The official publication of Alberta Conservation Association

CONSERVATION

The Grizzly Truth

UNCOVERING THE FACTS

Millicent

A Southern Conservation Site Getaway

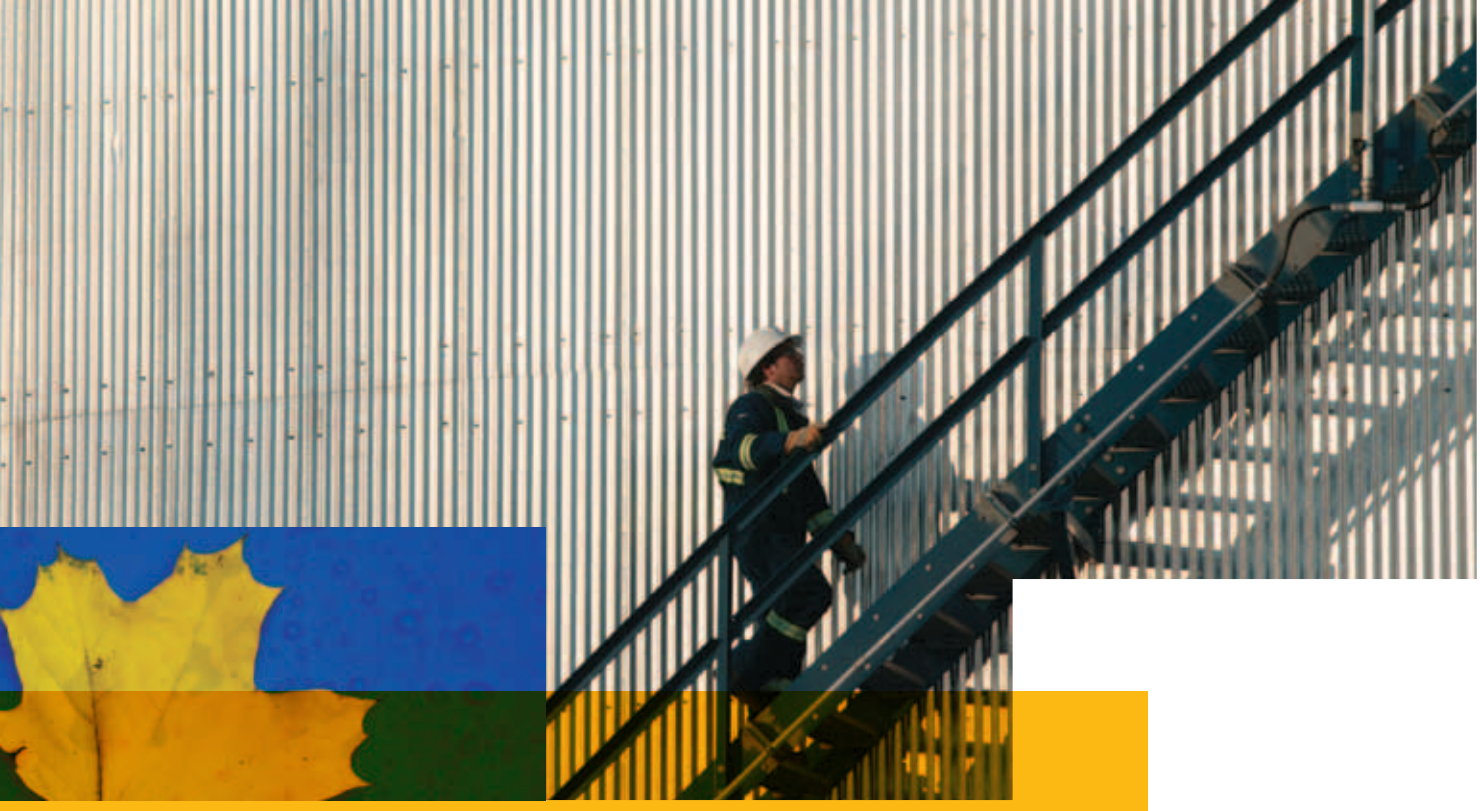
The Biggest Gainer

Fall Feeding Frenzy in Bears

Out of the Ashes

How Fires Transform our Forests

FALL/WINTER 2010 www.ab-conservation.com



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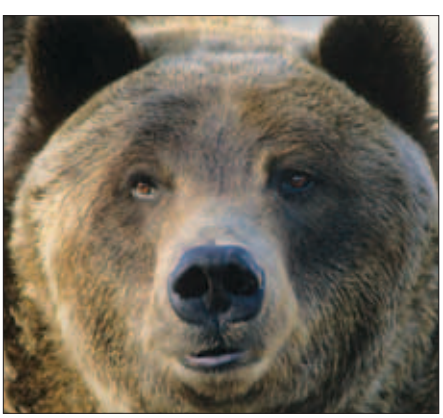

On the Cover

"In early autumn, grizzly bears are often in their best physical condition. This bear was photographed by the roadside in Jasper National Park along the Icefield Parkway in mid-September. Most bears in Alberta enter their winter dens within four to six weeks of that time."

Camera: Nikon F5 with a 500mm lens
Dr. Wayne Lynch

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From the Editor

A balanced approach.

That was the direction given to the writer for *The Grizzly Truth: Uncovering the Facts*. After endless conversations with scientists, conservationists and stakeholders about the designation of the grizzly bear as *Threatened*, we had mountains of data, varying opinions and emotions to distill, so we could present you with an honest and accurate look at the situation surrounding Alberta's most-talked-about species.

In this issue we examine the status of the grizzly bear without dwelling on the overwhelming statistics. Our hope is to invoke discussions, inspire further reading and even greater – motivate change. The truth is that the *Threatened* designation doesn't change anything for this majestic giant until we address land use and access challenges.

Alberta's total population as of April 1, 2010 was estimated to be 3,724,832, with an estimated population growth of between 4.7 to 7.6 million by 2050. Alberta's wild species and spaces are getting crowded out as demands for more communities, roads, seismic lines, malls and urban sprawl ensue. To put it into perspective, a grizzly bear requires up to 4,500 square kilometres of habitat, which is equivalent to a little less than half of the size of Jasper National Park, or 6.7 times the size of the City of Edmonton. Alberta is 661,185 square kilometres.

Albertans have some hard choices to make. Are you willing to alter your behaviour to aid in the recovery of the grizzly bear? We'd love to find out. **Take the Grizzly Truth survey at www.ab-conservation.com.** Survey results are live, so it's the perfect opportunity to show the world who we are. Take a look at this photo of my nephews, Thomas and Lucas, and when you take the survey think of your own children or grandchildren…our future generations.

And while this focus on the grizzly bear is timely, there are other species that we need to be concerned about too. Woodland caribou, bull trout and northern leopard frog are all facing similar access and development issues.

Hearing a moose call or witnessing its warm breath hang in the crisp autumn air, watching ducks fly in V formation during the spring and fall migration, or catching that extraordinary glimpse of a grizzly bear...these are wonders to respect, conserve and treasure.

— *Editor-in-Chief, Lisa Monsees*

Population data courtesy of the Government of Alberta Finance and Enterprise.

Letters to the Editor: Address letters to *Conservation Magazine* Editor by e-mail, fax or mail. Include your name, address and daytime telephone number. Letters may be edited for clarity and length.

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Annually, ACA directs more than $10 million towards conservation efforts, delivering a wide variety of projects and services across the province that include Wildlife, Fisheries, Land Management and Communications programs. By donating and securing land for conservation, our donors and partners work with us to create lasting legacies. Our initiatives, scientific studies and passion for conservation help conserve wildlife, fish and habitats for all Albertans to enjoy.

We are lucky to live and work in such a precious place, surrounded by natural beauty and untamed character. Take advantage: be sure to enjoy some of the 250,000 acres of Conservation Sites and explore Alberta's great outdoors as much as you can. The breadth and beauty of our wild side is all around – let's work together to make sure it stays that way.

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Out of the Ashes...

How Fires Transform our Forests

by Shevenell Webb, ACA

photo: Shevenell Webb

"We forget fires are a natural process."

The blanket of ash finally settles, choking the charred pine trees and lifeless vegetation that still stand. Cloaking the highway, the blackness is a constant and sad reminder of the burn.

