in survival and population sex-age structure among years, assess genetic variability and the impact of inbreeding on survival and reproductive success and identify the factors that affect population size and that are therefore important for management. Caw Ridge is the only long-term, intensive study of marked mountain goats that has ever been conducted anywhere.

Female goats can live up to 15-16 years and may maximize lifetime reproductive success by limiting reproductive effort in any one year so as not to compromise their survival. Our research suggests that the offspring of a few older females may account for most of the recruitment to the population. Kid sex ratio is increasingly male-biased as females age, so that females older than 10 years produce 75% of the males in the population. Therefore, if hunters select those goats with the longest horns

within a nursery herd, they may remove the older females that are the most productive individuals. In that case, even a very light level of harvest could have profound effects on a population, possibly explaining why mountain goats in Alberta appear to be highly sensitive to hunting.

One difficulty in managing mountain goats is that inexperienced hunters cannot readily distinguish the sexes in the field, so it is difficult to direct the harvest to males. Our results show that males are in very short supply even in unhunted populations, because of high rates of emigration and natural mortality. There are usually less than half as many adult males as adult females.

Results from Caw Ridge provide the only scientific reference for the Alberta Fish and Wildlife Division to manage mountain goats throughout the province. Long-term studies can unravel the mechanisms of population regulation and are the best tool to understand temporal variations in population num-



Capturing mountain goats on Caw Ridge in June 2001 (from left to right : Y. Gendreau, S.D. Côté and S. Hamel)

bers in large mammals. Four students from the Université de Sherbrooke have completed graduate degrees as part of the Caw Ridge study. Two students are currently working on Caw Ridge. Y. Gendreau is interested in post-weaning maternal investment strategies while S. Hamel is studying differences in the foraging behavior of lactating and non-lactating females.

Until 2000, Caw Ridge was threatened by coal mining, and helicopter harassment associated with oil and gas exploration has been a recurring problem. While the ridge itself now appears reasonably secure over the short term, increasing resource exploration activities pose a long-term threat to the habitat of many species in this part of Alberta. ❧



C. Lacy
© Charles Lacy

ASSOCIATION NEWS



Summer Events End on A Successful Note

By Nigel Douglas

This is the transition period for the Open House program, where the summer's hikers hang up their boots, and attention turns to the fall season of talks. Bob Blaxley's Whaleback hike was once again extremely popular, and could have been filled several times over: the lucky few hikers enjoyed it immensely, and were treated to a real birds-of-prey bonanza.

AWA displays were held at various venues throughout August and September, including Calgary's Mountain Equipment Coop, Stephen Avenue Mall, and the Millarville Farmers' Market. The latter in particular was a great venue, with an enthusiastic band of AWA volunteers talking to loads of people from one of the Kananaskis 'Gateway Communities'. Kananaskis, and particularly the G8 Summit, continues to be a hot topic. ✍



Display at Mountain Equipment Coop, August 2001

Kananaskis Awareness Month

By Joleen Timko and Nigel Douglas

Our Kananaskis Awareness Month has proven to be a success! Although we had to cancel the hike to Plateau Mountain Ecological Reserve due to the extreme fire hazard, our interpretive bus tour through the Kananaskis was terrific! 22 people from a diversity of age groups and cultural backgrounds attended. Dr. Peter Sherrington was our guide, and he covered an enormous variety of topics, including First Nations history, European settlements in the region, geology, hydrology, botany, ecology, ornithology, entomology, tourism and recreation, with these topics being explored in the local political and socio-economic contexts. It was a superb learning experience, and I think everyone came away from the trip with both a renewed appreciation for living next to such a beautiful wildland, and an awareness of how careful we must be to balance our need for non-renewable energy sources with the protection of wildlands and watersheds. A great big thank-you to Peter for sharing so much knowledge and wisdom with us. Another thank-you to Longview Beef Jerky (#558-3960) for supplying all participants with a complimentary piece of their famous beef jerky! The month finished with a hike to Picklejar Lakes with Vivian Pharis, and the beautiful weather and stunning fall colors made for a spectacular day. ✍

Enthusiastic Teachers in Training Talk to Students about our Watersheds

By Nigel Douglas

The AWA's 'Masters of Teaching' program, in conjunction with the University of Calgary, started up for its third year. In previous years, groups of trainee teachers have spent time with the AWA learning about endangered species. This year we've been teaching them about Alberta's watersheds, and now they will be heading off to a number of schools throughout Calgary and the surrounding area, giving presentations on watersheds.

