



Cows and Fish Report

Public Attitudes and Awareness Related to Riparian Areas in
the Eastern Slopes

August 2020

Cows and Fish

Alberta Riparian Habitat Management Society Report No. 056

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About Cows and Fish

Riparian areas are those areas along rivers, streams, lakes, wetlands, springs, and ponds that are strongly influenced by water and are recognized by water-loving vegetation. Cows and Fish is striving to foster a better understanding of how riparian areas function and how improvements in management strategies in riparian areas can enhance landscape health and productivity for the benefit of livestock producers, their communities and others who value these landscapes.

Cows and Fish Partners: Producers and community groups, Alberta Beef Producers, Trout Unlimited Canada, Canadian Cattlemen's Association, Alberta Agriculture and Forestry, Alberta Environment and Parks, Rural Municipalities of Alberta and the Association of Alberta Agricultural Fieldmen.

Working with producers and communities on riparian awareness

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SUMMARY OF KEY FINDINGS

Introduction

Two surveys were used to assess knowledge, attitudes, and behaviour of Albertans in relation to riparian areas within the Eastern Slopes of the Canadian Rockies. Three hundred fifty (350) Eastern Slopes residents, and 1,277 people living in the buffer zone just outside the region were surveyed. The same questions were asked of both groups. There are approximately 50,000 people living within the Eastern Slopes, and just over 3 million people living within the buffer zone.

The importance of the Eastern Slopes for recreation among Albertans is enormous. Half the Alberta buffer zone population have visited the Eastern Slopes within the past year. Almost 9 in 10 residents of the Eastern Slopes recreate within the region.

While those living within the Eastern Slopes are more regular recreationists than those from outside the region, the vast majority of use emanates from outside the region. Proximity is important to frequency and intensity of use. Residents of Calgary generate more demand for recreation within the Eastern Slopes region than Edmonton or other major cities in the province.

Popular Areas and Activities

The most popular destinations in the Eastern Slopes include Banff and Jasper National Parks, Kananaskis Country, Canmore, Nordegg, Lake Louise, Rocky Mountain House, Hinton, Waterton Lakes National Park, and Bragg Creek. Hiking is the most popular activity, followed by tent camping, and RV camping. Of particular importance to riparian area management is that Eastern Slopes residents have a proportionately higher share of recreationists who take part in fishing, RV Camping, and Off Highway Vehicle (OHV) use within the area.

The Eastern Slopes is a popular area for OHV enthusiasts, with about 10% of buffer zone respondents taking part at least a few times a year, and 35% of Eastern Slopes residents participating at least a few times a year. An area of concern is that approximately 40% of OHV users in the Eastern Slopes do not always use designated trails, and many have routes crossing rivers and streams.

About two-thirds of recreationists in the Eastern Slopes are concerned about impacts of certain recreational activities. Those involved in non-motorized recreation (e.g., hiking, tenting) have a higher rate of concern than those using OHVs, motorboats, and RVs. Respondents identified the main source of damage to riparian areas is caused by OHVs. Eastern Slopes residents are far more likely to observe this damage. This may pertain to their higher per capita level of use of the Eastern Slopes (hence more exposure).

The main recreation impacts are water bank damage, littering, noise, and in general irresponsible behaviour. Based on the self-reported behaviour of OHV users, about 9 in 10 state they are careful not to damage vegetation along shorelines. This may be indicative that even a small number of users can create significant damage.



Work in the Eastern Slopes

A majority (53%) of Eastern Slopes residents are engaged in regular work in the region. The main employment includes oil and gas, education, tourism, agriculture, and government. A much smaller percentage of buffer zone respondents work in the Eastern Slopes (6%), and the work tends to be more intermittent with fewer than 1% engaging in regular work.

Almost one-third of those working in the Eastern Slopes encounter riparian areas in the work they perform. Almost all indicate they adhere to proper setbacks from wetlands and water bodies, and almost 9 in 10 manage their work to minimize impacts on riparian areas.

Knowledge and Attitudes Related to the Eastern Slopes

About 1 in 10 buffer zone residents, and 2 in 10 Eastern Slopes residents can correctly define what a riparian area is.

About three-quarters of all respondents feel it is important to ensure the long-term health of riparian areas, and about two-thirds are concerned about impacts caused by human activities. Tourism is the activity felt to be least well-managed within the Eastern Slopes.

There is a high degree of consistency between residents of the Eastern Slopes and the buffer zone related to the importance of protecting water sources and riparian areas for fish, large mammals, migratory birds, and appreciation of nature, with more than 80% indicating these are important.

Awareness of environmental organizations operating within the Eastern Slopes is highest among those who live within the region. The most recognized are CPAWS and Trout Unlimited Canada. About 4% of the Alberta population know what Cows and Fish does.



Benchmarks

One of the goals in conducting the research is to establish benchmarks against which progress can be measured in relation to riparian **knowledge, attitudes, and behaviour**, specifically within the Eastern Slopes. Due to differences observed between residents of the Eastern Slope and the buffer zone, benchmarks are broken down for each sub-population.

Behaviour

Percent of OHV users who prefer to make their own trails

- Buffer Zone 25%
- Eastern Slopes 21%

Percent of recreationists who have observed recreation-caused damage to riparian areas in the Eastern Slopes

- Buffer Zone 51%
- Eastern Slopes 52%

Percent of observed recreation-caused damage associated with OHV use.

- Buffer Zone 57%
- Eastern Slopes 84%

Knowledge

Being able to identify riparian areas

- Buffer Zone 11%
- Eastern Slopes 22%

Attitudes

Perceived importance of long-term health of riparian areas in the Eastern Slopes

- Buffer Zone 74%
- Eastern Slopes 78%

Concern about the impacts human activities are having on riparian areas in the Eastern Slopes

- Buffer Zone 65%
- Eastern Slopes 58%

Protecting riparian areas in the Eastern Slopes is vital to the quality of my drinking water

- Buffer Zone 79%
- Eastern Slopes 69%



SECTION 1. BACKGROUND AND METHODS

1.1 Background

The Alberta Riparian Habitat Management Society, also known as "Cows and Fish," is a non-profit society striving to foster a better understanding of how improvements in grazing and other management of riparian areas can enhance landscape health and productivity for the benefit of landowners, agricultural producers, communities, and others who use and value riparian areas.

The Cows and Fish Objectives are;

- to promote an understanding of riparian health and function;
- to communicate the benefits of good riparian management;
- to promote proactive voluntary solutions to riparian area conflicts;
- to demonstrate value of cooperative, interdisciplinary, and community efforts in resolving resource conflicts and addressing management challenges; and,
- to improve the overall productivity and health of Alberta's landscapes and communities

Cows and Fish Process

The Cows and Fish process, which has been successfully implemented since the early 1990s, begins with increasing awareness through team building, tool building, and community-based action. Monitoring and evaluation is a key part of the program, measuring the achievement of the efforts of Cows and Fish and its many stakeholders on improving and preserving riparian health.