But within the seemingly bleak depths of the forest, a different story is unfolding. Within weeks, dazzling green grass shoots push through the blistered earth. Two months later, waist-high aspen saplings and abundant wildflowers are competing for space. The black wasteland begins to transform, with beautiful purple aster, pink fireweed, red paintbrush, bright green buffaloberry shrubs, aspen shoots, and grasses splashing across the forest floor. The lush and nutritious vegetation beckon wildlife; elk, bear, sheep, deer, woodpeckers, yellow-rumped warblers and bluebirds soon infiltrate the changing landscape.

Snuff it Out

Think of a forest fire: wild and glowing orange flames, impenetrable black smoke and widespread destruction. We learn at a young age that fire is bad, should be prevented at all costs, and must always be extinguished. And while it's true forest fires destroy our valuables – like property and timber resources – we forget they are a natural process. The speedy response of vegetation shows that fires do not destroy the land, but rather enhance the ecosystem and its overall diversity. We have been so consumed with putting out fires that we haven't considered the long-term consequences of widespread fire prevention, the ecological role of fire, and that fire is essentially a tool that can restore forests in some circumstances.

Lodgepole pine cone.
photo: Shevenell Webb

The Fire Chronicles

Aboriginals and early settlers did just that – using fire to clear land to improve habitat for wildlife or grazing conditions for domestic livestock. In turn, big game populations flourished and hunting opportunities improved. Frequent fires, ignited by people or lightening strikes, maintained many forests in western North America because they were more frequent and lower in intensity, sustaining a forest overstory with an open and grassy understory. These fires controlled the amount of leaf litter and woody debris on the forest floor, while the open forest stands allowed light to penetrate the rich, dark soil, creating a fertile ground for grasses, flowers, and shrubs to grow. The abundance of high quality nutrition attracted a diversity of wildlife, ultimately providing an important source of food for the people.

Fire and Flora

Because of the historic fire regime, most plants and animals are adapted to fire in the western forests. Lodgepole pines need intense heat from fire or sunlight to melt the sticky resin on pine cones in order to release the seeds. The burnt fertile ground below the pines allows the seeds to initiate and regenerate quickly in the open understory with little competition. Aspen trees have a different strategy for dealing with fire by spreading out their roots. Individual aspen trees may live for only 40-150 years, but a stand of aspen trees are considered clones since they are all connected by a massive root system that can live for thousands of years – so while a fire may kill many aspen trees in a stand, the root system will remain perfectly intact. After a fire, aspen roots send up new tree shoots called "suckers." Young aspen trees flourish and can grow waist high within a few months of the burn.

photo: Liz Saunders

photo: Gordon Court

A Fresh Menu

What happens to animals who call the forests home during a fire? Most small rodents burrow underground while more mobile animals move out of the area. Some animals are displaced and have to find a new territory because habitat conditions are no longer suitable.

But ultimately, a greater diversity of wildlife thrives in an area after a blaze for one important reason: the smorgasbord of food. Elk, moose, sheep, and rabbits enjoy the saplings, shrubs, and forbs. Bears benefit from the rapid growth of grasses and berry crops. Woodpeckers are the poster child for fire because they depend on the bark beetles that live in the dying trees immediately after a burn – and some, like the black-backed woodpecker, are thought to be so specialized that they travel long distances from one recent burn to another in search of food.

When ground cover is maintained, small mammal populations multiply, while curious predators investigate the recently burned areas. The subsequent increase in big game populations benefits predators and hunters alike.

A Spark in the Strategy

Despite the benefits, we've learned the hard way: a century of fire suppression can have life-changing consequences. Fuel loads build and build, creating ripe conditions for a devastating wildfire that may be hard to stop. Now that we're recognizing the devastating effects, the message about forest fires is beginning to change – even Smokey Bear and Bertie Beaver are helping spread the word that not all fire is bad. In some cases, fire is the best tool to restore ecosystem processes and prevent catastrophic wildfires in the future. Fire scientists spend years carefully planning a prescribed burn to minimize negative outcomes. This requires in-depth research to determine historic fire history, topography, fuel types, fire behaviour potential, values at risk and weather patterns, as well as ground work to determine effective fuel or fire breaks.

image courtesy: ASRD

Smokey Bear & Bertie Beaver

North American fire prevention campaigns using adorable wildlife creatures like Smokey Bear and Bertie Beaver have been very successful. Smokey recently celebrated his 65th birthday, while Bertie turned 62. There was even a "real-life version" of Smokey when an American black bear was caught in a wildfire in 1950. The cub had climbed a tree to escape the blaze, but his paws and hind legs had been burned. He was rescued and treated, named Smokey, and moved to the National Zoo in Washington, D.C., where he lived for 26 years.

photo: Liz Saunders

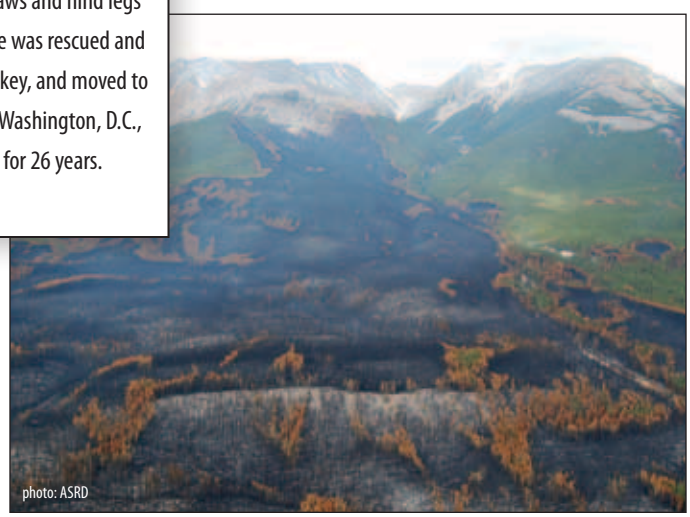

photo: ASRD

photo: ASRD

The primary goals of the prescribed burn were to improve forest health and wildlife habitat, reduce the chance of out-of-control wildfire, and help manage the spread of the mountain pine beetle.

Burn after Planning

The Upper Saskatchewan Unit 1 Prescribed Burn is a perfect example – planned and implemented in the Clearwater Forest District by Alberta Sustainable Resource Development (ASRD) and Parks Canada. The proposed burn overlapped the Bighorn Backcountry and Banff National Park, an area with little natural openings, few roads, limited development, and restricted motorized vehicle access. Forests in this area were old, with the landscape lacking heterogeneity and diversity. Fire was the most effective tool to restore this rugged and remote ecosystem.

The primary goals of the prescribed burn were to improve forest health and wildlife habitat, reduce the chance of out-of-control wildfire, and help manage the spread of the mountain pine beetle. This prescribed burn took years of planning and patience for the perfect conditions – light winds, low moisture, and warm weather. Finally in May 2009, the weather conditions cooperated and fire crews ignited the burn near Whirlpool Point using torches hung from helicopters. The fire was set ablaze section by section, gradually spreading westward towards Banff National Park.

Fire crews carefully monitored the progress of the burn and put out any hot spots that may have meandered from the targeted burn area. In some places, the fire burned throughout the summer until it was extinguished by rain. By the end, approximately 5,700 hectares (14,085 acres) of forest was burned, creating a mosaic of scorched and unburned patches. This large controlled burn was a spectacular show that was symbolic of so much – most important, forest restoration that would improve future plant and animal diversity.

Alberta Conservation Association (ACA) works with partners, like ASRD, to plan and implement burns in areas that benefit wildlife habitat, like it has in the Upper Saskatchewan. Our Ungulate Winter Range Restoration program helps identify areas with high wildlife value based on ecoregion, topography, soils and low human disturbance. Biologists monitor plots before and after to determine exactly how a burn impacts plants and wildlife, and it's clear integrating fire as a management tool restores the health of the forest. From the dead ash comes the flurry of life – and a chance for the forest to flourish again.

Blazes Ahead

As fires across the province continue to burn, it looks as if 2010 will bring a record amount of forest fires in Alberta. So far this year, there have been almost 1,600 fires – a mere 400 fires away from reaching our record number of 1,954 in 2006.

Beetle Juice

Using prescribed fire to control the spread of the mountain pine beetle in Alberta.

