



Stoney Cultural Awareness session with Mount Royal University, July 2015, at the Opal Day Use area in Kananaskis, AB.

**Stoney Nakoda Nations  
Cultural Assessment for the “Enhancing grizzly bear management  
programs through the inclusion of cultural monitoring and traditional  
ecological knowledge.”**

Prepared for:  
**Environment Canada**

Prepared by:  
**Stoney Consultation Team  
Stoney Tribal Administration**

## **EXECUTIVE SUMMARY**

The “Enhancing grizzly bear management programs through the inclusion of cultural monitoring and traditional ecological knowledge” project is part of a human-wildlife conflict prevention program and ecological research to understand the interaction of recreation use with grizzly bear movement and habitat needs. This single year project used cultural monitoring as a tool to expand upon grizzly bear conservation and recovery efforts in an area of cultural importance to the Stoney Nakoda. The study area included locations within Kananaskis Country in west-central Alberta. As traditional inhabitants with unique ties to this landscape, the Stoney Nakoda hold knowledge that can augment the protection of grizzly bears and improve the understanding of key conservation concerns from a cultural viewpoint. Cultural monitoring offers a means of integrating Traditional Ecological Knowledge (TEK) into the identification of priority areas for conservation and/or restoration in a manner that recognizes various environmental factors but also considers local knowledge and perspectives on grizzly bears. In collaboration with Alberta Parks and the Foothills Research Institute, activities included documentation of traditional knowledge through interviews with Elders and Traditional Knowledge Holders, monitoring fieldwork by Stoney Nation Cultural Monitors at locations of cultural conservation interest, development of recommendations for grizzly conservation planning and public outreach.

TABLE OF CONTENTS

**EXECUTIVE SUMMARY** ..... 2

**1.0 PROJECT SCOPE** ..... 4

    1.1 BACKGROUND ..... 4

    1.2 STONEY NAKODA BACKGROUND ..... 4

    1.3 DUTY TO CONSULT ..... 4

    1.4 CONFIDENTIALITY ..... 4

    1.5 MEETING RECORD..... 5

**2.0 PROJECT DESCRIPTION** ..... 9

    2.1 INTRODUCTION ..... 9

    2.1 STUDY AREA..... 10

    2.2 BACKGROUND ..... 10

**3.0 METHODS** ..... 15

**4.0 RESULTS AND ANALYSIS**..... 16

    3.1 LIST OF AREAS ..... 20

**4.0 CONCLUSIONS AND RECOMENDATIONS**..... 23

**LITERATURE CITED** ..... 25

**PHOTO REPORT** ..... 26

**APPENDIX A: PHOTOS** ..... 26

**APPENDIX B: CONTACTS**..... 38

## **1.0 PROJECT SCOPE**

### **1.1 BACKGROUND**

In December 2014, Stoney Nakoda Nation applied for the Environment Canada funding program, and was awarded program funding for the April 2015 to March 2016 fiscal year.

### **1.2 STONEY NAKODA BACKGROUND**

The Stoney Nakoda Nations (SNN) consists of the Bearspaw First Nation, Chiniki First Nation and the Wesley First Nation who were signatories to Treaty 7 (1877). The SNN have constitutionally recognized Treaty and Aboriginal rights, titles and interests to Reserve Lands at Morley Alberta (I.R. #142, 143, 144), Eden Valley (I.R. #216), Rabbit Lake (I.R. #142B) and Bighorn (I.R. 144A) and to their Traditional Lands which encompass a broader area than the Reserve Lands as identified by SNN. The SNN is a self governing body under the authority of Treaty 7 and the Indian Act, R. S. C 1985, C. 1-5, and provides leadership and direction in respect to all natural resource development applications through the duly elected Chiefs and Councils of the member Nations, collectively known as the Stoney Tribal Council.

### **1.3 DUTY TO CONSULT**

Since 2008, the Stoney Nakoda have entered in to a consultation contribution agreement with the government of Alberta to engage in consultation related activities for industrial projects by industry and the provincial government. This agreement has been renewed every since, and provides capacity for projects, although not all aspects of consultation are covered in this process.

Since 2015, Stoney Nakoda had been, and continues to be engaged with Indigenous and Northern Affairs Canada, to work on a similar type of consultation contribution agreement regarding consultation capacity for federal industrial projects that overlap with Stoney Nakoda Traditional lands.

### **1.4 CONFIDENTIALITY**

Information collected for this study was based on oral histories and traditional knowledge gathered from the community participants. Given the confidential nature of the information, the contents of this report have been filtered to ensure the preservation and protection of Stoney traditional knowledge. The intent here is to provide an alternate perspective on wildlife and landscape management while respecting the cultural sensitivity of the information collected.

The issue of confidentiality of traditional knowledge has been raised by Stoney Nakoda for some recent large industrial projects, as the protection of traditional knowledge has been a growing issue with many First Nations.

## 1.5 MEETING RECORD

### Meeting and Interview Dates

Date	Location	Personnel	Purpose
April 15, 2015	Cochrane, AB	Forest Industry Representatives, Bill Snow (Stoney Tribal), Chris Goodstoney (Wesley Nation)	Public Outreach – Project presentation at Stoney Cultural Awareness Session
June 3, 2015	Cochrane, AB	Don Carruthers (Alberta Parks), Bill Snow (Stoney Tribal), Erin Slater (Project Support)	Project Planning and Development
June 5, 2015	Conference call	Gordon Stenhouse (Foothills Research Institute) Bill Snow (Stoney Tribal), Erin Slater (Project Support)	Project Planning and Development
July 23, 2015	Alberta Parks, Canmore, AB	Gordon Stenhouse (Foothills Research Institute), Melanie Percy (Alberta Parks) Bill Snow (Stoney Tribal), Erin Slater (Project Support), Laura McKinnon (Project support)	Project Planning and Development – Project Orientation Session
July 31, 2015	Delta Lodge, Kananaskis, AB	Canadian Wildlife Federation (CWF) Executive, Bill Snow (Stoney Tribal), Erin Slater (Project Support)	Public Outreach – Project presentation and Stoney Cultural Awareness Session at CWF Executive meeting
August 13, 2015	Banff Indian Grounds, Banff, AB	Bill Snow (Stoney Tribal), Chris Goodstoney (Wesley Nation), Lenny Wesley (Bears paw Nation), Jackson Wesley (Bears paw Elder), Charles Rabbit (Wesley Elder), Clifford Powderface (Chiniki Elder), John Wesley (Chiniki Elder), Annie Wesley (Wesley Elder), Dwayne Mark (Interpreter), Will Schmidt (film)	Aboriginal Traditional Knowledge, Monitoring and Data Collection – Elders Interviews