Implementing the Cows and Fish Process to Benefit the Eastern Slopes

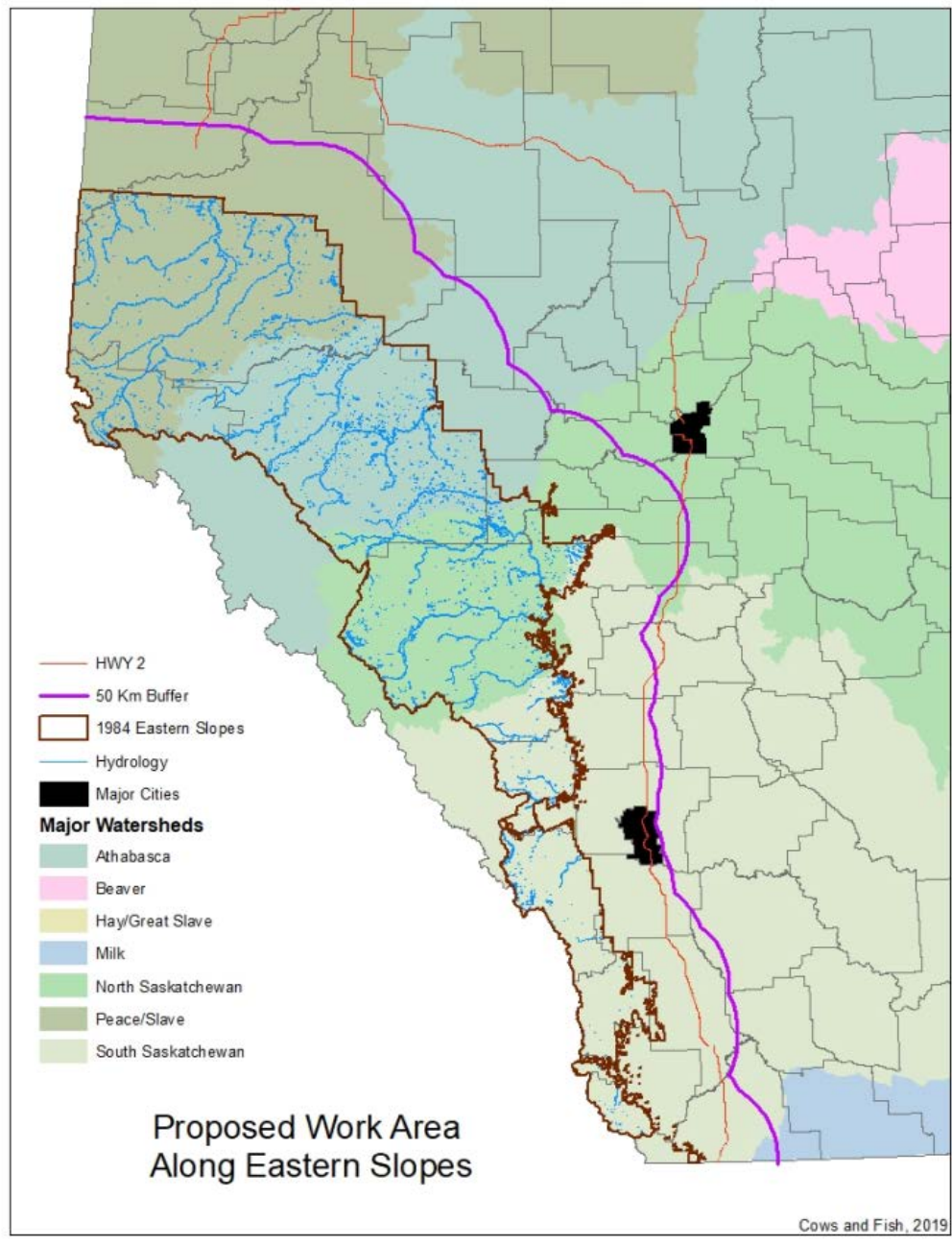
Recently Cows and Fish received support from the Government of Alberta to extend its programs into the riparian areas of the Eastern Slopes of the Canadian Rockies. The Eastern Slopes is characterized by a broad spectrum of land uses, ranging from protected areas, to industrial uses for mining, logging, and oil and gas. There are also many areas used by a wide range of recreationists, including those who enjoy hiking, camping, trail riding, skiing, off-highway vehicle (OHV) use, hunting, and fishing, and more. Protecting the riparian habitat of the Eastern Slopes is critical to many species and includes the headwaters for a number of major rivers.

The Cows and Fish Process will be implemented between 2019 and 2023 in the Eastern Slopes as part of the current funding, with the intent of lasting improvements to riparian management. The funding will primarily focus on achieving impacts in a number of local watersheds and adjoining areas in order to build locally relevant teams and impact change on the ground.



Cows and Fish will work with partners to bring together the stakeholders specific to each focal area, including provincial government land managers and approvals staff, but also recreation user groups, grazing allotment holders and stock associations, timber companies, as well as municipalities, local or regional watershed groups (including Watershed Planning and Advisory Councils), and non-government conservation organizations that work in the area.

Figure 1 Eastern Slopes and Buffer Zone





The people who influence the riparian health of the Eastern Slopes, and who benefit from its health, go well beyond local residents and stakeholders. In fact, a relatively small percentage (<2%) of the Alberta population live and work within the Eastern Slopes.

The vast majority of people who visit the Eastern Slopes reside within a 50-kilometre buffer zone. Although Edmonton falls just outside the 50-kilometre buffer zone, it has been included in this study due to the size of the population and its proximity to the Eastern Slopes..

Understanding the knowledge, attitudes, and behaviour of the Alberta population and other stakeholders in relation to riparian areas within the Eastern Slopes is critical to developing successful strategies for conservation and protection. In order to provide an effective measure of progress and change, baseline research was (and is being) conducted among three target populations; stakeholders, Eastern Slopes residents, and buffer zone residents. Since the stakeholder research is ongoing it is not included in this report.

Target Audience	Approach
Stakeholders who are directly involved with Cows and Fish programs	Non-random, on-line survey as follow-up to participant involvement in any Cows and Fish initiatives related to the Eastern Slopes. Administered as activities occur.
Residents of the Eastern Slopes	Random telephone survey of general public residing within the Eastern Slopes.
Buffer zone general population survey.	Random online survey of general population residing in the Eastern Slopes buffer zone (plus Edmonton).

Research Purpose

The purpose of this research is to:

- assess knowledge, attitudes, and behaviour of the general public in relation to maintaining and enhancing riparian health in the Eastern Slopes;
- establish benchmark data to evaluate progress in relation to protection and understanding of the importance of riparian areas; and,
- to inform communication, education, and outreach initiatives.

This report provides the findings of the quantitative research conducted between May 5 and May 21, 2020. A separate PowerPoint report is also available.



1.2 Approach and Methodology

Study Population

The study population includes Alberta residents who reside within the Eastern Slopes, and those living within the buffer zone of the Eastern Slopes.

The Eastern Slopes resident population includes 50,432 adults (18 years of age and older).¹ The buffer zone population includes 3,093,567 adults (18 years of age and older), including Calgary (979,033) and Edmonton (737,626). The remaining 1,376,908 adults in the buffer zone reside in communities, towns, and rural areas in the western half of the province.

Sample Design

To ensure the views of Eastern Slopes residents are sufficiently represented in the study, a stratified sample design was used. A stratified design allows a smaller subset of the population (in this case Eastern Slopes residents) to be included in a general population study of a much larger population, where the smaller subset is believed to have important differences from the larger population stratum. If just a provincial sample was used (proportionate sample), the sample of Eastern Slopes residents would be too small for analysis as they make up less than 2% of the total population. It is important to keep the population numbers in mind when reviewing the study results as the percentages relate to vastly different population numbers.

Methods

A random telephone survey of 350 residents was used in the Eastern Slopes stratum, and a random online survey of 1,277 was used for the population within the buffer zone just outside the Eastern Slopes boundaries. The survey instruments were the same for both the telephone and online survey, providing an overall sample of 1,627.

The telephone survey averaged just over 19 minutes in length, and the online survey averaged 12 minutes. The reason for the difference has to do with the extent and type of activities the two population groups engage in, with the resident group being far more involved in work and recreation activities throughout the year. Also, telephone surveys take longer as people tend to engage more.

Sample Stratification	Population	Sample Size
Eastern Slopes Residents	50,432	350
Buffer Zone Population	3,093,567	1,277

¹ Statistics Canada 2016 Census



Section 2 – Profile of Use

2.1 Visitation and Use

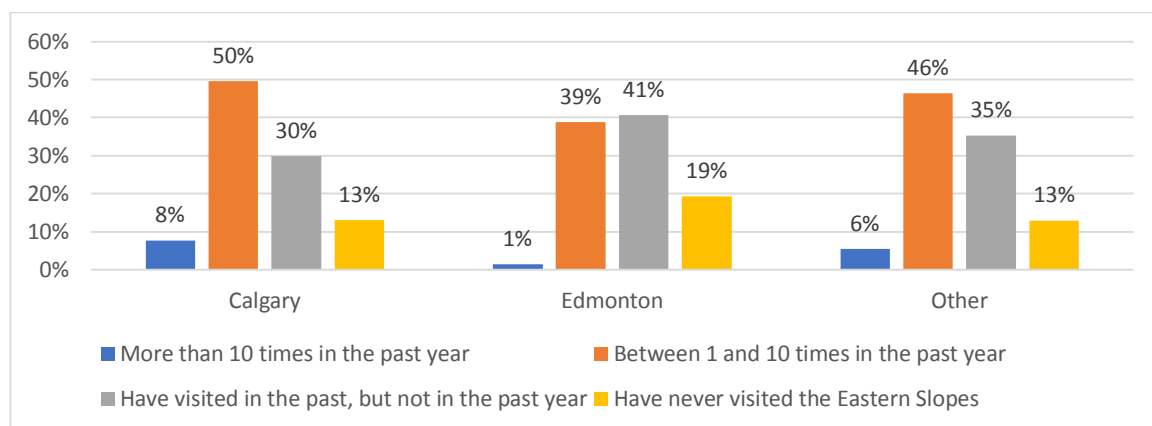
Eighty-six percent of respondents residing within the buffer zone have visited the Eastern Slopes at some point in time. Five percent have visited more than 10 times in the past year, while 46% have visited between 1 and 10 times in the past year (residents of the Eastern Slopes were not asked this question, since they live there).