This tiny killer is responsible for the deadly destruction of *all* species of pine across our forests. Left alone, the beetles could devastate Alberta's pine forests and spread eastward across Canada's boreal region. When populations are small, the beetles prefer stressed mature and overmature (80+ years) pine trees, but as populations grow, any tree over 12.5 cm in diameter can be killed – even healthy trees. With prescribed fire, Alberta is encouraging a more natural diversity of tree ages that is more resilient to threats from destructive insects, disease and wildfire.

photo: ASRD

Learn About the Burn

Get up close and personal with a hike through the Fire Trail.

How do you begin to recognize the differences between wildfire and prescribed fire? Because of the confusion and the relatively new introduction of fire as a tool for forest management, the Upper Saskatchewan burn created a perfect opportunity for people to see for themselves an area recently impacted by fire and the changes in the forest through time. A new trail through the burn is accessible from the highway and provides a good example of how the fire burned in different forest stand types.

ACA partnered with ASRD to create an interpretive trail about fire ecology. The Fire Trail has two loops: an easy 400 metre stroll through a grassy, aspen forest and a two kilometre roundtrip hike deeper into the burn. Several colourful signs guide visitors and provide information about how and why the area was burned, the effects on plants and animals, fire history, and the relationship between people and fire. The Fire Trail is a perfect place for families, school groups, or sight-seeing tourists. Take photos and come back again to witness the changes in the forest.

The Fire Trail represents a shift in our thinking about forest management and the natural role of fire. In many cases, other disturbances replace the role of fire, but in some areas, prescribed fire is the best tool to restore and maintain a healthy forest ecosystem. While there are many benefits of prescribed fire, it's essential that people remain cautious about fire and leave it to the professionals. Visit the Fire Trail to learn more about fire ecology and experience for yourself the forest springing back to life. ■

Funding for this project was made possible by: Alberta Conservation Association, Alberta Sustainable Resource Development, TD Friends of the Environment Foundation, Mountain Equipment Co-op, and Alberta Sport, Recreation, Parks and Wildlife Foundation.

photo: Shevenell Webb

Landslide Lake
Interpretive Fire Trail
Government of Alberta


photo: Liz Saunders


photo: Shevenell Webb

photo: Liz Saunders

Discover adventure on the trail throughout the seasons

The Fire Trail is located approximately 170 kilometres from Rocky Mountain House on Highway 11.

WINTER: Explore why wildlife like to spend winter in this valley; little snow makes this trail accessible year-round and animal tracks provide clues to who is using the area.

SUMMER: Don't miss the vibrant wildflowers in bloom.

FALL: With the heat and bugs gone after the summer, enjoy the crisp fall air and the golden aspen stands.

Recommended gear for the 2 km RT loop include: bear spray, sneakers or boots, water, sunscreen, bug spray and camera.

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The Grizzly Truth

Uncovering the Facts

by Nicole Nickel-Lane

The recent news that Alberta's grizzly bear population had been designated as *Threatened* came as a shock to most, a relief to others and a challenge for some to accept. This bear-sized issue has brought many divergent interests and beliefs to the fore, both within the conservation and outdoor recreation community and elsewhere. Yet it has also served to bring together stakeholders from industry, academia, agriculture, as well as the wildlife and conservation sectors, all with the united interest of ensuring the future of the grizzly in Alberta.

The population numbers and wildlife management issues outlined in the Grizzly Bear Status Report unleashed a storm of media coverage upon its release in the spring of 2010. From Vancouver to Toronto, media stories focused on human-caused grizzly deaths such as hunting and train collisions, yet the main point that has yet to be addressed, is stated clearly in the Status Report, "[t]oday, the primary limiting factor for grizzly bears in Alberta is human-caused mortality, associated with expanding road access, habitat loss and alteration." Simply, "Alberta must consider land use changes to save grizzlies."

Whether one accepts the population estimates within the status report or not, it's doubtful anyone can argue two key points:

1. The more grizzlies come in contact with humans, the higher the probability a bear will be killed, one way or the other (vehicle collision, illegal shooting or self-defense).
2. Grizzly bear habitat is shrinking, and the amount of undisturbed wilderness areas in Alberta are dwindling.

The *Threatened* designation is defined in Alberta as "a species likely to become endangered if limiting factors are not reversed." The limiting factors and plans to reverse the decline of the grizzly bear have been researched, documented and ratified. The *grizzly truth* lies in whether we can live up to the task.

According to the Grizzly Bear Status Report, "high road density is the single biggest threat to grizzly bears and their habitat."

photo: Alptraum

691 bears and counting

From a species that used to roam the continent in the tens of thousands for millennia, the grizzly bear has now been extirpated from much of North America, pinched ever farther north and west by human encroachment and development. Now, only Alberta, British Columbia and parts of the Yukon, Northwest Territories, Alaska and northwestern United States are home to remaining grizzly populations.

In 2002, Alberta's Endangered Species Conservation Committee recommended that grizzlies be listed as *Threatened*; however, given a lack of reliable population estimates at the time, the Minister of Sustainable Resource Development did not accept the recommendation. Since then, various citizen and government committees have formed and disbanded in an effort to raise awareness, educate, research and document the status of *Ursus arctos* in Alberta.

The Alberta government commissioned a massive DNA-based grizzly bear population survey in 2004, covering known bear habitat along the eastern slopes from Waterton Lakes National Park in the south to Willmore Wilderness Park in the north. The decision to implement the moratorium on the hunt in 2006 was one precaution the government took while waiting for the much-needed data to determine the status of Alberta's grizzly bear population. The DNA-based study, which took nearly five years to complete and cost $2.4 million, estimated the population of grizzlies within the study area to be 582 individuals. When the estimated number of bears residing outside the study area is included, the Status Report states that there are 691 bears residing in Alberta, excluding most of Banff and Jasper National Parks.

Checks and Balances: Before accepting the population data required to take such decisive (and controversial) actions, Alberta's scientific community along with government officials needed to ensure the count was as accurate as possible. Study methodology and data were therefore subject to review by a third-party and the Scientific Subcommittee of the Endangered Species Conservation Committee, all of whom were ultimately satisfied that 582 bears remained in the areas surveyed using the DNA technique. The DNA data published in the study provide a reliable baseline for populations in those areas, though in order to create accurate population trends for the province more data sets will be required. The government is currently deliberating how to monitor population trends over time.

The Blueprint: The Grizzly Bear Status Report not only formed the basis for the listing, but also highlighted the need for an Alberta Grizzly Bear Recovery Plan, something that biologists had the foresight to complete several years before the grizzly was officially listed as threatened. The Recovery Plan is essentially the blueprint for the protection, recovery and improved management of the species. Together, the Status Report and Recovery Plan clearly define key areas through which to improve grizzly bear population counts: limit access of motorized vehicles into bear habitat, limit and manage attractants, and reduce bear mortality.

A fork in the road

"A road is a road is a road. Except when it's not." – Ted Conover, *The Routes of Man: How Roads are Changing our World and the Way We Live Today*

Roads provide access to remote areas, creating higher levels of human activity, alteration of habitat by humans, and increased hazards of vehicular activity. Where a road may have once led to a now-defunct mining or forestry operation, the road persists; even temporary forestry roads may remain open for as long as five years.

Bears will go out of their way to avoid conflict with humans, even adapting to a lesser quality habitat in order to do so. But they still require sizeable range (of up to 4,500 km^2) in order to provide them with the variety of food sources and quality denning habitat needed to survive.

Biologists have discovered direct correlations between road density (the number of roads per square kilometre) and bear mortality. The reason is simple: more roads bring more people into bear habitat. In Alberta, intensive forestry, mining and hydrocarbon industry activity have created inordinately high numbers of roads leading to operations in remote areas, which, coincidentally, are also located within prime grizzly habitat. According to the Grizzly Bear Status Report, "…in Alberta and elsewhere in Canada high road density is the single greatest threat to grizzly bears and their habitat." The high concentration of roads and subsequent amount of vehicular traffic simply pit man against bear all too frequently, turning quality bear habitat into population sinks.