**PROJECT SCOPE**

<b>Date</b>	<b>Location</b>	<b>Personnel</b>	<b>Purpose</b>
September 25, 2015	Blairmore, AB	Bill Snow (Stoney Tribal), Erin Slater (Project Support), Laura McKinnon (Project support)	Project Planning and Development
October 7, 2015	Stoney Nakoda Resort, Morley, AB	Bill Snow (Stoney Tribal), Chris Goodstone (Wesley Nation), Lenny Wesley (Bears paw Elder), Erin Slater (Project Support)	Project Planning and Development – Fieldwork Review
December 11, 2015	Banff National Park, Banff, AB	Yellowstone to Yukon Representatives, Bill Snow (Stoney Tribal), Lenny Wesley (Bears paw Elder) Chris Goodstone (Wesley Nation)	Public Outreach - Yellowstone to Yukon, meeting to update Y2Y on Stoney projects and vice versa, review of projects and collaboration on research and training
December 22, 2015	Morley, AB	Charles Rabbit (Wesley Elder), Wally Snow, (Wesley Elder), Charlie Abraham (Wesley Elder), Lance Abraham, Henry Holloway (Chiniki Elder), Charles Powderface (Chiniki Elder), John Wesley (Chiniki Elder), Barry Wesley, Lenny Wesley (Bears paw Elder), Jackson Wesley (Bears paw Elder), Chester Daniels (Bears paw Elder), Larry Daniels Jr., Bill Snow (Stoney Tribal), Chris Goodstone (Wesley Nation), Chris Clarke (Chiniki Nation)	Aboriginal Traditional Knowledge, Monitoring and Data Collection – Elders Interviews
February 25, 2016	Stoney Nakoda Resort, Morley, AB	Melanie Percy (Alberta Parks), Don Carruthers (Alberta Parks), Bill Snow (Stoney Tribal), Chris Goodstone (Wesley Nation), Chris Clarke (Chiniki Nation), Erin Slater (Project Support)	Project and Program Evaluation – Fieldwork Review and Project Update

**PROJECT SCOPE**

<b>Date</b>	<b>Location</b>	<b>Personnel</b>	<b>Purpose</b>
March 24, 2016		Bill Snow (Stoney Tribal), Chris Goodstoney (Wesley Nation), Lenny Wesley (Bears paw Elder), Erin Slater (Project Support) Orvall Daniels, Chester Daniels (Bears paw Elder), Jackson Wesley (Bears paw Elder), Larry Daniels Jr., Henry Holloway (Chiniki Elder), Charles Powderface (Chiniki Elder), John Wesley (Chiniki Elder), Barry Wesley, Charlie Rabbit (Wesley Elder), Wally Snow (Wesley Elder), Charlie Abraham (Wesley Elder), Avery Abraham, Dwight Rider, Ollie Benjamin	Aboriginal Traditional Knowledge, Monitoring and Data Collection – Elder Interviews
April 20, 2016		Melanie Percy (Alberta Parks), Don Carruthers (Alberta Parks), Bill Snow (Stoney Tribal), Chris Goodstoney (Wesley Nation), Lenny Wesley (Bears paw Nation), Erin Slater (Project Support)	Project and Program Evaluation

**Field Visit Dates**

<b>Date</b>	<b>Location</b>	<b>Personnel</b>	<b>Purpose</b>
August 5, 2015	Kananaskis, AB	Lenny Wesley (Bears paw Nation), Chris Clarke (Chiniki Nation), Chris Goodstoney (Wesley Nation)	Site Visit for Cultural Monitoring at Kananaskis
August 18 and 19, 2015	Cataract Creek, AB	Lenny Wesley (Bears paw Nation, Dwight Rider (Chiniki Nation), Ollie Benjamin (Wesley Nation)	Site Visit for Cultural Monitoring at Cataract Creek
September 9, 2015	Cataract Creek, AB	Lenny Wesley, Dwight Rider, Ollie Benjamin, Lenny Wesley Jr	Site Visit for Cultural Monitoring at Cataract Creek

**PROJECT SCOPE**

<b>Date</b>	<b>Location</b>	<b>Personnel</b>	<b>Purpose</b>
October 8, 2015	Kananaskis, AB	Lenny Wesley, Chris Clarke, Chris Goodstoney	Site Visit for Cultural Monitoring at Kananaskis
December 27, 2015	Elbow River, AB	Lenny Wesley, Dwight Rider, Ollie Benjamin, Lenny Wesley Jr	Site Visit for Cultural Monitoring at Elbow River
December 28, 2015	Kananaskis, AB	Lenny Wesley, Chris Clarke, Chris Goodstoney	Site Visit for Cultural Monitoring at Kananaskis
January 26, 2016	Kananaskis, AB	Lenny Wesley, Dwight Rider, Ollie Benjamin, Lenny Wesley Jr	Site Visit for Cultural Monitoring at Kananaskis
February 17, 2016	Kananaskis, AB	Lenny Wesley, Chris Clarke, Chris Goodstoney	Site visit for Cultural Monitoring at Kananaskis



## 2.0 PROJECT DESCRIPTION

### 2.1 INTRODUCTION

Among the large mammals with extensive habitat needs and spatial requirements, grizzly bears have become an icon for conservation efforts and for the portrayal of wilderness. However, there is currently no other animal that appears to elicit such a diverse array of emotions and opinions among land and wildlife management agencies, researchers and the public in general; this is likely a partial reflection of their potential conflict with human activities and misconceptions about grizzly behaviour that are emphasized by mainstream popular culture, and western science.

Grizzly bear images are used across media as part of promotional material, on billboard signs, and as company logos promoting everything from athletics wear to cellphone applications. Like other animals, advertisers use a range of grizzly images to symbolize certain qualities in their products and services. For example, newspaper coverage of a grizzly attack may use an aggressive image of a grizzly bearing its teeth to get the reader's attention. On the other hand, an environmental organization may present a grizzly in a peaceful, playful or pensive pose to promote conservation values. These images are powerful and have the ability to conjure emotions ranging from fear to reverence and by doing so, generate conflicting understandings of the grizzly bear.

As with most wildlife management today, grizzly management has become a process that relies heavily on western science to inform management strategies and policies. There is, however, an alternate view that incorporates cultural values, intuition and ancient relationships that are inseparable from the place and space in which they were born. Over the last few decades there has been a growing recognition of the critical role indigenous people and local communities have played in conserving and managing a variety of natural environments and species for millennia. Increasingly, there is a movement towards acknowledging that indigenous peoples have acquired invaluable knowledge and land based experience that can assist and enhance land management decisions and environmental problem solving. This recognition is reflected in part by the 1987 Report of the World Commission on Environment and Development, *Our Common Future*, the Convention on Biological Diversity (1992), the UNESCO Convention for the safeguarding of intangible Cultural Heritage (2003), Cultural and Spiritual Values endorsed by the Vth IUCN World Parks Congress (2003), Resolutions adopted by the IUCN World Conservation Congress (2004, 2008, 2012) to support Indigenous Knowledge Systems and Community Conservation practices, the U.N. Declaration on the Rights of Indigenous Peoples (2007) and by the increasing base of literature and research on Traditional practices, and cultural and spiritual conservation values.

As traditional inhabitants with unique ties to the landscape, the Stoney Nakoda hold knowledge that can improve the understanding of key conservation concerns from a cultural viewpoint, assist strategies to manage human-bear interactions and augment the protection of grizzly bears. Within this context, the goal of the "Enhancing grizzly bear management programs through the inclusion of cultural monitoring and traditional ecological knowledge (TEK)" project was to expand upon conservation and recovery efforts for grizzly bears and use cultural monitoring as a tool for integrating TEK into existing research in areas of cultural importance. The overarching goal of the project was to present an alternate perspective on wildlife management that is different, yet complimentary to the western scientific model.

The objectives of the project were to, 1) monitor Grizzly bear populations through traditional processes, 2) participate in and contribute to current grizzly bear population and inventory work 3) identify additional cultural resources of traditional and cultural value within the study areas 4) use traditional environmental knowledge to provide insight into the potential management of the resources identified and, 5) develop a set of recommendations to assist grizzly management 6) relay project details and results through public outreach events.

## **2.1 STUDY AREA**

The area of focus for this project was Kananaskis Country in west-central Alberta. Kananaskis Country is a multi use area situated west of Calgary Alberta in the foothills and front ranges of the Canadian Rockies. About half of Kananaskis is designated as a park system and half is recreational and forest land. Within the area there are 51 parks, administered by Alberta Tourism, Parks and Recreation, and Public Land Use Zones administered by Alberta Environment and Sustainable Resource Development. Specific regulations may apply to different locations but the area supports many facilities, services and recreational activities such as hiking, mountain biking, cross country skiing and horseback riding.