Frequency of visitation among buffer zone residents is affected by proximity, with 8% of Calgarians visiting more than 10 times in the past year, compared with 1% of Edmontonians. Those from other communities within the buffer zone also have a higher likelihood of visiting frequently (6%). Forty-one percent of Edmontonians have not visited in the past year and 19% have never visited the Eastern Slopes.



The most frequent buffer zone visitors (10+ times in the past year) are also more educated and have a higher income than less frequent visitors. Forty-seven percent of those visiting more than 10 times in the past year have a household income of greater than \$100,000, compared with 37% being between \$50,000 and \$100,000, and 10% being under \$50,000. Sixty-seven percent of the most frequent visitors have a university degree compared with 19% having a college degree, and 13% having partial post-secondary or high school.

Figure 2 Frequency of Visiting One or More Areas in the Eastern Slopes*



*not asked of people living within Eastern Slopes

Activities within the Eastern Slopes

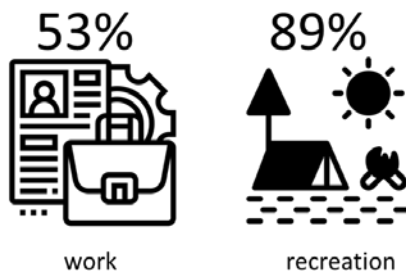


Those who reside within the Eastern slopes have a very high propensity to recreate (89%) and work (53%) within the area.

For those who reside within the buffer zone, the main reason for visiting the Eastern Slopes is recreation. Considering only those who have visited the Eastern Slopes in the past year, 49% of buffer zone respondents have visited for recreation, while 4% have visited for work.

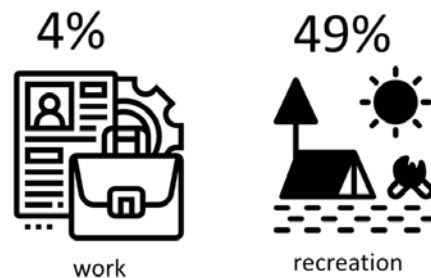
Eastern Slopes Residents

(Eastern Slopes activity – past year)



Buffer Zone Residents

(Eastern Slopes activity – past year)



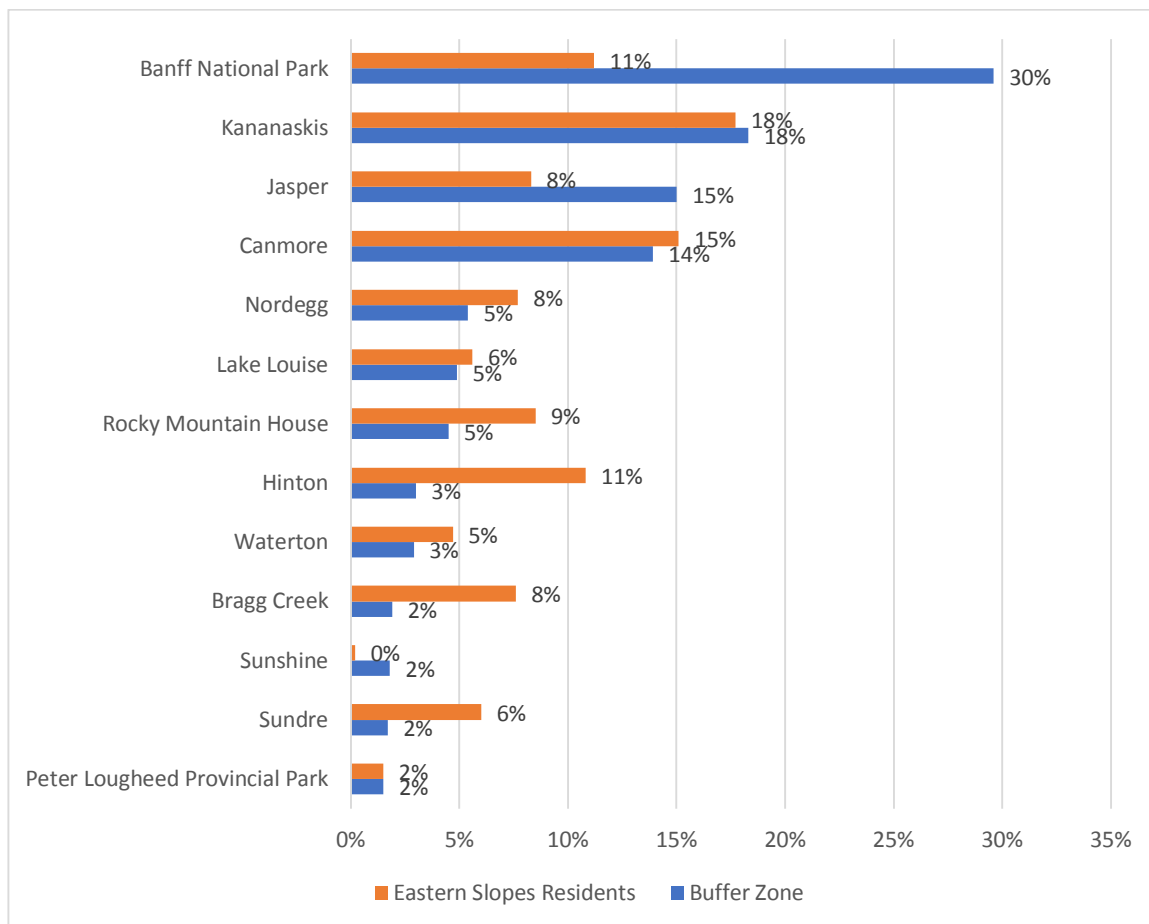
Recreation and Leisure Destinations

Respondents were asked which areas they have visited in the Eastern Slopes in the past year for recreation and leisure. Their responses were recorded verbatim allowing multiple mentions. More than 100 areas were identified, although by far the most popular recreation destinations are Banff and Jasper National Parks, Kananaskis Country, and Canmore. Other popular destinations include Nordegg, Lake Louise, Rocky Mountain House, Hinton, Waterton Lakes National Park, and Bragg Creek. It is interesting to note that people living within the Eastern Slopes have a lower likelihood of visiting Banff National Park than those living within the buffer zone.





Figure 3 Most Popular Recreation Destinations in the Eastern Slopes



Belong to Recreation Group or Club

Three percent of buffer zone respondents belong to a recreation group or club. By contrast, 19% of Eastern Slopes residents belong to a recreation group or club. For Eastern Slopes residents, clubs with repeated mention include Canmore Nordic Club, Alpine Club of Canada, Neanderthals Hiking Club, and Rocky ATV Society. There was too much diversity in the clubs named to provide accurate estimates of frequency of mention.



2.2 Summer, Spring, and Fall Recreation Activities

Eighty-six percent of buffer zone respondents have visited the Eastern Slopes at some point, and among them, 96% did so for recreational purposes.

Among those living within the Eastern Slopes, 89% take part in recreation within the region.