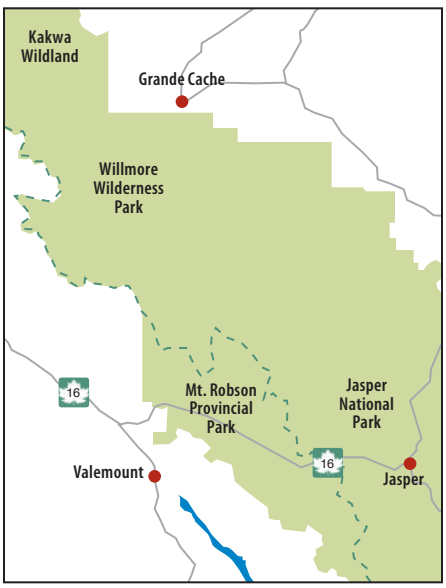
Counting bears: the science behind the study

Rather than physically tagging the bears, biologists painstakingly set up scent lures to attract bears within 7 km by 7 km grids laid across each of the Bear Management Areas surveyed. The scent lures were then surrounded by a single strand of barbed wire. The grizzly hair snagged on the barbed wire was genotyped (DNA fingerprinted) to create a log of the bears present in the area on that capture date. This sampling procedure was repeated four times in different locations within each grid square over a period of two months. The number of new bears in each sample as a proportion to the number of bears originally sampled, allowed biologists to estimate the actual number of bears in the area.

Data matters

Case in point is the Grande Cache Bear Management Unit (BMU). Table 2 in the Status Report shows the estimated number of bears in each of the Bear Management Units (BMUs) that were sampled in the DNA study, identifying the Grande Cache and Castle BMUs as having the highest density of bears in the province at 18.1 bears/1,000 km^2. The Grande Cache BMU has more than half of the total estimated bear population in the province, at 353 individuals. Table 3 of the Status Report provides the estimated mortality rate of bears within each BMU along with the estimated mortality rate that the population can sustain while remaining stable. The Grande Cache BMU stands out, with the lowest mortality rate in the province. In fact, the Status Report information shows that the Grande Cache BMU population may be able to sustain a higher level of bear mortality without negatively impacting the population.

What exactly sets the Grande Cache BMU apart? The area includes the northern part of Jasper National Park and all of Willmore Wilderness Park – the least amount of road access and therefore the least potential for bear-human interaction. The Willmore Wilderness Foundation has been collecting grizzly bear sighting information since 2008, and although the observational data has limitations, it clearly shows a high density of bears in Willmore Wilderness Park, which is in agreement with the data collected for the Status Report.



Fatal attraction

"Bears and garbage go together like junkies and heroin." – Sid Marty, *The Black Grizzly of Whiskey Creek*

"Garbage" for bears is not necessarily limited to remnants of burgers and ice cream cones tossed in dumpsters. Historically, reductions in grizzly bear populations were the result of the expansion of agricultural operations: as farms and ranches spread, bear habitat was reduced while an irresistibly easy source of food was introduced to the neighbourhood, resulting in the inevitable bear-human interaction and a shot bear. Today, even with strict waste management plans in areas with high human traffic (such as national parks), "anthropogenetic attractants" such as bird feeders, livestock and livestock carcasses, game meat, agricultural feed and grains, beehives, orchards, and landfill sites still result in numerous bears being shot (in defense of life or property) or trapped and removed from areas each year.

The old adage "a fed bear is a dead bear" is as true as ever; human-bear conflicts from ill-controlled attractants too often result in fatal retaliation or self-defense against problem bears. Relocation is a measure sometimes applied to these situations, particularly for those bears who are known repeat offenders. While the move to new territory may have spared that bear's life, there is evidence to suggest that approximately 30 percent of relocated bears die following relocation, the result of "unfamiliar and / or poorer quality habitats, […] being killed by resident male bears, and / or continued human / bear conflicts" (Recovery Plan).

We obviously can't keep every orange peel and egg shell safely locked within bear-proof bins, but we can remember to conduct ourselves with caution while in the wilderness, particularly during the fall season while bears are actively scouring their habitat for any additional morsel to help get them through the winter months. While in camp, always store food a safe distance from sleeping quarters and remember that anything with an interesting smell – soap, toothpaste, dirty clothes – can bring a curious bear into your proximity. Keep a clean camp, use electric fencing and store all attractants in bear-proof containers.

A biological problem with a social solution

"These days there are far more grizzly advocates than grizzly bears." – Doug and Andrea Peacock, *In the Presence of Grizzlies*

Sometimes we find our way to the bear (as in the case of increased road access) and sometimes the bear finds its way to us (as with attractants of all kinds). Not all human-bear conflict is fatal. But the vast majority of bear mortality is human-induced, whether illegal or self-defense kills, or accidents with motor vehicles and trains.

Regardless of the species, wildlife management is therefore often more about managing people than wildlife. As the apex species on this planet, we as humans have the ability to exterminate or aid in the recovery of another species. The impending future of any particular species is generally a direct result of the ignorance or education of the general public with respect to that species, and the willingness to make the required changes for recovery. If the general public is oblivious or unwilling to learn, the species in question will ultimately cease to exist. There is reason to be optimistic for grizzlies though – we have witnessed numerous examples of the general public willing to change, recovering species that many predicted would become extinct, such as the trumpeter swan, peregrine falcon and white pelican.

Though primarily rooted in facts and statistics, even the Recovery Plan states that "[s]ocietal considerations are an integral part of grizzly bear recovery, not only because the root cause of grizzly bear mortality is human activity, but because people's views of grizzly bears will ultimately play a large role in determining the success of grizzly bear recovery." Grizzly conservation is not just about biology and habitat; it must necessarily also be about changing people's values and expectations from industry, government and land-use policies. The area is simply too big to fence in and manage from the top down.

The next step

The listing of the grizzly bear as *Threatened* is not about hunting. In fact, *The Alberta Wildlife Act* does not rule out the establishment of a hunting season for a species that is designated *Threatened*. The real issue that will require many difficult choices for Albertans is land use and access management. If we want to maintain or increase grizzly bear populations, we must look at places like Willmore Wilderness Park and ask how many of these places do we want or need? Should we drive our pick-up truck everywhere, or would we be willing to avoid specific areas in the spring and fall, when grizzly densities are highest? Should we limit resource development or have more stringent timing restrictions? These questions are not new, nor do they apply to only grizzly bears. What is new is that we now have an iconic wilderness species listed as *Threatened*, and the world is watching to see what we do next. ■

Grizzly conservation is not just about biology and habitat; it must necessarily also be about changing people's values and expectations from industry, government and land-use policies.

Key recommendations of the Grizzly Bear Recovery Plan

- Reduce human-caused grizzly bear mortality by changing human-use of the landscape
- Determine grizzly bear population size and continue ongoing collection and monitoring of key data
- Create Grizzly Bear Priority Areas in each population unit to protect high quality habitat and reduce risk from humans
- Reduce human/bear conflicts by working with people and managing attractants to minimize adverse bear behaviour
- Develop an education program directed at the general public and target audiences
- Maintain current grizzly bear distribution, track availability of suitable habitat, and enhance habitat where appropriate
- Establish regional grizzly bear recovery implementation teams to address regional issues
- Improve inter-jurisdictional cooperation and grizzly bear data management
- Improve regulations and/or legislation to support recovery actions
- Acquire new funding to support additional government staff
- Involve land users and stakeholders in implementation of the recovery plan

Take *The Grizzly Truth* survey at www.ab-conservation.com.

For further reading or information:

Copies of the Grizzly Bear Status Report and the Grizzly Bear Recovery Plan are available on our website at www.ab-conservation.com.

For an update on what has been accomplished with Grizzly Bear Conservation in Alberta see: www.srd.alberta.ca.

To find out more about the Willmore Wilderness Foundation go to www.willmorewilderness.com. The Foundation is continuing to collect observational data for grizzly bears and is asking people to record information and submit it to grizzly@WillmoreWilderness.com.

photo: Gordon Court

A Study Snapshot

Elk populations in southwestern Alberta

Hunted in five provinces, one territory and more than 20 states south of the border, elk are among the most sought-after big game in North America. Thousands of Albertans pursue elk each year, quickly snapping up hunting licenses, and in turn creating revenue for conservation work conducted by organizations such as Alberta Conservation Association (ACA). With the support they provide to conservation efforts, these hunters, as well as wildlife managers, eco-tourists, and professional outfitters, all have a vested interest in knowing the status of our elk populations to ensure their legacy for future generations.

by Justin A. Pitt, Dale Paton, Marco Musiani and Mark S. Boyce

That's the Question

Our first job is to listen: one of the most common questions we get from fellow hunters is, *where* are all the elk? The question is often posed with the concern that predators may be taking more than their fair share. By working to find the truth, we're on our way to learning how to best support elk and their habitat in Alberta.