For many years, the Kananaskis region has been a traditional camping, hunting and gathering area for the Stoney Nakoda. The areas' cultural importance relates to practices that were performed for specific animals, to signify and promote an on-going healthy relationship between the animals, the environment, and the Stoney Nakoda. Today, Kananaskis is noted as highly important grizzly bear habitat, supporting populations with multiple breeding females.

The area to the south and east of Kananaskis, at Elbow Valley and Cataract Creek, were also reviewed, as these adjoining areas contain Grizzly Bear habitat, and activity.

## **2.2 BACKGROUND**

### **Grizzly Background**

Grizzly bears once ranged through western North America from Alaska to Mexico and occupied the prairie and parkland regions, however, over time habitat change and conflicts with humans eliminated grizzlies from these areas. Today, these bears have experienced substantial reduction in their historic range due to human settlement and development (Bourbonnais et al, 2013). Grizzly bears are now found in the foothill, mountain and boreal regions of Alberta and are beginning to return to the prairies as populations recover both in the United States and Alberta (Alberta Parks, Pers. Comm. 2016).

Grizzly bears require large home ranges of 500 to 5,000 square kilometers for males and 150 to 3, 000 square kilometers for females, with a mix of seasonal habitats to meet their nutritional needs (Alberta Parks, 2016). Although their food preferences and activities can vary within and among populations, grizzlies are known to be omnivorous and generalist nature, consuming a wide diversity of foods (Muro et al, 2006). In Alberta, their diet generally consists of green vegetation, fruits and insects and is low on protein (Clark and Slocome, 2009). From spring to fall, grizzlies forage along wet riparian areas for horsetails (Equisetum), dig for roots and vetch (Hedysarum) on dryer and often disturbed slopes, utilize plants such as glacier lily and cow parsnip within avalanche slopes and forage for a variety of berries. Bears are opportunistic carnivores, eating fresh meat or

scavenging carrion whenever the opportunity arises. Elk and moose calves are particularly important in their diet in spring but grizzlies may also scavenge from leftover gut piles left by hunters in fall. They will also eat smaller prey, such as ground squirrels, marmots, grouse, fish, and beavers. An average adult male grizzly weighs 180 kg (400 lbs), but they can reach over 325 kg (720 lbs) in good habitat areas. Females weigh less at approximately 2/3 the weight of male bears (Alberta Parks, Pers. Comm. 2016).

Bears den in winter months in Kananaskis. Males enter their dens in late November or early December and begin to emerge in early March. Females typically enter in October or early November and emerge during April or early May, although females with cubs of the year will emerge later than those without. Dens are typically in areas of deep snowfall, in natural caves, under roots of trees, or excavated on steep slopes. Grizzlies often den close to treeline.

Grizzly bears do not reach sexual maturity until 5 to 7 years of age and, when reproductively mature, breed in late May through late June. Females may breed with more than one individual whereas males try to maximize the number of females they impregnate. Males and females do not remain together after the breeding season, nor is the male involved in caring for cubs. Infanticide (males killing cubs) is common in grizzly bears, particularly during breeding season.

Grizzly bears are known as “delayed implanters”. Although they breed in spring, the embryo does not implant in the females uterus until fall. In a poor food year, female grizzly bears will absorb the embryo and not carry the pregnancy through the winter. If the pregnancy is successful, between one and three cubs will be born in the den in late January or early February and the cubs will remain with the female for at least two summers. In some instances, females may keep their cubs with them until their 5th summer.

Bears can live for 28 or 30 years in the wild although human-caused mortality, fights with other bears or other predators, such as wolves, natural occurrences (avalanches, drownings) may be sources of premature death in the Kananaskis grizzly population. It is currently estimated there are approximately 60 grizzly bears using the greater Kananaskis area (Alberta Parks, Pers. Comm. 2016).

### **Grizzly Incidents/Encounters**

In a time when grizzly bears are suffering from continued habitat degradation and encroachment from intensive development and other human related activities, Kananaskis represents a highly successful model for maintaining a healthy population of grizzly bears in an area with increasing human visitation. According to Alberta Parks, this is the result of a suite of management and research conditions including:

- Bear proof garbage management;
- Staff and managers who are well informed and supportive of grizzly bears in the region;
- Collection of long term behavioural and reproductive data on bears in the region;
- Bear safety education for staff and the public/visitors;
- A general public who are increasingly informed and tolerant of grizzly bears; and
- A long running and successful aversive conditioning program in the region.

The number of bear encounters/incidents has increased in the past few years, which could be a function of one or more of factors such as a healthy and potentially expanding grizzly bear population; a rise in human visitation to Kananaskis; and increased reporting of grizzly bear encounters/sightings due to educational programs and cell phone use (Alberta Parks, Pers. Comm. 2016). In the areas surrounding Kananaskis a number of encounters were reported in 2015 and 2016. However, in most cases where an attack took place

the grizzly's behavior was determined to be defensive rather than predatory. People were either injured when they surprised a bear during recreational activities such as biking or ATV use, or when they were in an area inhabited by a sow with cubs.

### **Aversive Conditioning Program**

To foster coexistence, while decreasing the risk of human-bear conflict, an aversive conditioning or bear shepherding program has been in place in Kananaskis since 2000. Although the program used trained karelian bear dogs in the past, it currently relies solely on staff. The objective is to “train” the grizzly bears to avoid areas of high human activity such as campgrounds, day use areas, and hotel grounds by creating a negative association for the bear. In the instance where a bear uses high human use areas, it will receive a negative stimulus from staff that can include loud voices/shouting, dog barking, cracker shells (bear bangers), or rubber bullets. Many bears respond at the sound of a voice, however, some bears require a rubber bullet to leave the area. According to Alberta Parks, this is considered higher learning for bears that live in the high human use environment.

Bears in the aversion program wear radio collars or ear tag transmitters to allow park staff to anticipate their movements into an area of high human use. Staff can then proactively manage the situation by dissuading the bear from entering the campground or high human use area, and manage people in the area to reduce the potential for conflict. The bear shepherding program also focuses on public education to teach visitors to decrease their impacts on bears; for example, by not stopping along the road to watch bears, making noise and carrying bear spray while hiking (Alberta Parks, Pers. Comm. 2016).

### **Government Policy and Traditional Knowledge**

Traditional Knowledge has had a difficult history in Canada. Many of the visions and themes in Traditional Knowledge have roots in the repressive policies of the Canadian government, beginning in the mid 19th century and continue through the mid 20th century. One of these beginnings is in 1884, when the Government of Canada, through the Indian Act, started to pass criminal laws that prohibited First Nations ceremonial dancing, that included the Potlatch and Tamanawas Dances, of the West Coast of British Columbia (Backhouse, pg. 63). In 1895, the outlawing of these ceremonial dances would be expanded to include all festivals, dances, and ceremonies that involved the giving away of money or goods, or the wounding of humans or animals (Backhouse, 1999 pg. 63)

Other restrictive government policies were the Pass and Permit systems. The pass system acted as a barrier for First Nation groups to gather and communicate together for religious and ceremonial events, and this also impacted our relations with other neighboring bands who would travel to Stoney Nakoda to attend ceremonies and special events (Snow, 2005 pg. 73). The permit system was effective in deterring the limited economic activity that First Nation members could engage in, without first having permission to buy and sell goods, with the permission of the Indian Agent, from off reserve individuals and companies.