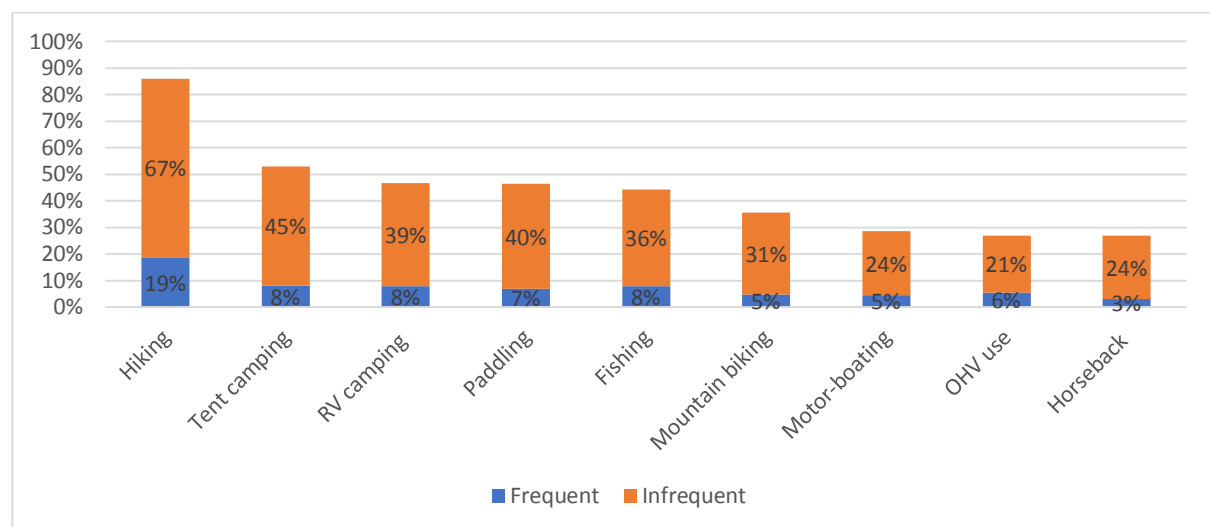
The most popular recreation activity in the Eastern Slopes during the summer, spring, and fall is hiking, with almost 90% of recreationists indicating they have hiked in the past year. Other popular activities include camping, paddling, and fishing.

Eastern Slopes residents take part in all recreation activities with greater frequency than buffer zone residents. Proximity to the recreation areas likely plays a role in the higher frequency. Of particular importance to riparian area management is that Eastern Slopes residents have a proportionately higher share of residents who take part in fishing, RV Camping, and OHV use.

Apart from location, the main demographic difference for most recreational activities is age. Hiking is the one activity which is not significantly affected by age. Tent camping and paddling activities are most popular among 18 to 24-year-olds. Mountain biking, OHV use, and fishing have similar participation rates among respondents aged 18 through 64 years of age. RV camping is most popular with those 55 years of age and older.

Participation varies for several activities by gender, with a higher proportion of males participating in fishing, OHV use, motor boating, and mountain biking.

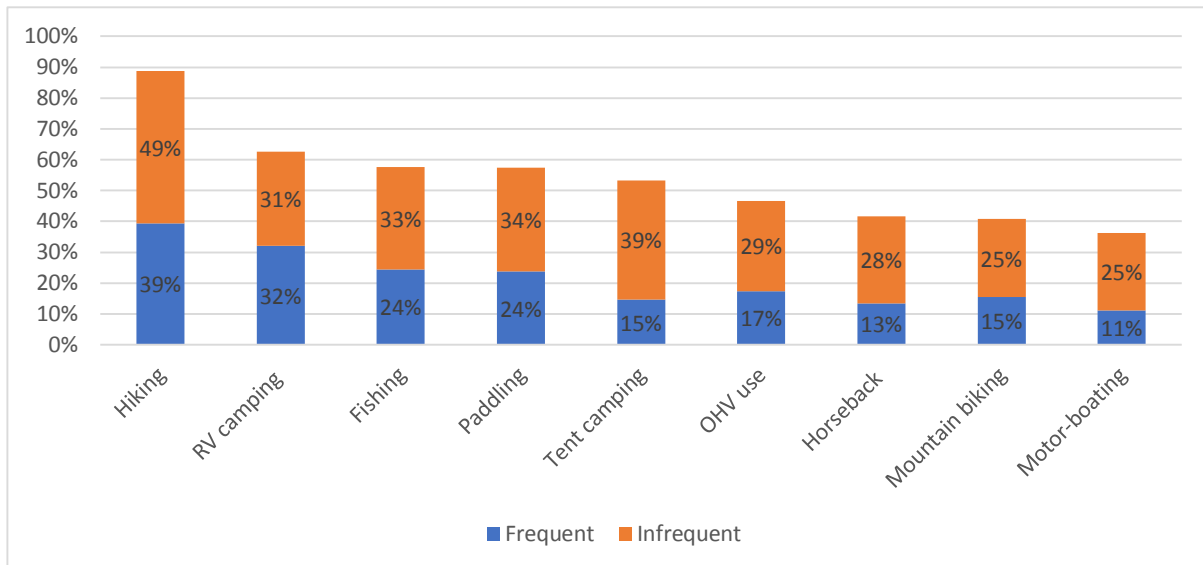
Figure 4 Eastern Slopes Recreation Activities by Buffer Zone Residents*



* among those who recreate in the Eastern Slopes, not all residents.



Figure 5 Eastern Slopes Recreation Activities by Eastern Slopes Residents*



* among those who recreate in the Eastern Slopes, not all residents.

Off Highway Vehicle Use

Figure 4 illustrates that 27% of buffer zone respondents who recreate in the Eastern Slopes use off-highway vehicles (OHVs). This equates to 21% of the actual buffer zone population when we also consider those who do not participate in recreation in the Eastern Slopes. Therefore, 79% of the population have never used an OHV in the Eastern Slopes.

In terms of frequency of use, four percent of buffer zone respondents have used an OHV in the Eastern Slopes about once a month or more in the past year. A further 6% have used an OHV in the Eastern Slopes a few times a year, and 10% rarely use an OHV in the Eastern Slopes (every few years).

There is a much higher proportion of OHV users among residents of the Eastern Slopes. Figure 5 shows 46% of Eastern Slopes residents who recreate within the region use OHVs. On a population basis (all Eastern Slopes residents) this equates 42% of residents using an OHV. Nine percent use an OHV a few times a month or more, 6% use an OHV regularly (about once a month), 20% a few times a year, and 6% rarely.

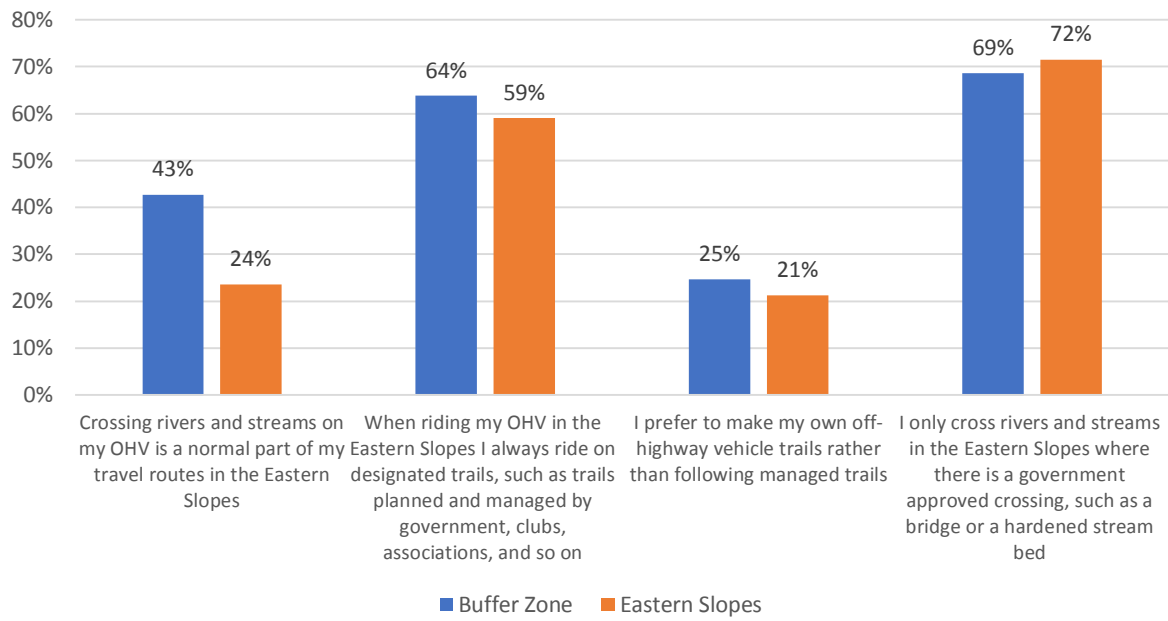
Crossing streams and rivers is a normal part of many OHV users' experience (43% buffer zone, 24% Eastern Slopes residents). Approximately 7 in 10 OHV users indicate that when they do cross rivers and streams, they do so where there are approved crossings. Just under two-thirds of OHV users follow designated trails when riding in the Eastern Slopes.

Figure 6 OHV User Behaviour (self-reported)



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2.3 Winter Activities

Almost 40% of buffer zone respondents who have recreated in the Eastern Slopes in the past year have taken part in resort-based downhill skiing or snowboarding.

As with summer-time activities, residents of the Eastern Slopes take part in winter activities more regularly than those living in the buffer zone. Over half of Eastern Slopes residents participate in resort-based downhill skiing or snowboarding.