The Study

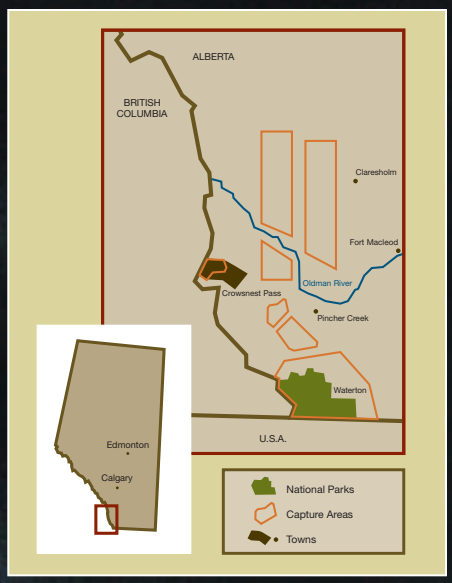
To pinpoint the cause of elk mortality, we monitored radiocollared animals – an accurate and efficient way to identify causes of mortality. We initiated an elk study in southwestern Alberta in 2007, partnering with three universities (University of Alberta, University of Calgary and Oregon State University) and federal and provincial agencies such as Alberta Parks, Alberta Sustainable Resource Development and Parks Canada. To date we have collared over 140 elk across our seven study herds, with the majority focused in the Castle-Carbondale area. We have observed 39 elk mortalities of radiocollared elk over a span of about 185 "elk years."

Making Sense of Numbers

During the first three years of our study we found that adult cow survival ranged from 89 to 95 percent and bull survival ranged from 47 to 54 percent.

Low bull survival reflects the liberal hunting season in southwestern Alberta where three-point or better bulls may be harvested. Our estimates of survival certainly fall within the normal ranges observed for elk when harvested (although hunting is not permitted inside Waterton Lakes National Park).

However, few bulls that were collared managed to survive for the full two-year lifespan of the radiocollar. Nearly all bulls were collared as yearlings in January, with the radiocollars programmed to drop off when the bulls are roughly three-and-a-half years old. Most bulls were legal to harvest when they were two-and-a-half years of age. Of the 43 bulls we collared, only five survived the life of their collar – meaning about 11 percent of our bulls made it to three- and-a-half years of age. It's important to note that five collars came off prematurely (after one year): while these bulls may have survived, they were censored from our data set due to their unknown fate.



Southwest Alberta Montane Elk Study Area Boundaries.

Elk Answers

-Given our data, we would estimate that only 3.1 percent of our elk succumb to predation each year. Clearly, most mortality of elk in southwestern Alberta is from legal hunter harvest, which can be managed relatively easily through regulations. Now that wildlife managers are equipped with information to understand the sources of elk mortality, we can all work toward long-term planning that maintains a balance between a sustainable population of elk and hunting as a way of life. ■

To follow the study, visit www.montaneelk.com.

ACA's Grant Eligible Conservation Fund has been an important sponsor of this project, attracting substantial partnerships from the Natural Sciences and Engineering Research Council of Canada (NSERC), Royal Dutch Shell, and Safari Club International. Roger Creasey from Shell was instrumental in launching the collaboration between industry and the three universities.

photo: Warren Price Photography

We captured and equipped elk with GPS radiocollars in seven areas: Beauvais Provincial Park, Castle-Carbondale, Crowsnest Pass, Livingstone Range, Porcupine Hills, Waterton Lakes National Park, and Whaleback Ridge.

photo: Mike Jokinen

Its nose was never still; twisting from side to side, distorting its massive face with comic effect. Between mouthfuls of frozen buffaloberries, the bear's snout reached up to the moist autumn air, teasing out my scent from the background odours of lodgepole pine, damp earth and decaying aspen leaves. The hungry bruin stripped the tiny red fruit from one more branch, then turned and disappeared into a tangle of shrubbery.

photo: © Dr. Wayne Lynch
buffaloberry photo: David Fairless

The Biggest Gainer

Fall Feeding Frenzy in Bears

■ *by Dr. Wayne Lynch*

Caloric Clockwork

The appetite of grizzly bears and black bears follows a predictable annual cycle, with the consequences impacting most aspects of the animals' lives. During winter hibernation, both species of bears lose between 15 to 25 percent of their body weight. The weight loss can rise to as high as 40 percent in mother bears that are nursing newborn cubs. Even after the bears leave their dens in spring and are wandering about, they continue to lose weight until late June, and sometimes into early July. Despite the fresh greenery sprouting everywhere, the inefficient digestive system of bears cannot extract enough nutrition to maintain the animals' weight. By midsummer, however, the bruins can find enough different foods to maintain a steady weight. The big weight change comes in the last half of August when their appetites suddenly increase dramatically.

Bellies Full of Berries

Black bears and grizzlies in Alberta are mainly vegetarians, with plants comprising roughly 80 to 90 percent of their year round diet. In autumn, local bruins switch to berries to pack on the pounds: buffaloberries (*Shepherdia canadensis*), crowberries (*Empetrum nigrum*), bearberries (*Arctostaphylos spp.*), and blueberries (*Vaccinium spp.*). One inquisitive biologist with time on his hands and a tantalizing turd on his laboratory table counted 200,000 buffaloberry seeds in a single grizzly dropping. Now that's scientific curiosity that deserves applause.

The berries eaten by bears benefit the plants as well as the bruins. The plants profit by having their seeds scattered, and the seeds do better when they pass through the animal's digestive tract. Biologists believe that the action of digestive acids and the mechanical abrasion of the seeds during their passage through a bear's digestive tract make the seed coats more permeable to water and gases, dramatically improving their germination rate.

photo: © Dr. Wayne Lynch

Watch Out for Mama Bear

Unfortunately, no one anywhere has looked at consecutive birth dates in grizzly bear mothers. The main reason? Pregnant grizzly bears generally object strongly to being disturbed in their dens when they have newborn cubs, and demonstrate their annoyance by seriously reprimanding any researcher foolish enough to barge in on them.

Bears on a Binge

I once watched a grizzly engrossed in berry picking in an alpine meadow. The bulging bruin was stretched out on its belly, swinging its head from side to side, stripping fruit from one plant after another. Once it cleaned out one swath, it slid forward and started on a fresh one. Bears may sometimes make special fall feeding trips – traveling dozens of kilometres – to areas where berries grow especially well, such as select alpine meadows and young avalanche slopes. It's likely that cubs remember the food-rich areas they visit with their mothers, and they return to them later in life when they are on their own. One mountain slope in neighbouring Montana had 11 black bears feeding together in the same patch of blueberries.

During the fall feeding frenzy, a bear may gain a kilogram or more of body weight per day. Large adult bears may plump up by more than 100 kilograms in the feeding binge. The amount of weight that a bear gains in the fall is regulated by its appetite, which in turn is regulated by the amount of fat that it has already stored. Once fat reserves reach a certain level, a feedback mechanism turns off the bear's appetite and the animal stops feeding.

The Fat Factor

In female bears, one more factor influences their weight gain: the fall fat she gains depends on if she is pregnant or nursing cubs at the time. This has been studied in black bears only in Pennsylvania, but it's almost certain the same physiology exists in black bears and grizzlies in Alberta, although total weight gains may differ.

In Pennsylvania, when a female black bear is pregnant, she gains an average of 40 kilograms in the autumn. The following autumn when she is accompanied by cubs, she gains only 11 kilograms. The next year, after her cubs have left and she is pregnant again, her average autumn weight gain jumps back up to 40 kilograms. This pattern suggests that every autumn the female bear's body assesses her energy needs for the coming winter and spring. In winters when she is bearing cubs and nursing, she needs greater fat reserves – apparently three times greater – than when she is denning with her yearling cubs, and she adjusts her autumn weight gain accordingly.