This is a crucial subject, which tends not to get a great deal of attention here. The cities of Vancouver and Victoria for instance, and even New York, have bought up the watersheds that supply their own cities. In Calgary we seem intent on selling off our watersheds to the highest bidder! We hope that the students will talk to at least 1500 children this fall, so hopefully this is where future environmental awareness will begin to take root. ✍

Sour Gas and Public Safety

Richard Secord's talk on sour gas and public safety on September 11 attracted a diverse group of people, from those directly affected by sour gas operations to representatives from Residents for Responsible Energy Development (RED), the Calgary Health Authority and the EUB. Richard is an AWA director and a lawyer who has been helping people who have been affected by the harmful effects of sour gas. He discussed the effects of sour gas on human health at different concentrations. He noted that scientific studies have been distressing, reassuring or inconclusive, providing unclear guidance.

Much of the focus of regulators has been on the safety issues surrounding the actual drilling of a well. However, since the Lodgepole blowout, companies have been able to drill wells with an excellent safety record. "The public should have a fairly high degree of assurance that wells will not blow out," said Richard. "The area that continues to be of concern to me and my clients is the process after the well is drilled - venting, flaring, getting the well going, fugitive emissions, leaks" and so on. More focus, he suggested, should be placed on the hazard and risk of continued operation of wells once they are in place. Landowners also need to be more proactive in getting evidence and collecting data. ✍



© Charles Lacy

Profile: Charles Lacy, Wildlife Artist

By Andy Marshall

A deep love for the sheer beauty of large mammals and their habitat has long been the inspiration behind the work of Alberta artist Charles Lacy. But, at 67, he senses a newer and more poignant motivation to pursue the art that has occupied him full-time for thirty years: If true wild-land habitat continues to decline at the current rate, it will become increasingly difficult to experience first-hand the majesty of these animals.



Charles Lacy on Sawdust in the Upper Wildhay River area in the Willmore Wilderness

"I hope that my art can preserve for others those things that have given me so much pleasure, and also help to save the wild places and animals from further depletion," says the soft-spoken Lacy from his 1,600-square-foot log cabin and 320-acre retreat west of Edson. He lives there with his wife of 37 years, Marjorie. "I have to record what there is, while it's still here."

A member of the Alberta Wilderness Association since the early 1970s and a former AWA representative on the provincial Fish and Wildlife Advisory Council, Lacy views with sadness the takeover of much of Alberta's wild land by energy and logging interests. "It's pretty depressing," he sighs.

Born and raised in South Dakota, Lacy was immersed at an early age in the joys of hunting, fishing and conservation. He recalls pheasant shoots as a young boy with his mother. He also remembers an early urge to sketch the waterfowl and animals that abounded where he lived. This fascination with wildlife led to a bachelor and masters in biology and wildlife management and, later, a career in conservation.


At age 27, he became provincial biologist for Ducks Unlimited in Manitoba, where he met Marjorie. They later moved to Edmonton where he held a similar position for Alberta Ducks Unlimited. He eventually tired of all the travelling and the desk-bound responsibilities, and, in 1971, with his wife working as a teacher, Lacy turned his long-time hobby into a full-time