In addition to the pass and permit system, another repressive government policy was compulsory enfranchisement that first was enacted through the Indian Act in 1922. Compulsory enfranchisement, was a means of control for federal bureaucrats, to deprive Indians of land and treaty entitlements, and only a few educated Indians knew how this worked. If criticized, Indians could be deprived of their homes, land and life on reserve (pg. 91, Pannekoek). The practice of Traditional Knowledge was further discouraged through repressive legislation like compulsory enfranchisement.

The cultural importance of First Nation dance is one aspect of establishing and maintaining relations with the spirit world. In many cases, it is the spirit of wildlife species that gives insight and knowledge to the First Nation people about habitat, landscapes and waterbodies. An integral part to maintaining these special relationships is the performance of ceremonies, songs and dances. By criminalizing festivals, dances and ceremonies, the repressive policies impacted the special relationship that First Nations have to the spirit world, as well as their relationship to land, animals, and waterbodies. In effect, the criminalization of these festivals, ceremonies and dances, created an imbalance between the spirit world with land, animals and water bodies.

These, as well as other repressive government policies, have impacted generations of First Nations, and their ability to retain, express and share their traditional knowledge. Since the earliest contact between First Nations and Western Scientists, anthropologists were at pains to describe that the 'dance and feasts' had 'object and meaning' and that these events were ways in which older generations could pass on their stories, memories and experiences of 'buffalo hunts, intertribal wars, the rebellion of 1885, treaty signing, indigenous songs legends and ceremonies' (Backhouse, 1999 pg. 64).

Although many First Nations were impacted by the repressive government policies, and have influenced the First Nations relationship with land, many First Nations people have practiced their religious and cultural teachings in "secret" and away from public and government observances. These "secret" activities have allowed the First Nation people to retain some level of understanding from Traditional Knowledge.

Traditional Knowledge encompasses observation, as well as a spiritual understanding. As Snow discusses, through ceremony, and observance of animals, plants and rocks, the understanding was that everything was created for a purpose by the Creator, and that we must respect all of creation (Snow, 2005 pg. 18). As a part of creation, the Grizzly Bear has a role to play and a function to land, that is understood through Stoney Nakoda Oral History and Traditional Knowledge.

### **Traditional Knowledge and Western Science**

Traditional ecological knowledge (TEK) has multiple definitions and dimensions but is often discussed within the realm of indigenous or local knowledge. For working purposes, TEK can be defined as "a cumulative body of knowledge, practice and belief evolving by adaptive processes and handed down through generations by cultural transmission about the relationship of living beings (including humans) with one another and with their environment" (Fikret, 1999). However, TEK is not a singular concept; it can be considered specialized knowledge that is unique to a given culture or society. "No single indigenous experience dominates other perspectives, no one heritage informs it, and no two heritages produce the same knowledge". Indigenous knowledge is representative of a diverse learning process, deeply rooted to the land, its resources and the physical, social and spiritual relationships that form the basis of world views and ways of knowing (Battiste, 2013).

Traditional ecological knowledge is both cumulative and dynamic, building on experience, adapting to change, and based on social values. It is an attribute of societies who have developed technologies based on an intimate knowledge of the land and reflects an understanding of the earth's essential elements, evolving processes and patterns. Thus, its teachings and practices are inseparable from the person, place and context in which they are revealed. Where this knowledge has survived, it has been transmitted through language, which forms the basis of a shared belief of how the world works and what constitutes proper action (Battiste, 2013).

Indigenous knowledge embraces both the circumstances people find themselves in and their beliefs about those circumstances in a way that is unfamiliar to Eurocentric knowledge systems (Battiste, 2013). A hunter, for example, is pre-equipped with stories, songs, teachings and traditional laws of practice; their engagement

participates in the cycles of the day and night, animal habits, fluctuations in population growth and decline. Under various circumstances hunters will discuss different approaches to hunting and produce models of environmental interaction that assume a level of communication, agency and social relationship that is beyond the western scientific approach. If a hunter is having difficulty locating or killing an animal, it may be an indication that they did not make the appropriate preparations or that they should move to a different area or species. On the other hand, if a hunter is finding it easy to kill an animal, it could be that preparations were done well and that the animal is willing to give itself as a gift; alternately it could mean that the hunter is getting close to a point where they must limit their hunting (Scott, 2006).

Examined further, this relationship between the environment, cultural learning and life experience can become a tool to begin to understand the complex web of human-ecosystem interactions. By sharing stories through various methods that include TEK and different cultural perspectives on the environment, the knowledge attained can be used to help create conditions where wiser land management decisions are made. Since social and ecological systems have co-evolved, it follows that strengthening the cultural knowledge and indigenous practices may help sustain a healthier and stronger ecosystem (Garabaldi and Turner, 2004).

While acknowledging the importance of TEK in this study, it is also important to identify misconceptions about TEK. Old anthropological and religious history schools have characterized tribal peoples as superstitious, and who feared the natural elements and used simplistic explanations for things they did not understand (Wildcat and Deloria, 2000). There is a long tradition of misunderstanding by Western Science about TEK.

Wildcat and Deloria (2000) observe that modern science focuses on the questions such as “How does it work?” and “What use is it?” which is certainly in keeping with those that believe that the world is built to serve material purposes. Traditional peoples may have also asked these questions in their examination of the world, however, another question would have been considered: “What does it mean?”

Another area of misconception between TEK and Western Science is in how knowledge is used or exercised. Wildcat and Deloria (2000) state, “Traditional people preserve the whole vision, and scientists generally reduce the experience to its alleged constituent parts and inherent principles. These principles then become orthodoxy and stumbling blocks to future generations.” As such, where there are unexplained or “mysterious” meanings that arise from TEK understanding and experiences, Western Science does not accept the existence of any “mysterious” occurrence, behavior or experience. According to Wildcat and Deloria (2000), “Often in the Western context the answer is derived by the process of elimination. Thus, as with the theory of evolution, it is accepted primarily because other explanations are not popular or are distasteful.” When Western Science dissects secrets from nature through experimentations, this process is thought to be knowledge. In contrast, Traditional peoples understood knowledge from nature through ceremony and cultural practices. “Science leaves anomalies, whereas the unexplained in traditional technology is held as a mystery – accepted, revered but not discarded as useless.”

Increasingly, the use of TEK can offer alternatives to Western Science in assessing these past misconceptions, as well as offering alternatives to the current and future use of knowledge and technology. As stated by Snow (2005), wisdom can harness technology so that communities can live in pride, freedom, dignity and equality; through respect for Elders, where wisdom comes from, wisdom can balance all human activity. “If you destroy nature and the environment, you are destroying yourself. But if you protect the environment, and guard the water, ultimately you are protecting yourself.”

While some inroads have been made internationally, the validity of Indigenous Knowledge and value of Aboriginal community-based methodologies has yet to be fully recognized (Stonechild, 2006), in conservation

and resource use planning. Every cultural group has within it a range of environmental values and ethics, and a range of practices. Environmental relations of various groups are not identical as they are shaped by differing worldviews, ethics and daily events (Battiste, 2013). However, the value of ecosystem health is a shared value that transcends different ideologies in conservation and environmental management. Recognizing TEK as a key and integral component of environmental management contributes to the development of a more holistic perspective of ecosystems and provides additional avenues from which knowledge to guide recommendations for change can be gained.

### **3.0 METHODS**

The project was broken into several key activities that took place from April 2015 – 2016. These activities included 1) Project planning, 2) Cultural Monitoring Fieldwork 3) Interviews with Elders and Knowledge Holders 4) Reporting and 5) Public Outreach.

To the extent possible, planning and development activities were carried out of the course of the project in collaboration with Alberta Parks and the Foothills Research Institute. These activities included a series of project orientation meetings, internal meetings and in-field safety training for Cultural Monitors.