Figure 7 Winter Recreation Activities in the Eastern Slopes by Buffer Zone Residents

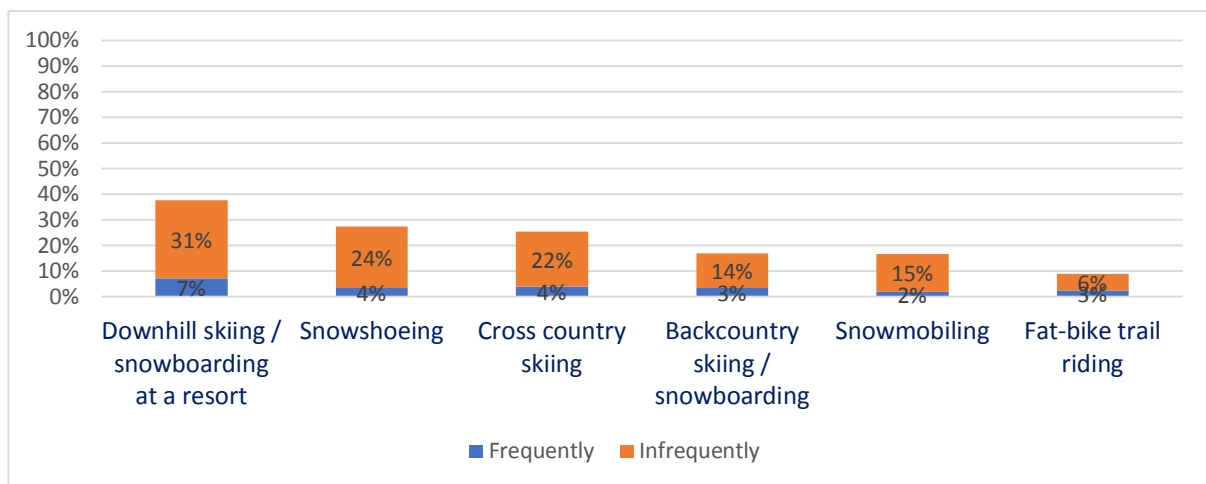
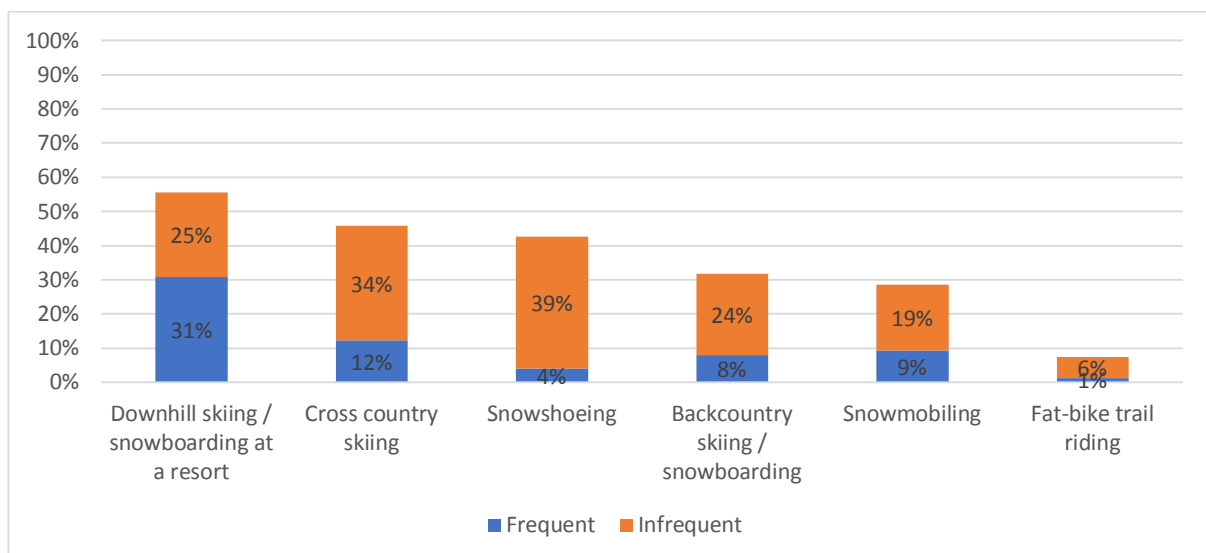


Figure 8 Winter Recreation Activities in the Eastern Slopes by Eastern Slopes Residents





2.4 Recreation Behaviour

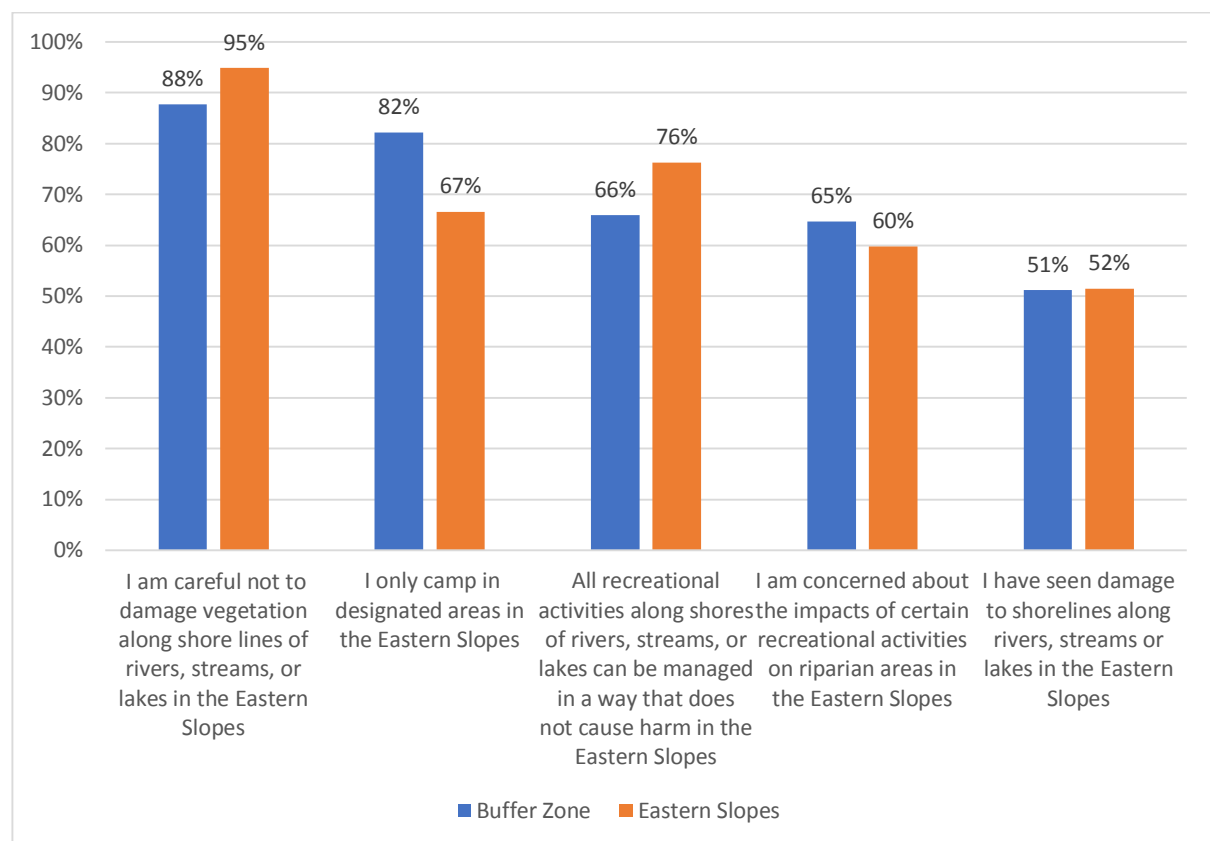
Respondents were asked a series of questions related to their own recreational behaviour and that of others.

A higher percentage of Eastern Slopes residents (82%) compared to buffer zone residents (67%) who recreate in the Eastern Slopes indicate they camp in non-designated areas.

Most recreationists (almost two-thirds) are concerned about the impacts certain recreational activities have on riparian areas in the Eastern Slopes.

Among recreationists residing in the Eastern Slopes and the buffer zone, over half of those who frequently tent, and hike have observed impacts caused by certain recreational activities. By contrast, about one-third of motorized recreational users (OHV, motorboats, and RV's) have observed impacts caused by certain recreational activities.