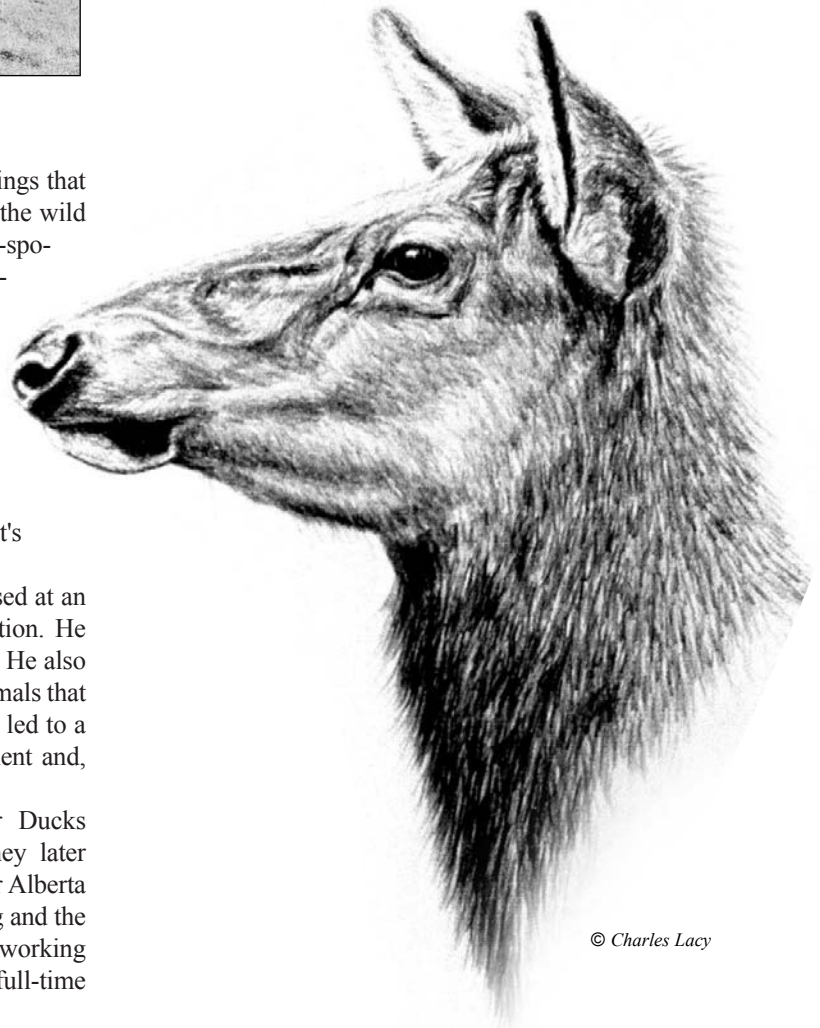
occupation. They moved to their current location and self-built log home in 1978.

During their early days in Alberta during the 1960s, "it was a hunter's paradise, a golden age." But, with pipelines now crisscrossing his property and an oil well just 200 metres from the house, "we've seen things deteriorate." He may yet bag a white tail this fall, but his appetite for hunting is giving way to shooting slides -- he has 10,000 of them -- as material for his paintings.

While the reproductions featured in this Advocate are a sample of pencil drawings done around 1993, Lacy works mostly in oils. He describes his art as somewhat impressionistic, using light to create form and mood rather than detailing every hair.

By advertising in hunting and guiding magazines, as opposed to gallery displays, Lacy has sold his paintings throughout North America. During his career he has won several contracts to do illustrations for various governments. Among other honours, he has been a regular invited contributor to the prestigious Algonquin Museum annual wildlife art shows since 1996. Strong influences include the work of U.S. painter Robert Lougheed, with whom he has spent several weeks, and Winnipeg artist Clarence Tilenius.

Not surprisingly, Lacy relishes the fall. "That's when the animals and the landscape are at their best," he says. 