Cultural monitoring is a practice that incorporates local knowledge systems used by First Nations for generations in the identification of resources and the monitoring of ecosystem change. It includes practices that are not commonly incorporated into conventional or western resource management but are still part of traditional society. Cultural monitoring provides the means of developing a variety of tools and knowledge to increase community capacity for environmental problem-solving, while providing a broader set of data upon which land management decisions can be made.

During the course of fieldwork, Stoney Cultural Monitors gathered information in a manner that considers both qualitative and quantitative indicators of environmental factors but also considered local knowledge and perspectives on grizzlies. Cultural Monitoring was conducted in at least seven areas of cultural conservation interest; this activity, in addition to the documentation of traditional knowledge through interviews with Elders and Traditional Knowledge holders assisted the development of recommendations for grizzly conservation planning.

During fieldwork sites of interest were photographed and documented using GPS points (UTM, NAD83); written and audio information was also recorded at each location. The information was later used to develop a series of field reports and area specific recommendations.

With support from the Foothills Research Institute Grizzly Bear Program, the project attempted to integrate scat sampling into monitoring activities with the intent to contribute to the provincial DNA genetic database and library and build upon existing information on grizzly distribution and habitat use. Collection of scat samples was not achieved and therefore, genetic profiling was not completed.

Outreach activities were an integral component of the project. Project details were shared with provincial and federal government agencies, local environmental organizations and private sector organizations. Community educational materials (video) were developed in conjunction with Elders interviews. Follow up meetings with Alberta Parks will be planned to discuss further public outreach activities and project recommendations.

## 4.0 RESULTS AND ANALYSIS

### Elder Interviews - Traditional Knowledge and Grizzly Bears

Since time in memorial, the Stoney's developed a balance and spiritual relationship with the mountains. These areas and the stories that have been preserved and passed down through oral history for generation upon generation are sacred to the Stoney Nakoda. The elders' stories relate to the surrounding environment and to nature's setting. The characters in their stories are alive and Stoney people can identify with them, whether they are animals or birds or rocks (Snow, 2005). Stories recount relationships and communications among the animals and the Stoney Nakoda and serve as life teachings describing how to survive in balance with nature and with each other. For instance, the term "Mìthô", meaning little brother, or Mìchìn, big brother, was often used to describe the relationship with black bears. Certain people would learn how the bear communicated and were shown what and where to avoid through their observations. The relationship among wolves, Sítògéjâ, was used as a tool to teach young maidens and warriors about loyalty, devotion, fierceness in battle and the sacredness of a wife/husband relationship. Of these animals, the grizzly bear is revered as a highly spiritual being and spirit among the belief systems of the Stoney Nakoda. Nation members are taught to respect the grizzly bear behaviour, their need for space and their sacred areas.

Our ancestors identified and named them, and we still speak the names of these bears as we see them and identify them in Nakoda. We call grizzly bears Watahga. Wa, in general, means clawed animal. Tah is large. Grizzly bears have always roamed and are in our oral history.... my great grandfather, his great grandfather...every oral history, handed to generations includes grizzly bear habitat and the ranges, the year and identity of these bears. For instance, we use the way the grizzly sow tends to her cubs as an example to raise our children in learning and listening to the mother sow, Watahga wahmunga. We have the names as the grizzly bear grows older, Watahshingjun, Tungnunshinga and then Chuwahihnungehfah, translated "white rib". And then he grows older, the teeth and claws start showing a bit of wear. We call it Enoshkobaba, because of a shortage, losing the prime of his teeth; that grizzly tends to slur in his growl. Last but not least is the Wuhuctoba, which grows to be around four to seven hundred pounds – that's in his prime. That is the aging grizzly. We hunt these magnificent beasts for food and fat. The meat is dried out and processed; we need the protein and its medicinal purposes. Our ancestors have lived with them for thousands of years and have co-existed and learned the natural habitat of these animals, the ranges and the year where they should be found. (Lenny Wesley, Bearspaw Nation Elder, August 12, 2015)

During the interviews, there was discussion about respect for grizzly bears and the recognition of their need for space. The risks that grizzly bears pose to human safety if not respected was emphasized.

Since time in memorial, the area was inhabited by the wild animals, namely black bears and grizzly bears; that is their habitat. There are areas within the Kananaskis Country that were favoured by grizzlies because of various roots and plants which were important to their diet. Also berries such as saskatoons, chokecherries and whatnot. And then there was encroachment by man. They began to build buildings and establish trailheads and trails; man encroached upon the area...their area, their territory. And, naturally, since this is the bear's territory, they will be in that area looking for roots and berries. If they find man there, then man is encroaching upon their territory and they'll do, instinctively whatever is necessary to get rid of this encroachment – which is attacking or chasing man or the people away. There is the basic encroachment of man, in what is Kananaskis today (Charles Rabbit, Wesley Nation Elder, April 12, 2015).



The discussion regarding bear incidents reflects a worldview that is different from the way in which grizzly encounters are currently managed. Stoney Nation Elders described these interactions and how different situations may lead to a potentially fatal grizzly attack. There was considerable discussion about respecting grizzly territorial boundaries and recognizing the signs that may lead to a negative bear encounter. This knowledge of grizzly behavior is common among Stoney community members but is not common knowledge of many recreation users of the Kananaskis area.

We are afraid of the bears but they are afraid...more of people because they want to live free in the country. Today, if you go to Kananaskis there is a lot of houses and ski resorts. All the bears are hunters, hunting for deer, rabbits...all kinds. But, all the white people, they chase them away. That's why the bear's are going into garbage cans all around the houses – because they are pushing. They are getting tighter and tighter and bears don't like that. If you see a bear far away, just try to give him room because bears really need more room. It's not just the bears. In the city you can see all kinds of animals like deer, wolves and even cougar. We have to give more room respectfully. That way, they won't harm people. If you see a bear, don't take pictures, just give him room. If they walk toward you, always hold a very long stick. If it tries to chase you, use your coat and be taller than him. That way, he will walk away. If you run, they'll chase you. But, always hold a stick longer...if he walks away, just walk backwards slowly. I want you to give him more respect. (Jackson Wesley, Wesley Nation Elder, August 12, 2015)

A grizzly will make a line, like a seismic line; it marks its territory and then makes it a perfect square. The territory is marked and the grizzly will patrol this area. Other grizzly bears can come into the area but may only pass through. Grizzlies are very territorial. We are trained and told not to walk on this line while hunting. These mountain ranges have these bear lines. And, if you are tired while hiking and come down these slopes, if it's a bear line, chances are you will meet a bear that owns that territory. And they are not too friendly walking on their bear lines. They will see you as an intrusion and they will viciously guard it... to them, you are not to walk on this territory and you will get mauled. If you have followed that bear line, they pick up your scent. If they catch your scent two valleys over, chances are you will get bluff charged because the scent is an identity. And hiking trails, in general, are everywhere where it is suitable...bear lines are the most harmful and dangerous places to walk around in a Provincial or National Park. Within that territory is the food source. Buffalo berries, huckleberries, blueberries...Intrusion into this area is the problem. A grizzly sow can't raise her cubs upon a territorial square mile because the male will kill the cubs. We saw a sow move her nursery to the Stoney reserve and mark her nursery. We welcomed her and she stayed. Then, they tranquilized her. She made a nursery mark that she never got to use so we did a pipe ceremony for her. The misconception was that she was looking for food. We all know and respect these signs. In our beliefs we don't set up traps on bear lines (Lenny Wesley, Bearspaw Nation Elder, August 12, 2015)

If you see a bear scratch on the tree, try to stay away as far as possible (Jackson Wesley, Wesley Nation Elder, August 12, 2015)

Stories were told of the teachings and first communications with bears. Grizzly bears are seen to have their own oral history and spiritual connection to certain areas. For example, in some areas within Kananaskis, the hills are structured in such a way that they act as training grounds for young adult bears. Sows will teach their young to hunt and let them run in these areas. Other areas, such as Galatea are sacred to the bears... At the time of this gathering, grizzlies need to be given room and time to do what they need to do. Don't make trails or hike in there. (Lenny Wesley, Bearspaw Nation Elder, August 12, 2015)

The Eagle holds a very sacred place in Stoney cultural beliefs. The story of the thunderbird comes from an area near Ribbon Creek; this is a sacred place and the location of the eagle rejuvenation ceremony (Lenny Wesley, Bearspaw Nation Elder, August 12, 2015).