Figure 9 Recreation Behaviour

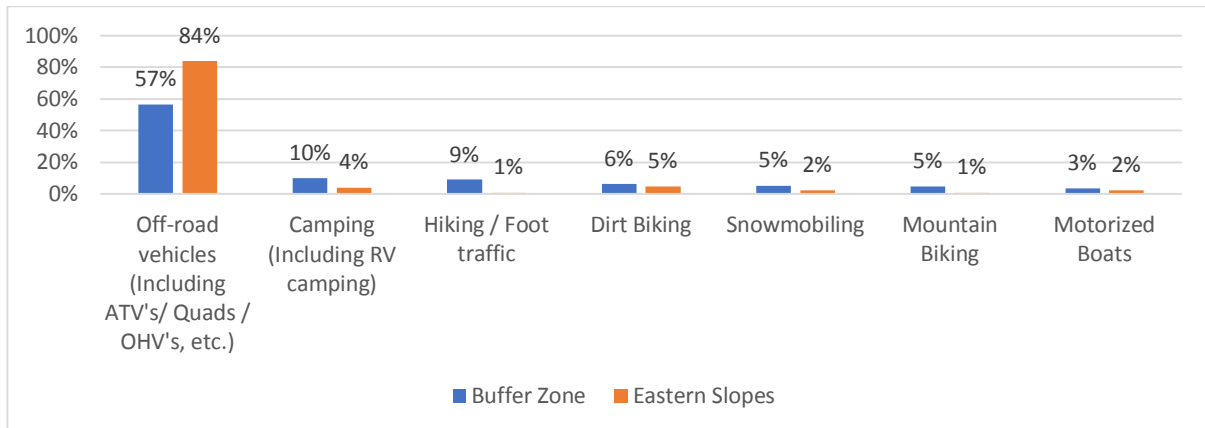


Observed Riparian Area Damage



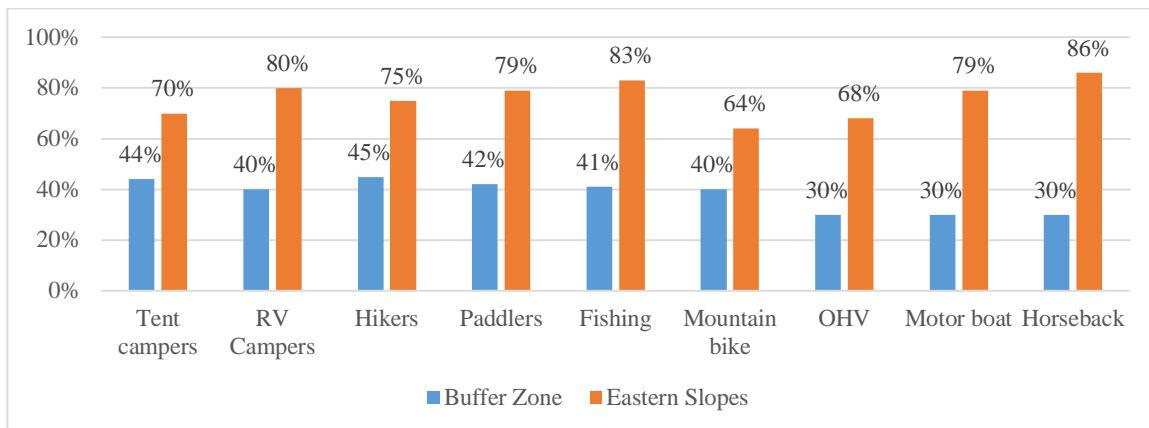
Over half of recreationists have observed damage to riparian areas in the Eastern Slopes. Most of the observed damage has been caused by OHVs. Those who live and recreate in the Eastern Slopes were more likely to identify OHVs as the main source of damage than those living in the buffer zone. This may be a function of where they recreate as well as the increased frequency with which they recreate in the Eastern Slopes.

Figure 10 Source of Impact on Riparian Areas



OHV use is by far the main activity believed to be causing damage to riparian areas. Figure 11 shows the percentage of respondents within each recreational activity group who perceive OHV use to be the main source of riparian damage. Even among OHV users, a large percentage indicate OHVs are the main cause of damage to riparian areas.

Figure 11 Source of Damage being from OHVs by Recreational User



The nature of observed damage differs significantly between Eastern Slopes residents and buffer zone respondents. For buffer zone respondents the main impacts observed are littering and irresponsible



behaviour. Eastern Slopes residents who observed damage were most likely to cite shoreline erosion and stream-bed destruction.

Figure 12 Nature of Damage Observed

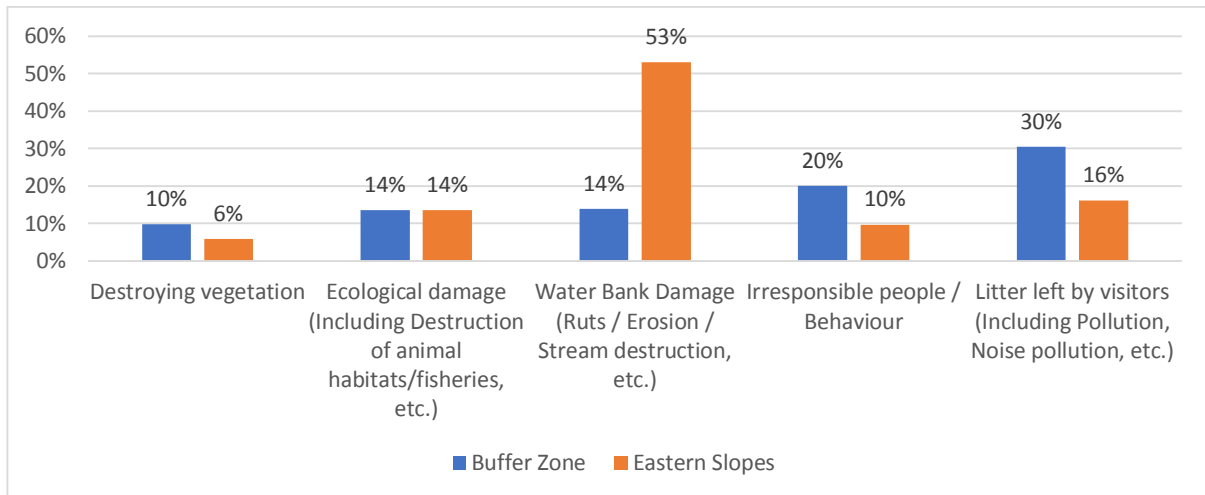


Figure 13 shows the type of riparian damage caused, as perceived by each of the recreational user types (among Eastern Slopes residents). For all recreational users, except OHV users and motor boat users, shoreline damage, ruts and erosion on shorelines is cited by more than half.

Figure 13 Type of Riparian Damage Observed by Recreation Users (Eastern Slopes residents)