The story gets even more fascinating when you examine how bears handle their pregnancies and the impact that the autumn feeding frenzy has on them. Typically, grizzlies and black bears in Alberta mate in June. Afterwards, the tiny embryo grows for a brief time until it is a hollow ball of cells no larger than the head of a pin. Then, the pregnancy stops abruptly. For the next five months or so, the pregnancy is put on hold, and the hollow ball of cells, called a *blastocyst*, simply floats in the cavity of the female's uterus. Finally, in late November or early December, the pregnancy suddenly "starts up again" – the blastocyst implants in the wall of the uterus and the embryo completes its development. This pattern of reproduction is called *delayed implantation*.

Positive Procrastination

Delayed implantation is common to a number of Alberta mammals, including bats, weasels, martens, badgers, otters, and both species of

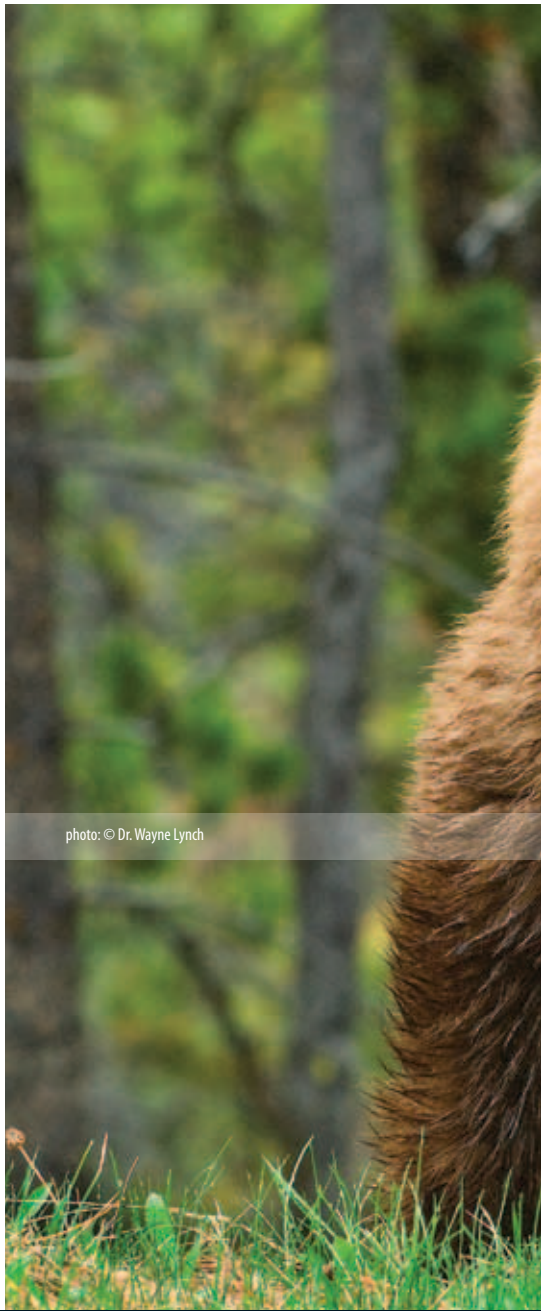


photo: © Dr. Wayne Lynch

bears. It allows the animal to mate at one time of the year and then delay the pregnancy until a later date. Bears benefit from this strategy in several ways: if they were to mate in the fall, breeding activities might seriously disrupt this important feeding period, making it harder for them to accumulate the vital fat reserves they need to sustain them through their long winter hibernation. Because of delayed implantation, bears can mate early in the summer when feeding is not so critical.

In pregnant females, implantation of the blastocyst occurs when the female has stored enough fat during the fall to sustain the energy demands of a pregnancy; growth proceeds only if the nutritional condition of the mother bear is ideal.

In bears, the signal that synchronizes implantation is the daylength, or photoperiod. During autumn, the daylength gradually decreases. When it reaches a critical threshold, it somehow signals the brain of the bear to release hormones to restart the pregnancy and initiate implantation.

Since the daylength is the same for all of the bears that live in an area, implantation occurs roughly at the same time in all of them, regardless of when they mated, so the birth of their cubs is more or less synchronized. In the Pennsylvania black bear study, all of the females gave birth within an 11-day period in January. Nearly half were even more precise in the timing of their litters, having their cubs within three days of previous birth dates.

Once again, it's more than likely that Albertan bears operate with similar precision. The inevitable control of implantation by the size of an animal's fat reserves and the synchronization of birth dates with the photoperiod are remarkable refinements in the reproductive biology of bears, illustrating just how sensitively attuned these animals are to their environment. ■

Dr. Lynch is a popular guest lecturer and an award-winning science writer. His books and photography cover a wide range of subjects, including the biology and of owls, penguins and northern bears; arctic, boreal and grassland ecology; and the lives of prairie birds and mountain wildlife.

Pheasant tracks.

Conservation Site Getaway

Millicent

Map Grid **E4** 6

■ *by Nicole Nickel-Lane*

It's a crisp, sunny fall morning. There's a touch of frost sparkling on bare brown branches and pale grass, and the golden early light of day is slowly waking up the still pre-winter landscape. One should bound out of bed on mornings like this because they bring the promise of days filled with warm sweaters and hot chocolate, the crunch of leaves and the season's magnificent colours, the funky-sweet smell of high bush cranberries and wood smoke, pumpkin pie and bottomless pots of homemade stew.

Heading outdoors in the fall can make you feel alive in a way no other season can offer. And if you visit Millicent Conservation Site near Brooks, you will find some of the best pheasant and upland game bird hunting in the province. Or, you can simply walk the land and enjoy the excellent wildlife watching at the site, including gray partridge, mule deer and a variety of waterfowl, songbirds and small mammals.

Conveniently located just 21 kilometres northeast of Brooks, Millicent is a Designated Pheasant Release Site. Its 800 acres are a mix of winter and nesting cover, food plots and travel lanes for upland game birds and other wildlife. Crown land since 1969, the property is located within the Eastern Irrigation District (long famed for world-class upland game bird hunting) and has since been developed primarily for upland game bird habitat.

Between mid-October and mid-November, 50 fully grown adult pheasants are released on the site every day except Mondays. That may sound like a lot, but given the popularity of the site, it's just enough to allow most hunters to bring a pheasant home to the table while allowing the remaining population to gain a bit more of a foothold.

photo: Randy Lee

Pheasants were brought to Alberta more than a century ago as a game bird, though they quickly integrated themselves into their new habitats. By the early 1900s, native pheasant populations needed to be supplemented to keep pace with their popularity among those devoted to hunting this most exhilarating bird. These days, with pheasant hunting in the wild a distant memory in many parts of the province, dedicating habitat to support the *Phasianus colchicus* has become much more of a necessity. Millicent has undergone a series of improvements over the last 40-odd years to make it ideally suited to pheasants and other upland game birds. Nearly 70,000 trees were planted, a wetland was constructed, and several species of grasses, clover and alfalfa were seeded. Today, the property is a working mix of agricultural land, wetland cover, grasses, trees and shrubs.

As one of only three Designated Pheasant Release Sites in Alberta, Millicent can get very busy and it's important to note that hunting during open season is only permitted until 2 p.m. every day except Saturdays. But it is still well worth the trip. For families and novice hunters, stocked sites like Millicent make for an easy and fun introduction to upland game bird hunting.

Making a day of it

If you plan to visit Millicent and make a day trip of it, leave early since hunting is only allowed until 2 p.m. every day except Saturday. But the early afternoon shutdown at the site doesn't have to mean an end to the day's activities. Pack up your rig and head into Brooks for some fun at the local sporting clays facility, visit the museum or wildlife sanctuary, or take a tour of Dinosaur Provincial Park. Just don't forget to pack your bird book, camera, and thermos of hot chocolate – and be glad you decided not to hit the snooze button that morning.

Millicent Conservation Site and its recreational opportunities were possible with the support of: Alberta Sustainable Resource Development, the County of Newell, Eastern Irrigation District and Partners in Habitat Development. To find out more information on Millicent and other Conservation Sites near Brooks, search the online *Discover Alberta's Wild Side: Guide to Outdoor Adventure* at www.ab-conservation.com/guide. ■

photo: Roger Hill


Skunkbush.
photo: Liz Saunders

MILLICENT AND MORE . . . OTHER OUTDOOR GETAWAYS NEAR BROOKS

Long Pump Conservation Site, a 40 acre site located just 10 km north of Brooks, is managed as permanent cover and nesting habitat for waterfowl and upland game birds, making for excellent hunting opportunities. See the *Guide to Outdoor Adventure* Grid E4 Site 3.