© Charles Lacy

UPCOMING EVENTS

Open House Program

Calgary:

Location: 455 - 12 St NW
Time: 7:00 - 9:00 pm
Cost: \$4.00 per person, children free
Contact: 283-2025 for reservations

Nov. 7, 2001

An Evening with Andrew Nikiforuk
presenting his new book "Saboteurs - Weibo Ludwig's War on Big Oil"

December 4, 2001

Flight of the Golden Eagle

The Big Picture Emerges with Peter Sherrington

Edmonton

Location: Strathcona Community League,
10139 87 Ave
Time: 7:00 - 9:00 pm
Cost: \$4.00 per person, children free
Contact: 988-5487 for reservations
Note: *VOLUNTEERS NEEDED!*

Nov. 20, 2001

An Evening with Andrew Nikiforuk
presenting his new book "Saboteurs - Weibo Ludwig's War on Big Oil"

Other Organizations

Calgary Field Naturalists' Society Annual Banquet

With guest speaker Ben Gadd

Location: The Barracks, Fort Calgary
750-9th Ave. SE.
Time: *No host reception* 5:30 to 7:30 pm
Dinner 7:00 to 8:30 pm
(*guests welcome*)
Speaker 8:30 pm

Ben will speak on 'Conservation - from Chaucer to Smokey the Bear' and will also read from his recent novel, Raven's End. Ben is a well-known Alberta author, naturalist and recognized authority on the Rocky Mountains.

Cost: \$30.00 per person
Tickets available until Oct. 24
Contact: Ray Huene at 282-7826
or email rayhuene@home.com

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awa.wrc@home.com
www.AlbertaWilderness.ca

November 2, 2001

Alberta Wilderness Trust Annual Lecture

with **Dr. David Schindler**

THE COMBINED EFFECTS OF CLIMATE WARMING AND OTHER HUMAN ACTIVITIES ON FRESHWATERS AND WETLANDS OF WESTERN CANADA

Join Dr. David Schindler for a look at the future of Alberta's freshwaters and wetlands and what we can do to protect them.

Dr. Schindler is the Killam Memorial Professor of Ecology at the University of Alberta. For over 30 years he has engaged in interdisciplinary research in Canada's boreal and Rocky Mountain ecosystems.

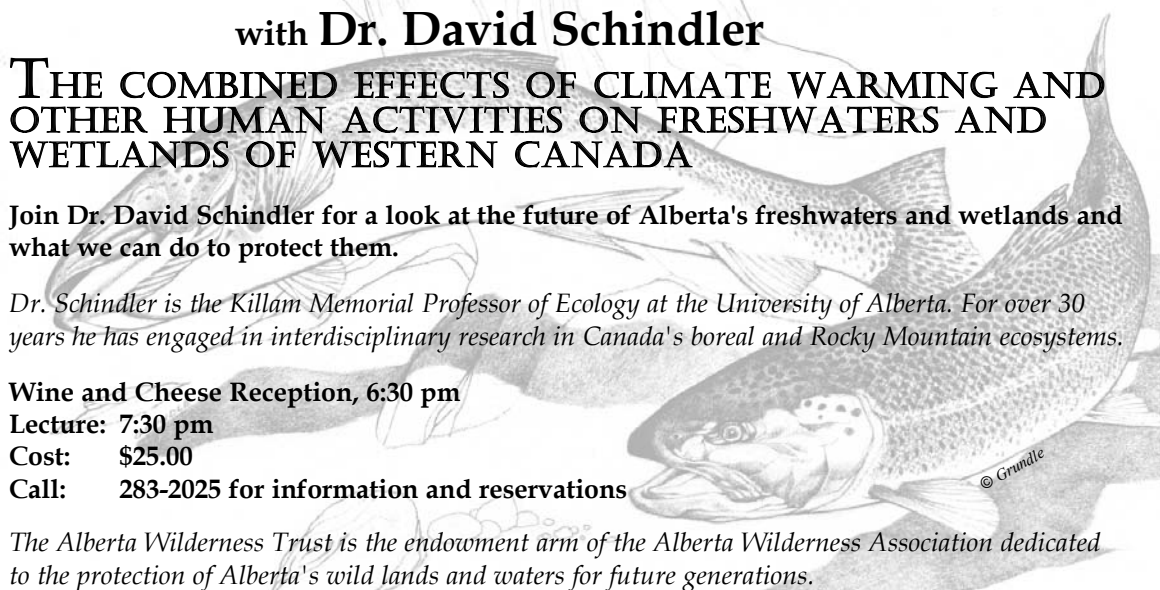
Wine and Cheese Reception, 6:30 pm

Lecture: 7:30 pm

Cost: \$25.00

Call: 283-2025 for information and reservations

The Alberta Wilderness Trust is the endowment arm of the Alberta Wilderness Association dedicated to the protection of Alberta's wild lands and waters for future generations.