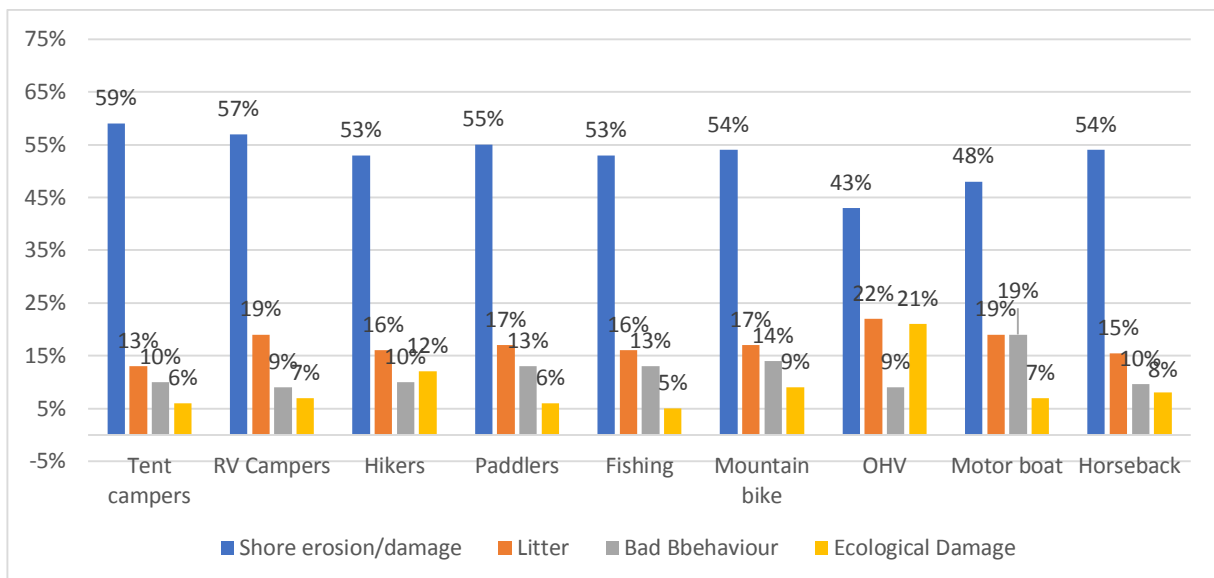
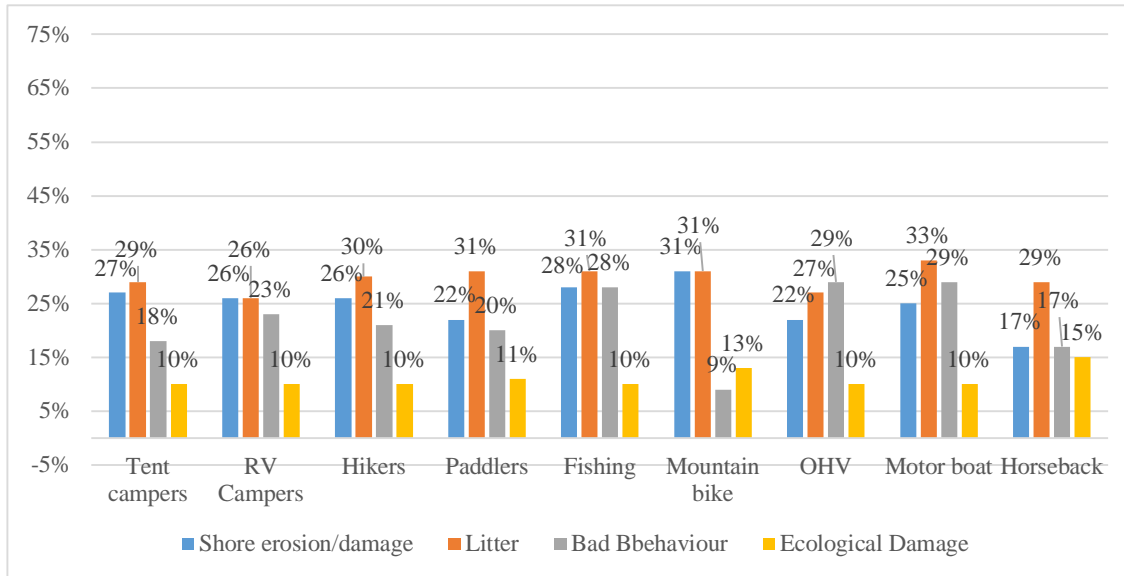


Figure 14 shows the type of riparian damage observed by each of the recreation user types among buffer zone respondents. Littering is seen as the main damage observed across the user types followed by damage to shorelines. As seen with Eastern Slopes residents, OHV users have observed the least amount of damage to shorelines.



Figure 14 Type of Riparian Damage Observed by Recreation Users (buffer zone)





Section 3 – Economic Activity

3.1 Work in the Eastern Slopes

A majority (53%) of Eastern Slopes residents work in the Eastern Slopes. This compares to 6% of buffer zone respondents indicating they have worked in the Eastern Slopes (4% within the past year). The oil and gas sector is the largest employer of both groups. Agriculture is the second largest employer in the Eastern Slopes among buffer zone respondents, followed by government employment, and timber harvesting. For Eastern Slopes residents, after oil and gas, the main activities are education, tourism, and agriculture.

Those working in the Eastern Slopes are almost evenly split between males and females (52%/48% males/females Eastern Slopes; 51%/49% males/females buffer zone). The nature of work does differ, with almost all oil and gas, timber harvesting, and mining respondents being male, and almost all government, retail, and service industry respondents being female.

The frequency of working within the Eastern Slopes is vastly different between those who live within the region and those who live outside the region. When relating these percentages to the respective populations, this means <1% of the buffer zone population (8% of 6%) and 33% of the Eastern Slopes residents (63% of 53%) work every day in the region.

Figure 15 Frequency of Work Within the Eastern Slopes

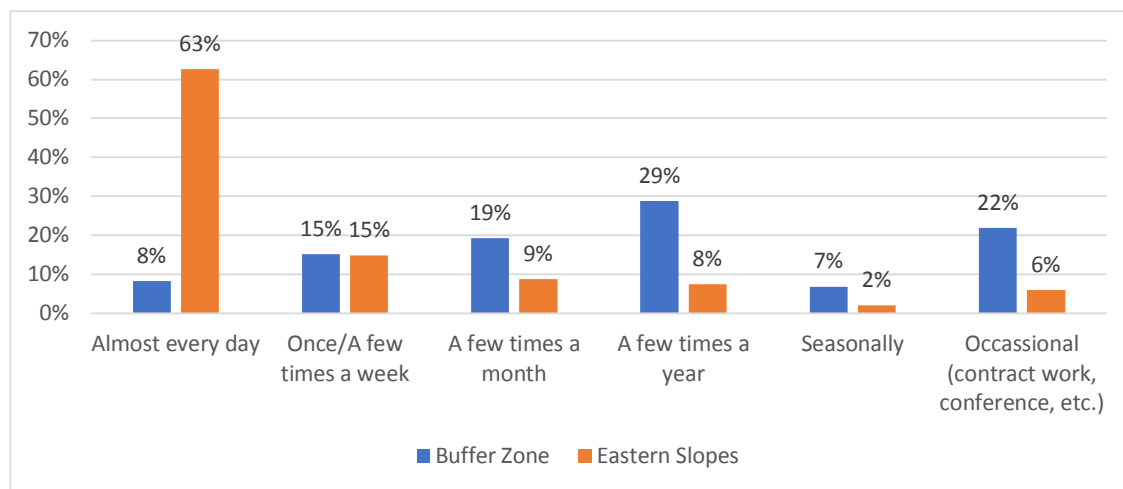




Figure 16 Employment Type in Eastern Slopes (among those employed in Eastern Slopes)

Sector	Buffer Zone*	Eastern Slopes
Oil and Gas/ Pipelines	20%	15%
Education	3%	11%
Tourism/Recreation/Hospitality	6%	11%
Agriculture/Ranching/Farming	16%	10%
Specialty services		7%
Skilled trades	1%	6%
Government	13%	6%
Retail		6%
Mining	3%	5%
Timber Harvest	9%	5%
Transportation/Equipment technician	2%	4%
Professional services	5%	3%
Emergency services	3%	3%
Healthcare		2%
Technology	1%	2%
Angling guides/ outfitters	8%	1%
Marketing/Communications		1%
Food services industry	1%	1%
Hunting/trapping	9%	1%

*caution, small sample size

Contact with Riparian Areas while Working

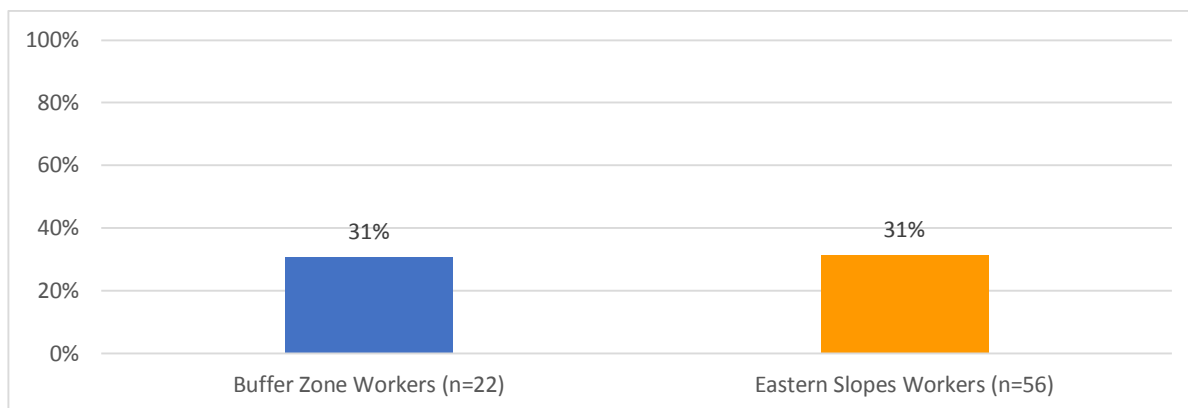
Almost one-third of those working in the Eastern Slopes frequently encounter riparian areas in the work they perform. The vast majority indicate they manage their work in a way that minimizes impacts on riparian areas.