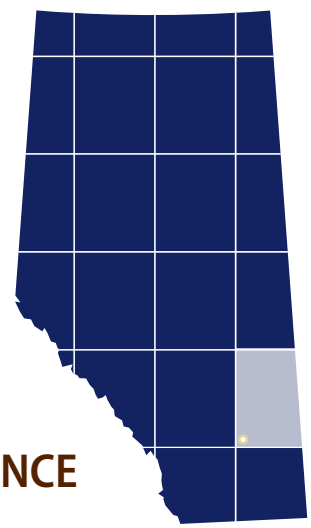
Visit **Bow City East** for great angling opportunities. Located approximately 30 km southwest of Brooks, this pond is stocked with 2,000 rainbow trout annually to enhance angling opportunities.

Cassills Marsh boasts 616 acres of very productive prairie wetlands supporting a wide variety of waterfowl. Located approximately 19 km west of Brooks.

Enjoy excellent wetland wildlife viewing opportunities at **Inter-Lake**, a 37-acre site located directly across the Trans-Canada Highway from Brooks.

A success story in sustainable ranching and conserving native habitat values, **Antelope Creek Ranch** is a 5,493 acre working ranch located approximately 19 km west of Brooks.

Can't decide what to do? Visit **Brooks Aqueduct** for good waterfowl and upland game bird hunting, as well as fishing for rainbow trout in the pond stocked by ASRD. Located just 10 km southeast of Brooks.



GETAWAY AT A GLANCE

Property: Millicent Conservation Site

Location: 21 km northeast of Brooks
Guide to Outdoor Adventure Map Grid E4

Highlights: One of only three Designated Pheasant Release Sites in Alberta

Go there if: You are a seasoned pheasant hunter or just learning to hunt upland game birds

REMEMBER: During the open season for male pheasants, the hunting of game birds, including pheasants, is not permitted at designated pheasant release sites after 2 p.m. on any day except Saturdays.

Pheasant View

Watch carefully, and you'll notice that the Millicent Conservation Site is peppered with moving colour. The ring-necked pheasant, a dazzling upland bird who has been part of Alberta's landscape for over 100 years, brings a touch of exotic to the Millicent property they call home.

The Fall Feast

Before the temperatures drop significantly, the hens scramble to build up their body fat. So do the chicks – by October they reach their adult size. Since the roosters have been taking it easy since breeding season, they are already sufficiently plump.

The pheasants help themselves to grains from crops. They also eat weed seeds, which are relatively high in protein compared to commercial grains. Sunflower and foxtail seeds are another snack of choice.

As the air continues to cool, you'll find pheasants huddling where the grub is good. Corn fields, wheat fields, weedy areas and wetland margins are preferred areas. As the season transitions to winter, they begin to drift towards areas of thicker cover where they will be able to withstand the decreasing temperatures and harsher conditions.

Getting Warmer

The pheasants buckle down with the arrival of our most unforgiving season: their challenge is to stay alive. Just as we dress in layers or pile on blankets for warmth, pheasants use dense vegetation as cover. Each layer of vegetation acts as extra insulation. This cover does double duty: it's also the pheasants' hiding place or escape route from hungry predators such as coyotes and birds of prey.

Hens have a harder time surviving winter than roosters. Their smaller body size means they lose heat faster. Also, they are not as strong as their male counterparts and have more difficulty digging through snow and ice to find food.

■ *From Alberta's Ring-necked Pheasant: Through the Seasons, by Liz Saunders*
For a free copy call 1-877-969-9091.

Battling Blizzards

A healthy pheasant with access to sufficient cover can withstand blizzards for two to three days, relying on only body fat for energy.

photo: Mike Uchikura

Chowing Down: A Challenge

In the fall pheasants feast like kings, while in the winter they eat like paupers, relying mostly on commercial grains. Cereal grains, weed seed and forbs are important food sources, along with corn and sunflowers where available. But with changes in farming practices, there is less wasted grain in the fields, making it more difficult to find winter food. Food within 300 metres of roosting is ideal – minimizing the amount of energy used for travel and reducing the risk of predation.

Day and Night

At night, the birds roost in low, dense cover. Ungrazed pasture and hayland, cattails and brushy cover provide ideal resting places. During the day, the birds need taller "loafing cover" that provide insulation and protection from birds of prey. Shrubs and low-growing trees provide the best daytime roosting spots. No matter what time of day, roosting areas and food must be in close proximity to save the pheasants' precious energy. ■

Chew on This

In January a pheasant needs food energy equal to roughly three Snickers chocolate bars a day.

photo: Liz Saunders

photo: Kelly Nelson

As Good as Gold

■ *by Brad Fenson, Alberta Fish and Game Association*

Closing in on Conserving the Golden Ranches

The acquisition of the Golden Ranches began just over two years ago. A conservation consortium of seven organizations – Alberta Conservation Association, Alberta Fish & Game Association, Ducks Unlimited Canada, Nature Conservancy of Canada, Edmonton and Area Land Trust, Beaverhill Initiative and the County of Strathcona – worked together on a plan to conserve the property. With the large group of conservation specialists working together there has been significant progress, and ultimately the success of the Golden Ranches project will represent a notable advancement for conservation in Alberta.

Nothing is richer than habitat – it provides the food, water and shelter that the wild needs to survive and flourish. Continual corridors of productive habitat make it even better, encouraging maximum animal movement, stimulating greater biodiversity and helping to ensure robust wildlife populations for all to enjoy.

The County of Strathcona boasts a unique mosaic of landscapes, and the Cooking Lake Moraine, which makes up the eastern portion of the county, is considered a gem for wildlife, aesthetics, ecological goods and services, and the overall quality of life for area residents. Municipal planning has protected the region, ensuring the moraine isn't fragmented to the point where its benefits or qualities are risked. In fact, the moraine and its habitat are so critical that large tracts of it are protected with Elk Island National Park, Blackfoot Grazing Reserve and the Ministik Game Bird Sanctuary. In the heart of these protected landscapes lies the Golden Ranches. On the shores of Cooking Lake and North Cooking Lake, it is the largest working ranch still in operation in the County of Strathcona. It is a key parcel of land, as the habitat on the Golden Ranches links together the critical habitats already secured – completing an ecological continuous corridor that is close to being conserved for the future.

Acre by Acre

Located 27 kilometres east of Edmonton, the Golden Ranches represents an unprecedented conservation project within the province of Alberta. In the spring of 2009, with all seven partners involved, we conserved the first 136.5-acre parcel of the 1,500-acre property. In the spring of 2010 the partnership acquired an additional three quarter sections, bringing the total secured to 598 acres.

Two other parcels were recently acquired, and three purchases are currently pending, bringing the grand total secured to 1,184 acres – almost 80 percent of the ranch. And while our significant progress may show the majority of the ranch secured in 2010, it certainly doesn't mean our work is done.

What's Left?

With at least 20 percent of the ranch left to secure, it is more important than ever to continue fundraising. Upon completion, the ranch will be managed by the conservation consortium. Because the ranch is located so close to Edmonton and Sherwood Park, Golden Ranches will be accessible to a tremendous amount of people who will be able to see and enjoy the results of conservation at work – now and for years to come. ■

The Golden Ticket

All of the partner organizations are continuing in their efforts to fundraise for the Golden Ranches project. In partnership with Sherwood Park Toyota, Alberta Conservation Association held a raffle for a 2010 Toyota Camry, with all proceeds going towards the purchase of the Golden Ranches property.

Habitat for Hundreds

The entire Golden Ranches project provides more than eight kilometres of shoreline and important wetland habitat for waterfowl, shorebirds, raptors and mammals. The diversified landscape favours an abundance of wildlife such as mule deer, moose, red-tailed hawk and numerous species of songbirds and small mammals.

