

WATERTON LAKES NATIONAL PARK – WHERE THE MOUNTAINS MEET THE PRAIRIES

A CASTLE-CROWN COLLAGE

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BY CYNDI SMITH

Back in the spring of 2001, while packing up to move to Waterton, I came across an old park map and thought I'd better open it up and start to orient myself to the area. Almost the first thing that I noticed was that, at 1:50,000 scale, the park only occupied the north half of the topographical sheet, with the south half showing the northern part of Glacier National Park in Montana. My next thought was that, when I patrolled on horseback in the backcountry of Jasper and Banff national parks, I often carried three to four topo maps to cover just my district. My conclusion? Waterton was SMALL! But, as I was quickly to learn, Waterton packs an awful lot of biodiversity into a small area!

With over 1,000 vascular plant species, Waterton has more species than Banff and Jasper national parks combined, yet is less than one-tenth their size. Much of this diversity is because the park includes the Foothills Parkland Natural Subregion (in addition to the Alpine Natural, Subalpine Natural, and Montane Natural Subregions). No other national park in Alberta has this subregion. The low elevation grasslands of this ecoregion are

reflected in Waterton's slogan, "where the mountains meet the prairies." The highly successful Waterton Wildflower Festival highlights the spectacular floral diversity found in this ecoregion each June.

These grasslands are also home to approximately 800 to 1,000 elk which attract photographers from across the continent during the fall rut. Most of the elk summer at higher elevations outside of the park and winter on the park's healthy rough fescue grassland. Deep snow causes them to drift east onto ranchland to graze. The health of these rangelands is critical to the health of wildlife populations in the park, particularly wide-ranging large ungulates and carnivores. The Nature Conservancy of Canada has been instrumental in using conservation instruments to help ranchers maintain their traditions and grasslands to the benefit of regional biodiversity.

In July 2005, 27 entomologists from across the country converged on Waterton for the 2005 Biological Survey of Canada Bioblitz. This one-week "arthropod bioblitz" came to Waterton because of the richness of the park's four natural subregions. That July bioblitz made an

important contribution to the biotic survey of Waterton. Many of those participants continue to return to study their special taxa. Their investigations have documented new species for the park, for Alberta, and even for Canada.

Waterton also attracts bird watchers for good reason – nearly 300 species, both breeders and migrants, have been tallied in the park. The range and proximity of habitats is unequalled in the province.

Waterton may be a small park but, as this brief survey suggests, it's home to a rich diversity of flora and fauna. Looking ahead, the health of these species will depend importantly on the outcomes of campaigns to protect southern Alberta's Castle wilderness and British Columbia's Flathead valley. These regions, along with Glacier National Park in Montana, are instrumental to maintaining the biodiversity that Waterton Lakes National Park is famous for. ▲

Cyndi Smith recently retired after 32 years working for Parks Canada, most recently as Vegetation Specialist in Waterton Lakes National Park. She is a former member of AWA's Board of Directors. Cyndi lives near Mountain View.



Chinook arch in the vicinity of Waterton Lakes National Park

PHOTO: © C. SMITH



A Land Where the Mountains Meet the Prairies
PHOTO: © C. SMITH

BIODIVERSITY IN SOUTHWESTERN ALBERTA: A PERSONAL VIEW 2



BY PETER SHERRINGTON

I first visited this area in the fall of 1972 and have continued to watch birds and enjoy the wildlife and magnificent scenery here since then. My short visits to the area, however, gave me little inkling of what amazing biodiversity the area held. My visits became sporadic after the spring of 1992 when we started studying raptor migration at the Mount Lorette site in the Kananaskis Valley which kept me in the field there for up to seven months a year. On October 8, 2000, however, the area really grabbed my attention when Doug and Teresa Dolman, who had been reconnoitering a raptor site at the southern end of the Livingstone Range, counted 1,071 migrating golden eagles in a single day.

It was not until the fall of 2006 that I, with assistance from members of the Crowsnest Conservation Society, was able to conduct a first season-long count at the site. The results were encouraging as we counted 7,217 raptors; 4,400 of them were golden eagles. We subsequently conducted full fall counts from 2007 to 2009 and spring counts from 2008 to 2010. Cumulatively, in 625 days (7,104 hours) at the site over this period we observed 41,959 migrating raptors from 18 species; 27,250 of the migrants were golden eagles. The counts also recorded 3,620 bald eagles, 5,337 sharp-shinned hawks, 1,436 red-tailed hawks and 150 peregrine falcons. What amazed me was that, from a narrow ridge at an altitude of 1,900 metres, we

recorded more than 150 bird species, including several that had not been recorded in the area before.

During September and early October, migrant songbirds landed in the trees and shrubs on the ridge during the first couple of hours of daylight to feed after migrating overnight. Hundreds of birds, from dozens of species used this waystation. Flycatchers, thrushes, sparrows, and warblers all visited the site. The warblers included unusual species such as the Cape May, magnolia, blackburnian and black-throated green.

Other rarities spotted from here included parasitic jaeger, chestnut-backed chickadee, pygmy nuthatch, lark and grasshopper sparrow. The site also had the unique distinction in Canada of being visited by all four of the country's swift species: Vaux's and chimney in the spring, black and white-throated in the fall.