SUPPORT ALBERTA WILDERNESS

"Our quality of life, our health, and a healthy economy are totally dependent on Earth's biological diversity. We cannot replicate natural ecosystems. Protected areas are internationally recognized as the most efficient way to maintain biological diversity" - **Richard Thomas**

The Alberta Wilderness Association (AWA) is dedicated to protecting wildlands, wildlife and wild waters throughout Alberta. Your valued contribution will assist with all areas of the AWA's work. We offer the following categories for your donation. The Provincial Office of the AWA hosts wall plaques recognizing donors in the "Defender" or greater category. Please support Alberta's wilderness by supporting the conservation work of the AWA.

| Alberta Wilderness Association | |
|--|-----------------|
| <input type="checkbox"/> Sponsor | \$25 |
| <input type="checkbox"/> Supporter | \$50 |
| <input type="checkbox"/> Defender | \$100 |
| <input type="checkbox"/> Associate | \$250 |
| <input type="checkbox"/> Sustainer | \$500 |
| <input type="checkbox"/> Philanthropist | \$1000 |
| <input type="checkbox"/> Wilderness Circle | \$2500 - \$5000 |

| Alberta Wilderness Resource Centre | |
|---|--------|
| <input type="checkbox"/> Friend | \$100 |
| <input type="checkbox"/> Partner | \$500 |
| <input type="checkbox"/> Benefactor | \$1000 |
| <input type="checkbox"/> Patron - greater than \$1000 | |



Wild Lands Advocate Journal

☐ Research and Investigative Reporting, Publication and Distribution \$ _____

Alberta Wilderness Trust - an endowment fund established with The Calgary Foundation to support the long-term sustainability of the Alberta Wilderness Association. For further details, please contact our Calgary office (403) 283-2025.

The AWA is a federally registered charity and functions through member and donor support. Tax-deductible donations may be made to the Association at:

Box 6398 Station D, Calgary, AB T2P 2E1. Telephone (403) 283-2025 Fax (403) 270-2743 E-mail a.w.a@home.com Website <http://www.AlbertaWilderness.ca>

☐ Cheque ☐ Visa ☐ M/C

☐ I wish to donate monthly by automatic withdrawal from my bank account.

I have enclosed a void cheque for processing. Amount \$ _____

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E-mail: _____ Signature _____

Notice of Annual General Meeting

November 17, 2001

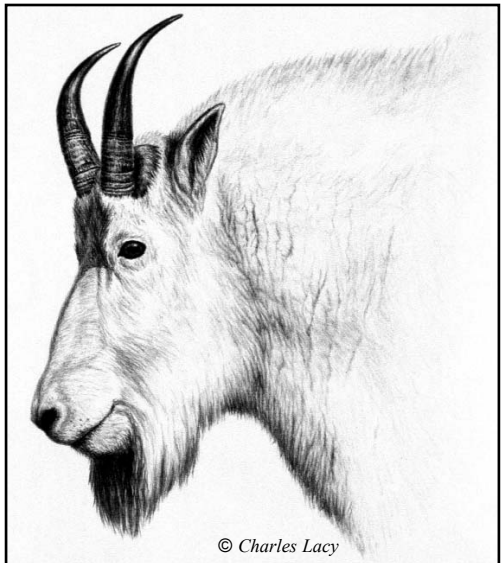
The Annual General Meeting of the Alberta Wilderness Association and the Alberta Wilderness Institute will be held in Edmonton.

Date: November 17, 2001

Time: 1:00 pm

Please call the office for further details (403) 283-2025.

All members are welcome to attend.



The Alberta Wilderness Association

Box 6398, Station D
Calgary, Alberta T2P 2E1