### **Stoney Cultural Monitoring – Fieldwork**

Stoney cultural monitoring took place over several time periods within 2015 and 2016. Locations visited included areas within the vicinity of Ribbon Creek, Galatea Creek, Opal Creek, Wedge Pond, Quirk Creek/Elbow area, Grizzly Creek, King Creek and Evan Thomas. Results from previous fieldwork in 2014 also contributed to this report. Below is a summary of the findings and recommendations for each location.

#### West Ribbon Creek:

The site visit to West Ribbon Creek took place on October 15, 2015. The cultural significance of the Ribbon Creek and its proximity to the location of the eagle rejuvenation site described during Elder interviews was reinforced by the Stoney Cultural Monitors. Oral history of the eagle rejuvenation ceremony and the spiritual power of the eagle come from this area. This ceremony has taken place for thousands of years and is part of the way of life of the Stoney Nakoda.

#### Findings included:

- Signs of grizzly activity
- Culturally important plants and trees
- Mountain sheep habitation
- Eagle Mountain ceremony location

#### Recommendations:

- Timed closure of trails
- Restricted access to red zone areas
- Alberta Parks to work with Stoney Nation to determine timing for closures and access restrictions
- Harvesting within defined areas

### Galatea Creek and Opal Creek

Information for this was based on fieldwork conducted in August 2015, and previous experience in the area. Cultural monitoring fieldwork reinforced the importance of the Galatea area as the location of the sacred bear dance. The spiritual significance of this area for the grizzlies was emphasized through personal witness accounts of the bear dance and from traditional knowledge of this area.

#### Findings included:

- Sacred site for bears; location of bear dance and gathering area (Lantern Creek)
- Signs of bear marking and bear trail; bear hunting skills training location

#### Recommendations:

- Timed closure of trails (possibly mid July to mid August).
- Warning signs for tourists.
- Impose fines if restrictions not adhered to.
- Alberta Parks to work with Stoney Nation to determine timing for closures and access restrictions.

### Quirk Creek/Elbow Site Visit:

The site visit to Quirk Creek and the Elbow area took place during the winter on January 26, 2016.

#### Findings included:

- Signs of cougar activity (cougar pouncing trees)
- Signs of bear or grizzly trail and a fresh kill; female hiker was seen on this trail with a small dog
- Grizzly trail heading up the hillside

#### Recommendations:

- Restricted access to red zone areas.
- Alberta Parks to work with Stoney Nation to determine timing for closures and access restrictions.

### Wedge Pond, Galatea Creek, Grizzly Creek, King Creek and Evan Thomas:

The site visit to the Wedge Pond, Galatea Creek, Grizzly Creek, King Creek and Evan Thomas areas took place during the winter. These areas were noted as a potential hunting area for grizzlies. Human activity off trail could impact game use of the area. In turn, this could negatively impact grizzly use of the area.

#### Findings included:

- Signs of game activity (Elk, deer, moose)
- Human activity in the area; tracks heading off designated trails
- Culturally significant plants

#### Recommendations:

- Restricted access to trails only. No off trail access.
- Maintain one access point to Wedge Pond. Limit off trail use of the area.
- Signage around Grizzly Creek. Limit off trail use of the area.
- Apply signage to allow for bears to hunt/use trap lines (e.g. no stopping for vehicles to allow animal movement).
- July to fall closure at King Creek.
- Alberta Parks to work with Stoney Nation to determine timing for closures and access restrictions.

**3.1 List of Areas**

*West Ribbon Creek Site Visit (October 8, 2015)*

<b>Area</b>	<b>Easting</b>	<b>Northing</b>	<b>Description</b>
West Ribbon Creek Site 1 Area 1 – Grizzly and Eagle activity	0628319	5862646	Signs of grizzly and eagle activity noted.
West Ribbon Creek Site 2 Area 2 – Culturally important tree	0629923	5643976	Bow harvesting tree.
West Ribbon Creek Site 3 Area 3 – Culturally important tree	0629625	5643826	Tree with medicinal value.
West Ribbon Creek Site 3 Area 4 – Culturally important tree	0629599	5643880	Tree with medicinal value.
West Ribbon Creek Site 4 Area 5 – Culturally important tree	0629420	5643858	Canoe harvesting tree.
West Ribbon Creek Site 5 Area 6 – Mountain sheep habitation	0629325	5643812	Sheep forage on the mountain side. Close proximity to eagle habitation.
West Ribbon Creek Site 5 Area 6 – Culturally important location	0629325	5643812	Eagle Mountain ceremony. Eagle rejuvenation.
West Ribbon Creek Site 6 Area 7 – Grizzly activity	0629226	5643760	Grizzly tracks and trail noted.
West Ribbon Creek Site 7 Area 8 – Culturally important vegetation.	0629707	5643846	Plant with medicinal value.

*Galatea and Opal Creek Site Visit 1 (August 22, 2014)*

<b>Area</b>	<b>Easting</b>	<b>Northing</b>	<b>Description</b>
Galatea and Opal Creek Site 1 – Grizzly activity	0684501	5498310	Bear marking and bear trail leading 1 mile SE to area frequented by grizzly bears with cubs; Hunting skills training for

**RESULTS AND ANALYSIS**

Area	Easting	Northing	Description
			cubs.
Galatea and Opal Creek Site 2 – Grizzly activity	0628381	5635964	Close proximity to sacred site of bears and other big game gathering. Trail leading to special Grizzly area.
Galatea and Opal Creek Site 3 – Grizzly activity	0628612	5635356	Bear footprint and tracks leading SE.

*Galatea and Opal Creek Site Visit 2 (August 8, 2015)*

Area	Easting	Northing	Description
Galatea and Opal Creek Site 1 – Culturally important vegetation; grizzly activity and food.	0642710	5606705	Signs of grizzly food and activity noted. Migration route to dance and mating area.
Galatea and Opal Creek Site 2 – Grizzly activity	0644097	5604607	Grizzly bear trail heading to dance/gathering area.
Galatea and Opal Creek Site 3 – Grizzly activity	0651121	5598749	Grizzly prints on road side. In close proximity to dance/gathering area.
Galatea and Opal Creek Site 3 – Grizzly activity	0655590	5595529	Bear tracks and signs of activity noted.
Galatea and Opal Creek Site 4– Grizzly activity	06590509	5590704	Special Grizzly area. Bears travel throughout the mountains to this location.

*Quirk Creek/Elbow Site Visit (January 26, 2016)*

Area	Easting	Northing	Description
Quirk Creek/Elbow Site 1 – Cougar activity	N/A	N/A	A tree used by young cougars to practice pouncing on wild game. Claw markings on side of tree. Pouncing tree.
Quirk Creek/Elbow Site 2 – Grizzly activity	N/A	N/A	Bear trail noted. Fresh kill observed. Grizzly noted in the area. Female hiker was seen passing through the area with a small dog. Did not appear concerned with the warning signs.
Quirk Creek/Elbow Site 3 – Grizzly activity	N/A	N/A	Grizzly trail heading up through hillside.