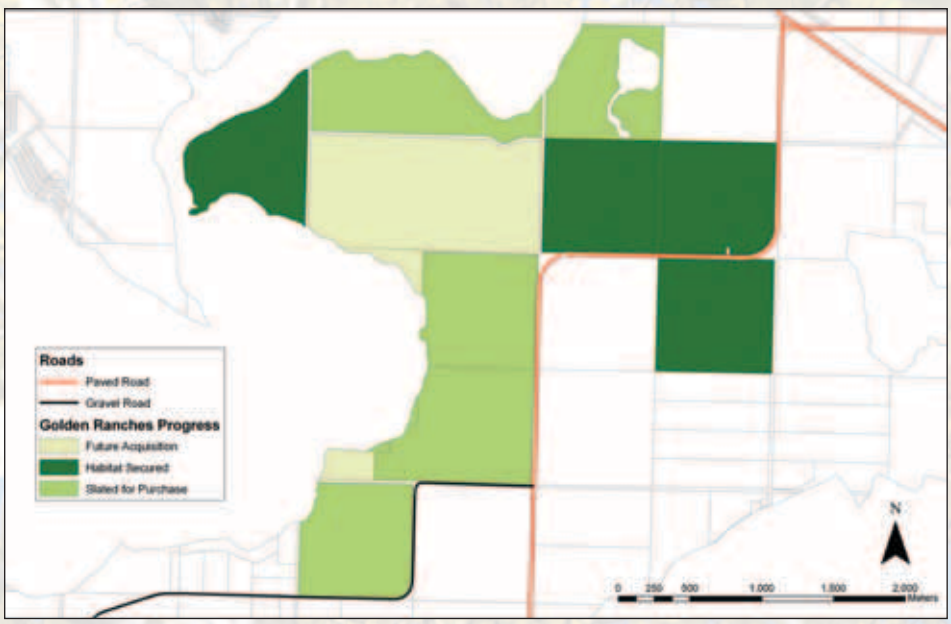


photo: Verena J. Matthew

Making it Happen

Conservation in Action

The new Airdrie Hunting & Fishing Association

■ *photos & text by Wes David, President, Airdrie Hunting and Fishing Association*

A handful of avid outdoorsmen casually meeting in the restaurant of the Best Western Hotel in Airdrie, Alberta all agreed: "It's time to get our youth away from the computers and video games and get them outdoors."

In May 2009, the Airdrie Hunting & Fishing Association (AHFA) officially formed with eight local outdoors men and women. Fast forward a few months, and that number has ballooned to 20 members – and counting. With its extent of knowledge and enthusiasm and common goals among the members, the AHFA quickly established its purpose. Aside from the sharing of hunting and fishing interests, the members are working to get new men, women and especially children involved in outdoor sports while educating the community on wildlife, fisheries, and the environment.

To put our plan into action, AHFA first focused on a local trout pond. Dewitt's Pond, although a respectable trout pond, had been neglected for some time. The members of the new Association rolled up their sleeves and spent a weekend cleaning the shoreline and surrounding property. Four half-ton truckloads later of wood, garbage and other debris, and the pond couldn't have looked better. Garbage cans were placed around the pond, and members pick up and remove the garbage weekly.

With a little research, the Association learned that Max at Smoky Trout Farms stocks the pond, and on May 9, 2009 he gave members and their families an educational seminar about how the fish are raised and their different stages of growth. Instead of opening the ball valve and releasing all the eight to ten-inch rainbow trout out of the holding tanks

Madison Hinde shows off her prize rainbow trout at the Family Day ice fishing event at Chain Lakes.

at once, Max netted the fish, put them into pails, and the kids excitedly released the trout into the pond. It's officially a yearly event for the kids and the Association. Now the AHFA is currently working on securing government grants to install aeration pumps in the pond to support a healthier fishery and reduce winterkill, with hopes to also make the pond wheelchair accessible.

AHFA is a family-oriented organization of hunters, anglers and conservationists. Our intent is to take a leadership role in developing and supporting wildlife management goals and educating our youth in Airdrie and the general area. Education is critical to our goals, and thankfully many guest speakers donate their time.

Aside from various projects and educational pursuits, the AFHA carves out time for play. It began with a meet and greet barbeque and fishing day in August, followed by some Christmas cheer, and the biggest event to date – the Family Day ice fishing event at Chain Lakes where over 83 members and non-members braved the poor road conditions for a fun day of catching rainbow trout. For many kids, it was their first time ice fishing and many caught their very first fish. In April, the Association organized its first archery and skeet shoot, with over 60 members taking the time out of their busy schedules.

Currently we are in the early stages of our next project, partnering with the Airdrie Ag Society. The Society recently purchased 60 acres of land for a new rodeo ground and show barns. Four acres are a slough, so the AHFA's plan is to raise money to transform it into a trout pond by working with biologists, aeration companies and the government. And although there are many more steps along the way to make it happen, it's satisfying to know that modest beginnings *do* lead to surprising results. ■

Denver David with his catch of the day. Pigeon Lake, Alberta.

If you would like to learn about upcoming events or join AHFA, please visit www.airdriehfa.com. The AHFA has over 125 members and is affiliated with the AFGA.

ABOVE - Dwight Ferguson instructs youth on proper firearm handling and safety at the AHFA archery and skeet shoot.

Fostering cooperation and mutual respect between landowners and the public will be crucial to the future of recreational opportunities on private land.

Please act responsibly and ask for permission before you enter onto someone's property for recreational purposes.

Contact 1-877-969-9091 for more information.

REPORT A POACHER

www.reportapoacher.com

What is poaching?

Poaching is the illegal taking of wildlife or fish and related activities.

Poachers deplete wildlife and fish populations, destroy precious natural habitat, threaten the survival of at-risk wildlife populations, and are a danger to public health and safety.

YOU are a poacher if you:

- Hunt or fish out of season
- Hunt without a license
- Night hunt
- Hunt on private land without permission (*Use Respect – Ask First*)
- Exceed bag limits
- Sell wildlife or fish illegally
- Hunt in manners hazardous to the public: while intoxicated, too close to occupied buildings or shoot off main highways
- Use aircraft to spot game and hunt
- Use illegal hunting / fishing devices or baits

Report A Poacher now

Report A Poacher is your way to report suspected illegal activity. All calls are kept strictly confidential, and the information you provide can lead to an arrest, fines and jail time.

You can help stop poaching!

Call the RAP hotline toll-free 24 hours a day, 7 days a week

1-800-642-3800.

Government of Alberta
Sustainable Resource Development

Alberta Conservation Association
Conserving Alberta's Wild Side
www.ab-conservation.com

We see the possibilities.

As a process operator at Suncor Energy, Dean Cleaver knows that responsible development is key to Suncor becoming a sustainable energy company. He is one of more than 12,000 Suncor employees committed to making it happen. Seeing the possibilities is how Suncor pioneered the development of Canada's oil sands. It's also how we approach other energy resources from coast to coast and beyond. Now, we're applying the same energy, innovation and commitment to ensure our operations deliver social and economic benefits while minimizing environmental impact. See the possibilities for yourself – take a look at our record.

53% decrease in mineable oil sands GHG emission intensity from 1990 levels

27% reduction in surface water withdrawal at oil sands operations since 2004

$1.2 billion actual and planned investments in new tailings technology

energy
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commitment

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Find out more about Suncor's track record and how we are planning to responsibly develop North America's energy supply.
www.suncor.com/sustainability

photo: Gordon Court

American Pika *(Ochotona princeps)*

■ *by Lance Engley, ACA*

The American pika is a small mammal related to the rabbit family, with short, rounded ears and no visible tail. In Alberta, pikas are found at high elevation within rock piles, often at the base of mountains. Pikas eat a variety of vegetation, and in late summer will begin preparing for the winter by spreading their food out to dry in the sun. They then move the dried vegetation into their den, deep within the rocks for sustenance through the winter. Although American pikas do not hibernate, they spend the majority of the winter months confined to the depths of the rock piles where they have stored the various dried grasses and sedges.

Alberta Conservation Association
Conserving Alberta's Wild Side
www.ab-conservation.com

Pikas, or "rock rabbits" as they are sometimes called, have an alarm call indicative of a much larger animal and are often heard before they are seen. They live in colonies and will use this call to warn other pikas about the presence of predators such as hawks, eagles, coyotes, bobcats and weasels.

American pikas appear to be quite vulnerable to increases in air temperature. Without a mechanism to cool down, pikas cannot survive in temperatures above 25C for extended periods. They have little ability to move to new, cooler habitats as they are already living at the highest elevations possible in a given area. Their populations are decreasing, even in isolated mountain habitat with little disturbance, and as a result they are now being touted as the "canary in the coal mine" for increasing global temperatures. ■

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