The numbers of more common birds using this migratory path also amazed us. During the 2008 fall count, for example, a total of 3,069 red-breasted nuthatches flew south along the ridge, including a two-day consecutive total of 760 birds.

The site also recorded 28 species of mammal. They included: wolf, grizzly bear, black bear, cougar, and bobcat. Even more surprisingly, thirteen-lined ground squirrels both breed and hibernate there. This mix of alpine and prairie animals is also reflected in the 50 species of butterfly recorded at the site where

parnassians and wood-nymphs can be seen on the wing together.

Since conducting the last complete count at the site in spring 2010, I have had time to explore and conduct daily counts in the two townships centred on my home in Beaver Mines. In this period I have gathered data over 658 days on 226,600 birds of 256 species; this record includes around 30 species that were previously unrecorded in the area. In addition I have records on 43 species of mammal and 83 species of butterfly.

Habitat diversity contributes importantly to these surprising numbers. My study area stretches from the alpine habitats of Table Mountain in the west to prairie grasslands and sloughs in the east. The numbers also result from being able to slowly explore the area on an almost daily basis throughout the year and record every creature I see. I hope this growing familiarity will allow me to begin to understand better the ecology of the area, its seasonal and yearly variability and the underlying mechanisms that drive this change. I look forward to continuing to be delighted and amazed by this remarkable area. I am humbled too to realize just how little we really know about our back-yard. 🐾

Peter Sherrington is a Past President of AWA and he has worked through the years to help others learn to observe and recognize the absolute beauty of nature and its delicate balance.



Looking south into Waterton
Lakes National Park

PHOTO: © C. SMITH

HOME IN THE CASTLE 3



BY REG ERNST

Prior to moving to Southern Alberta in 1995, I spent many years recreating in Alberta's National Parks, Kananaskis Country, and Willmore Wilderness. After spending time in the Castle area, I soon realized how important this area was to natural processes throughout the mountain corridor that links with areas to the south. As part of the Rocky Mountain corridor the Castle connects the Northern Rockies of the US to the Southern Rockies of Canada; it provides a critical transportation corridor for large mammals. The watersheds in the Castle provide most of the water used in the rural and urban communities of southern Alberta.

The area differs from mountainous areas to the north mainly because of its climatic factors and topographical features. The area has the highest precipitation in Alberta and intense Chinooks moderate winter temperatures. The northwest/southeast alignment of the Rockies' front range canyons is unique and contributes to its productivity and the overall biodiversity found in the Castle.

Overlapping ecosystems provide unique opportunities for plants and animals in the region. Almost all of the species of fauna in Alberta can be found here (other than caribou) and the area produces more species of flora than any other in Alberta (estimated to be 824). More than half of the plant species occurring in Alberta may be found in the Castle.

Throughout the past 17 years I have completed several studies and

led interpretive hikes to try and raise awareness and understanding of ecological problems in the Castle. During my three-year rare plant survey (2003-2005) in the Castle I discovered 64 plants from the Alberta Natural Heritage Information Centre (ANHIC) tracking list: I have found several more species since. I am sure a comprehensive survey would reveal many more. In Canada, many plant species (including rare ones) occur only in the Waterton/Castle area of Alberta. The Castle is home to more than just remarkable flora. During the 2012 AWA summer hike in the South Drywood canyon we had the opportunity to watch two blonde grizzlies traversing a slope across from our camp.

Both whitebark and limber pine, listed as endangered, occur in the Castle area. Without active efforts to maintain these species they may very well go extinct. Coordinating with Alberta Environment and Sustainable Resource Development, I have been working collaboratively with the Alberta Tree Improvement and Seed Centre in Smoky Lake, collecting seed for current and future research. Last summer we planted both whitebark and limber pine seedlings to compare survival rates on one year versus two year seedlings and with some treatments applied to try and increase survival rates. This past summer we established plots to compare seedling survival rates. Investigating the feasibility of using five needle pines for reclaiming decommissioned sites will be the focus of our future research.

It is difficult to over emphasize how important this area is to the biodiversity and natural functioning of the entire region. The Castle has suffered many wounds from various sources including industry, agriculture, and recreation. But given the chance, many of these wounds will heal.

Personally, what I love most about the Castle is getting above the disturbed areas and hiking along the ridges, on the peaks, or in the alpine basins. Leaving behind the industrial disturbances, the non-native plants, the OHV trails, and the cows is so rewarding because of all the unique landscape features found in the upper subalpine and alpine areas. From many ridges you can gaze out onto the sea that is the prairies, you can see the region along the Continental Divide and you can see the unique mountains such as Font and Windsor. You can easily hike from the Foothills Parkland Natural Subregion into the Alpine Subregion in a day. But for me, ridge hiking is one of the most rewarding elements distinguished as it is with snow covered peaks, forested valleys, alpine lakes and tarns, and views out onto the prairies that must never be altered. The natural value of those images cannot be exaggerated. ▲

Reg Ernst, a former member of AWA's Board of Directors, has spent years walking the Castle and collecting data on flora. Some recognize him from a distance as he walks along with a copy of his favourite book, Budd's Flora of Alberta, under one arm and his eyes searching for the rare and endangered plants of the Castle.