*Wedge Pond, Galatea Creek, Grizzly Creek, King Creek and Evan Thomas Site Visit (February 17, 2016)*

**RESULTS AND ANALYSIS**

<b>Area</b>	<b>Easting</b>	<b>Northing</b>	<b>Description</b>
Evan Thomas Site 1 – Wildlife habitat	0631270	5639678	Squirrel nest, deer tracks, bull elk or bull deer tracks, human tracks, deer scat. Few signs of animal activity but a lot of human activity observed in the area.
Wedge Pond Site 2 – Culturally important vegetation, wildlife habitat, human use	0630482	5637440	Tea observed within the area. Squirrel habitat and deer tracks. Few signs of animal activity but a lot of human activity observed in the area.
South of Galatea Creek Site 3 – Human use	0628578	5635357	SW of Galatea Creek. No signs of animal activity.
South of Galatea Creek Site 4 – Wildlife crossing	0629404	5630777	Deer crossing at highway 40.
Grizzly Creek Site 5 – Human disturbance, wildlife	0631400	5624767	Human disturbance. Tree cut of side of tractor trail. Tractor trail located 100 meters east of highway 40. Cut branches and squirrel’s nest. Signs of elk or moose. Heavy human disturbance and activity (trail creation and cutting) observed.
Galatea Creek Site 6 – Sacred grizzly location	0631408	5624331	Near mountains that grizzly bears inhabit. Valley and trail head to Lantern Creek, the location of another special Grizzly area.
King Creek Site 7 – Human use	0633480	5620078	Signs of heavy human and dog activity; hikers heading east on King Creek.

## 4.0 CONCLUSIONS AND RECOMENDATIONS

One of the features for the study concerns the groups that are involved in Grizzly Bear research, who generally work in “silos” and do not regularly communicate or collaborate with each other. This is consistent with the overall approach of Western Science, in terms of breaking down observations into categories and sub-categories. While this may facilitate understanding, it also acts as a barrier to observing and communicating experiences. In the past, Traditional Knowledge users, within the First Nation society communicated their observations of animal behaviors to Elders and other leaders within the society, so that such observances could be widely understood. The continuing observance of Grizzly Bears behaviour by the community is a feature of Traditional Knowledge that continues today.

Within Western Science, animals in general are not considered to have a “spirit”, whereas in Traditional Knowledge, all things that are created are considered to have a “spirit” and purpose. While some observances and behaviors cannot be explained by Western Science, this is not the case for Traditional Knowledge. Animals, such as the Grizzly Bear, are considered to be very spiritually important within the First Nation community. In this sense, “irregular” or “unusual” behavior can be plausible through spiritual and cultural understanding.

These two aspects, communication and spirit, are among the many differences between Western Science and Traditional Knowledge. These two aspects have been the focus of the following recommendations.

The SCT has the following recommendations:

### **Recommendation #1 – Ceremony**

- It is recommended that a ceremony be conducted by Stoney Nakoda, in the Kananaskis area, in order to assist Grizzly Bears, with the help of the local community, to continue their relationship to the specific areas that are culturally significant for Grizzly Bears.

### **Recommendation #2 – Restricted Activity**

- It is recommended that a period of restricted activity be implemented for the “Galatea Creek” and “Wedge Pond” areas in Kananaskis. This period of activity should begin the last week of July and end the middle of August, in a given calendar year. Generally, this is the period when special Grizzly Bear activity takes place, and these areas should be avoided, where possible.

### **Recommendation #3 – On going Cultural Monitoring**

- It is recommended that Stoney Nakoda Grizzly Bear cultural monitoring continue for this Kananaskis area, to update and educate Park Management and Park users on changes in Grizzly Bear activity. In 2014, as part of the Stoney Nakoda recommendations on the South Saskatchewan Regional Plan response, Cultural Monitoring was recommended, in order to understand culturally significant areas within various provincial crown land areas, within the South Saskatchewan Regional area.

### **Recommendation #4 – Restricted Development**

- It is recommended that a period of industrial development and vegetation management be restricted for the “Galatea Creek” and “Wedge Pond” areas in Kananaskis, and regionally in the Kananaskis area. The time frame is not yet defined, as a program of cultural monitoring has not formally been started, in accordance with the Stoney Nakoda 2014 SSRP response recommendations. When the all areas within Kananaskis have been reviewed for a cultural importance and understanding for various wildlife

and habitat impacts, then can proposals of industrial development and vegetation management be fully understood, and avoided or mitigated.

### **Recommendation #5 – Connectivity**

- It is recommended that Parks Canada and Alberta Parks institute more wildlife crossings. This will allow for Grizzly Bears, and other animals, to access the Kananaskis area without risk of being endangered by traffic, camping, railroads or other industrial activity. Wildlife crossings should be as natural as possible, so as not to impact wildlife movement or migration. Wildlife crossings should not be near other developments (i.e. golf courses, trails, etc.), to the extent possible.

### **Recommendation #6 – Cultural Awareness**

- It is recommended that Parks Canada and Alberta Parks, begin or continue a program of Stoney Cultural Awareness, where wildlife policy, programs and regulations can be discussed, while also taking into account a Traditional Knowledge perspective of these programs and policies.



## Literature Cited

- Battiste, M. (2013). *Decolonizing Education, Nourishing the Learning Spirit*. Purich Publishing Ltd, Saskatoon.
- Berkes, F. (1999). *Sacred Ecology. Traditional Ecological Knowledge and Resource Management*. Philadelphia: Taylor & Francis, Philadelphia and London, UK.
- Bourbonnais, M. L., Nelson, T. A, Marc, R. L. Darimont, C. T. and G.B. Stenhouse. (2013). Spatial Analysis of Factors Influencing Long-Term Stress in Grizzly Bear (*Ursus arctos*) Population of Alberta, Canada. *Plos One*, 8 (12): 1-14.
- Backhouse, C. (1999). *Colour Coded: A legal history of racism in Canada 1900 – 1950*. University of Toronto Press, Toronto.
- Clark, D. A. and D. S. Slocombe. (2009). Respect for grizzly bear: an Aboriginal approach for co-existence and resilience. *Ecology and Society*, 14(1): 42.
- Gorman, R. Pannekoek, F. (2007). *Behind the Man, John Laurie, Ruth Gorman, and the Indian Vote in Canada*. University of Calgary Press, Calgary.
- Garabaldi, A. and N. Turner. (2004). Cultural keystone species: implications for ecological conservation and restoration. *Ecology and Society*, 9(3): 1
- Munro, R. H. M., Neilsen, S.E. Price, M. H., Stenhouse, G. B. and M. S. Boyce. (2006). Seasonal and Diel Patterns of Grizzly Bear Diet and Activity in West-Central Alberta. *Journal of Mammalogy*, 87 (6): 1112-1121.
- Scott, C. (2006). Spirit and Practical Knowledge in the Person of the Bear among Wemindji Cree Hunters, *Ethnos*, 71 (1): 51-66.
- Snow, J. (2005). *These Mountains Are Our Sacred Places*. Fifth House Publishers, Calgary.
- Stonechild, B. (2006). *The New Buffalo, The Struggle for Aboriginal Post-Secondary Education in Canada*. University of Manitoba Press, Winnipeg.
- Wildcat, J. Deloria, V. (2000). *Power and Place, Indian Education in America*. Fulcrum Publishing.

Photo Report

**Appendix A: Photos**

Photos: West Ribbon Creek



**Photo 1 Site Visit 1, October 8, 2015 West Ribbon Creek:** Grizzly Trail noted at West Ribbon Creek. Trail shows size of grizzly. Travelling further on the trail could provoke a bear attack.



**Photo 2 Site Visit 1, October 8, 2015 West Ribbon Creek:** Grizzly tracks noted at West Ribbon Creek. According to Traditional Knowledge, one should never cross a grizzly trail out of respect for the passing bear. Let the bear leave before crossing.

Photos: Galatea and Opal Creek



**Photo 1 Site Visit 1, August 22, 2014 Galatea Creek/Opal Creek:** Signs of bear activity. Bear marking and trail leading to hunting skills training area.



**Photo 2 Site Visit 1, August 22, 2014 Galatea Creek/Opal Creek: Signs of bear activity. Bear trail heading SE.**



**Photo 1 Site Visit 2, August 8, 2015 Galatea Creek/Opal Creek: Signs of bear activity. Bear prints and overturned rocks.**



**Photo 2 Site Visit 2, August 8, 2015 Galatea Creek/Opal Creek: Signs of bear activity. Bear prints.**

Photos: Quirk Creek/Elbow



**Photo 1 Site Visit 1, January 26, 2016 Quirk Creek/Elbow Site:** Signs of cougar activity. Young cougar markings. Full paw print.



**Photo 1 Site Visit 1, January 26, 2016 Quirk Creek/Elbow Site:** Bear trail. Fresh kill in the area. Grizzly trail heading through the hillside.

Photos: Wedge Pond, Galatea Creek, Grizzly Creek, King Creek and Evan Thomas





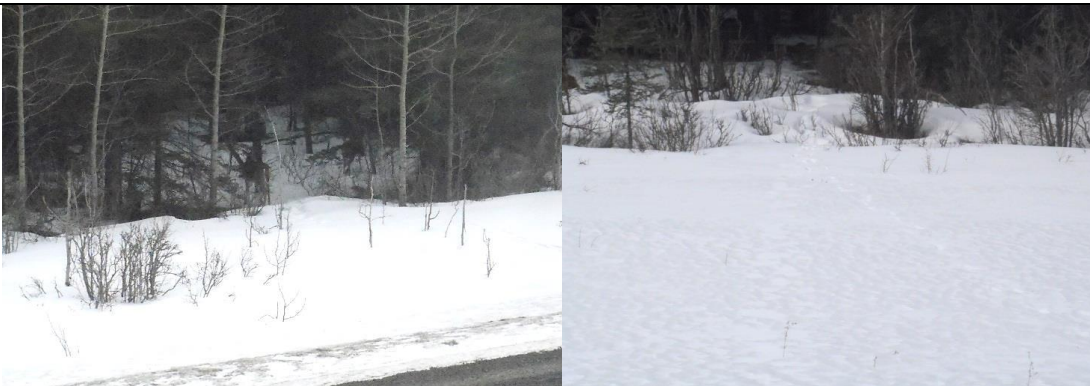
**Photo 1 Site Visit 1, February 17, 2016 Evan Thomas Park:** Squirrel nest (habitat), deer tracks and bull elk or bull deer tracks. Deer scat and human tracks. Few signs of animal activity but a lot of human activity observed in the area.



**Photo 2 Site Visit 1, February 17, 2016 Wedge Pond Park:** East end of Wedge Pond. Tea, squirrel habitat, deer tracks. Signs of heavy human activity but not a lot of animal activity observed.



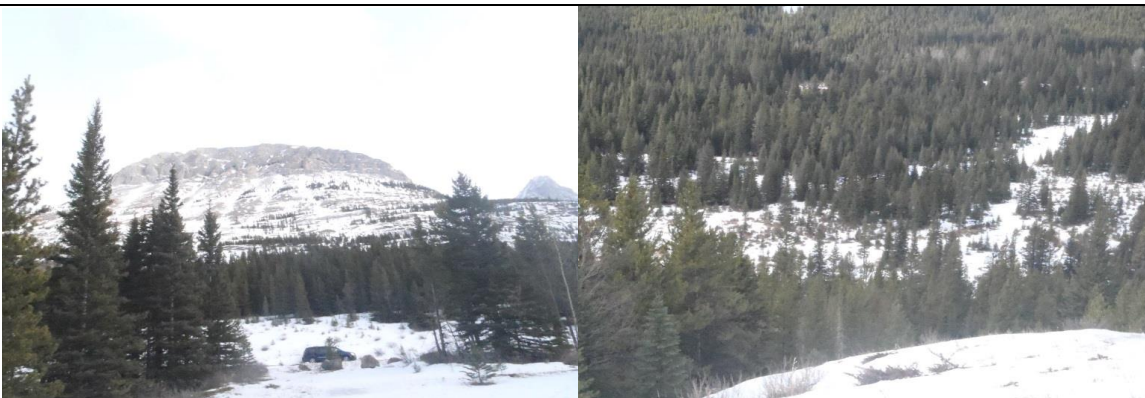
**Photo 3 Site Visit 1, February 17, 2016 Galatea Creek:** View of Galatea Creek. No signs of animal activity.



**Photo 4 Site Visit 1, February 17, 2016 Galatea Creek:** South of Galatea Creek. Deer crossing highway 40.



**Photo 5 Site Visit 1, February 17, 2016 Grizzly Creek:** Heavy human-caused disturbance observed in this area. Tree cut of side of tractor trail. Tractor trail located 100 meters east of highway 40. Cut branches and squirrel’s nest. Signs of elk or moose. Heavy human disturbance and activity (trail creation and cutting) observed.



**Photo 6 Site Visit 1, February 17, 2016 Point of interest near Galatea Creek:** View of mountain area that grizzlies inhabit. Grizzlies head from the valley and take the trail to the “dance area” at Lantern Creek. Elders

stated that this area is a sacred place for grizzly bears.



**Photo 7 Site Visit 1, February 17, 2016 King Creek:** East and West view of King Creek. Observed signs of heavy human use and dog activity; hikers heading east on King Creek.

## Appendix B: Contacts

Stoney Consultation Team

<p>William Snow Stoney Consultation Team Stoney Tribal Administration Manager Cell: 587 580 6212 Office: 403-881-4760 Fax: 403-881-4250 e-mail: <a href="mailto:bills@stoney-nation.com">bills@stoney-nation.com</a> P.O. Box 120 Morley, AB, TOL 1N0</p>	<p>Lenny Wesley Stoney Consultation Team Stoney Tribal Administration Bears paw Officer Cell: Office: Fax: 403-881-4250 e-mail: <a href="mailto:lennyw@stoney-nation.com">lennyw@stoney-nation.com</a> P.O. Box 120 Morley, AB, TOL 1N0</p>	<p>Chris Clarke Stoney Consultation Team Stoney Tribal Administration Chiniki Officer Cell: Office: Fax: 403-881-4250 e-mail: <a href="mailto:chrisc@stoney-nation.com">chrisc@stoney-nation.com</a> P.O. Box 120 Morley, AB, TOL 1N0</p>
<p>Chris Goodstoney Stoney Consultation Team Stoney Tribal Administration Wesley Officer Cell: Office: Fax: 403-881-4250 e-mail: <a href="mailto:chrisc@stoney-nation.com">chrisc@stoney-nation.com</a> P.O. Box 120 Morley, AB, TOL 1N0</p>		

Project Support/ Other

<p>Erin Slater Talvi Environmental (A and E Arrow Group) Cell: 403-589-2679 e-mail: <a href="mailto:erins@aearrow.ca">erins@aearrow.ca</a>, <a href="mailto:erinkkslater@gmail.com">erinkkslater@gmail.com</a></p>		
--	--	--