Almost all respondents who encounter riparian areas in their work indicate they ensure proper setbacks and distances from wetlands, streams, and rivers.

Those working in the Eastern Slopes who encounter riparian areas and live within the region are far less interested in learning more about how they can minimize their impacts on riparian areas than those residing in the buffer zone. By contrast, all respondents in the buffer zone whose work results in contact with riparian areas are interested in learning more. It should be noted the sample sizes are very small in relation to the population for the buffer zone, therefore results should be viewed with caution.

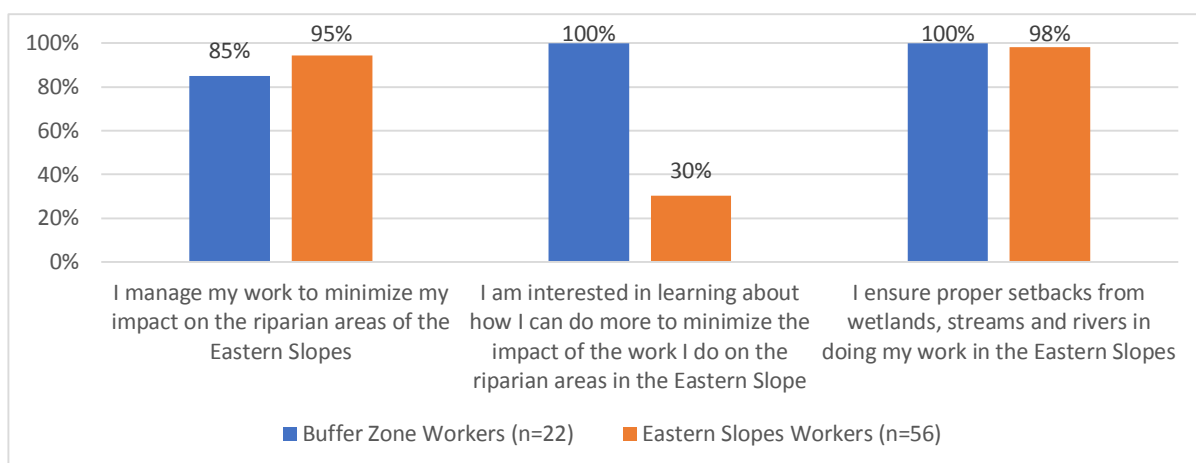


Figure 17 Frequency of Encountering Riparian Areas Working in the Eastern Slopes



**Figure 18
While Working in**

**Managing Impacts
the Eastern Slopes**



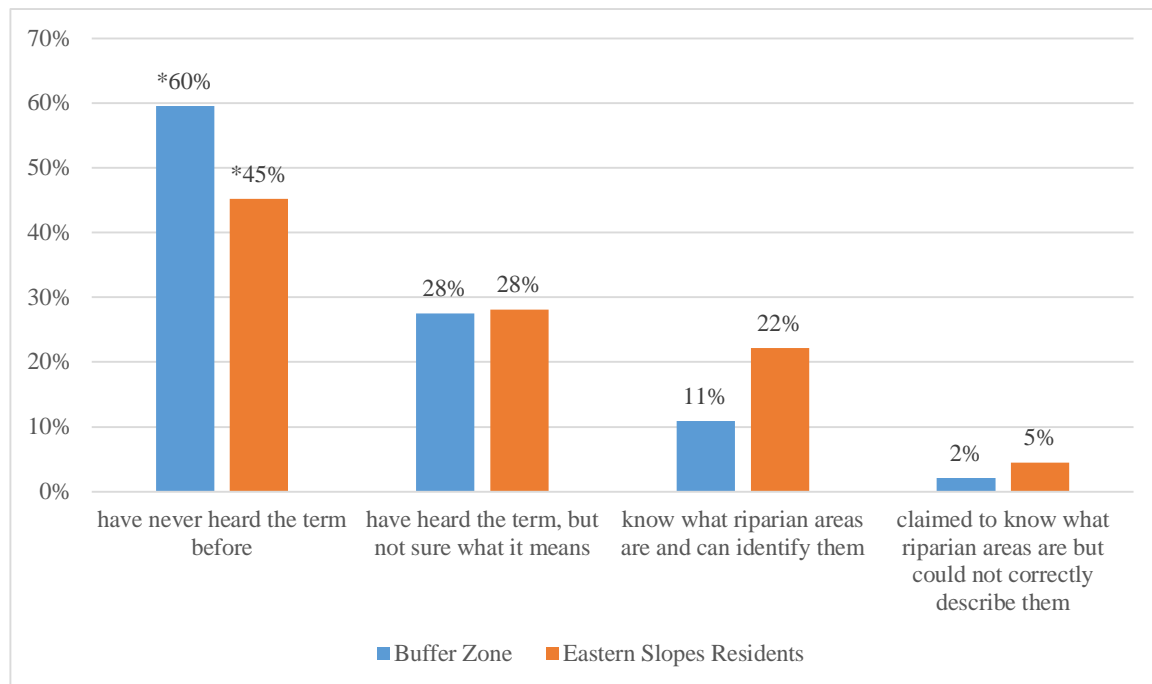


Section 4 – Attitudes Towards Protection and Use

4.1 Familiarity with Riparian Areas

Six in 10 buffer zone respondents, and 45% of those living within the Eastern Slopes have never heard the term “riparian areas.” Those who indicated they know what a riparian area is were asked to define it in their own words. Accordingly, 22% of Eastern Slopes respondents and 11% of buffer zone respondents have some understanding what a riparian area is.

Figure 19 Familiarity with Riparian Areas

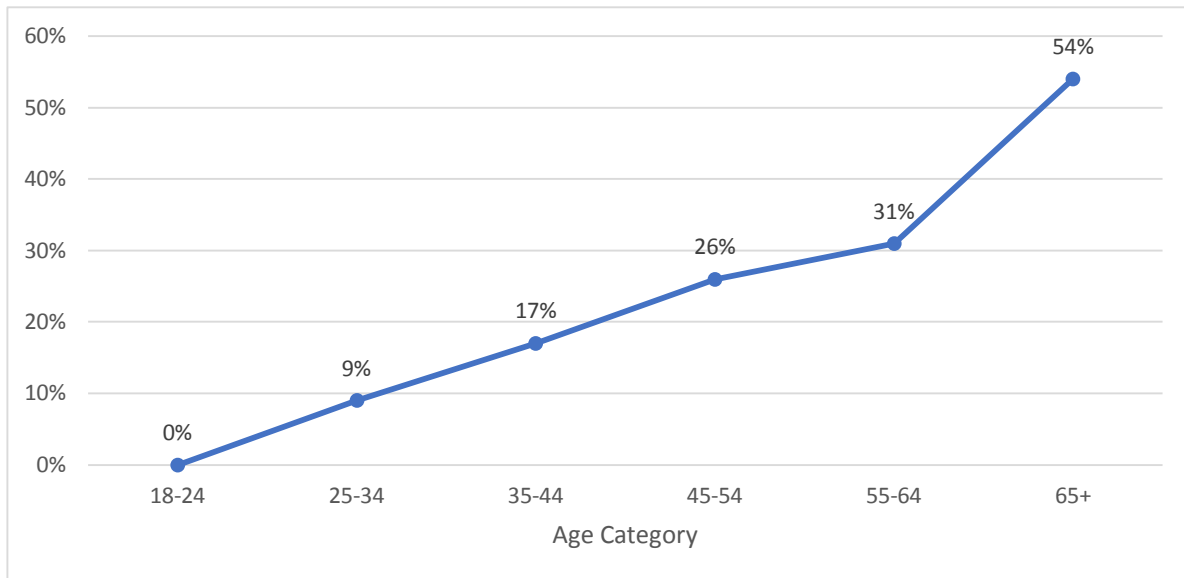


* respondents who indicated ‘don’t know’ and ‘preferred not to answer’ were included in the ‘have never heard the term’.

Examining demographic differences across the entire sample, education, and income do not have an impact on understanding of the term; however, age, location, and gender show significant differences. Males (34%) are more likely than females (18%) to know the term. There is a linear relationship with age in terms of being able to define what a riparian area is, with older respondents being much higher. Respondents living within the Eastern Slopes (19%) are more likely than those in the buffer zone (11%) to be able to define what a riparian area is.



Figure 20 Familiarity with Riparian Areas by Age



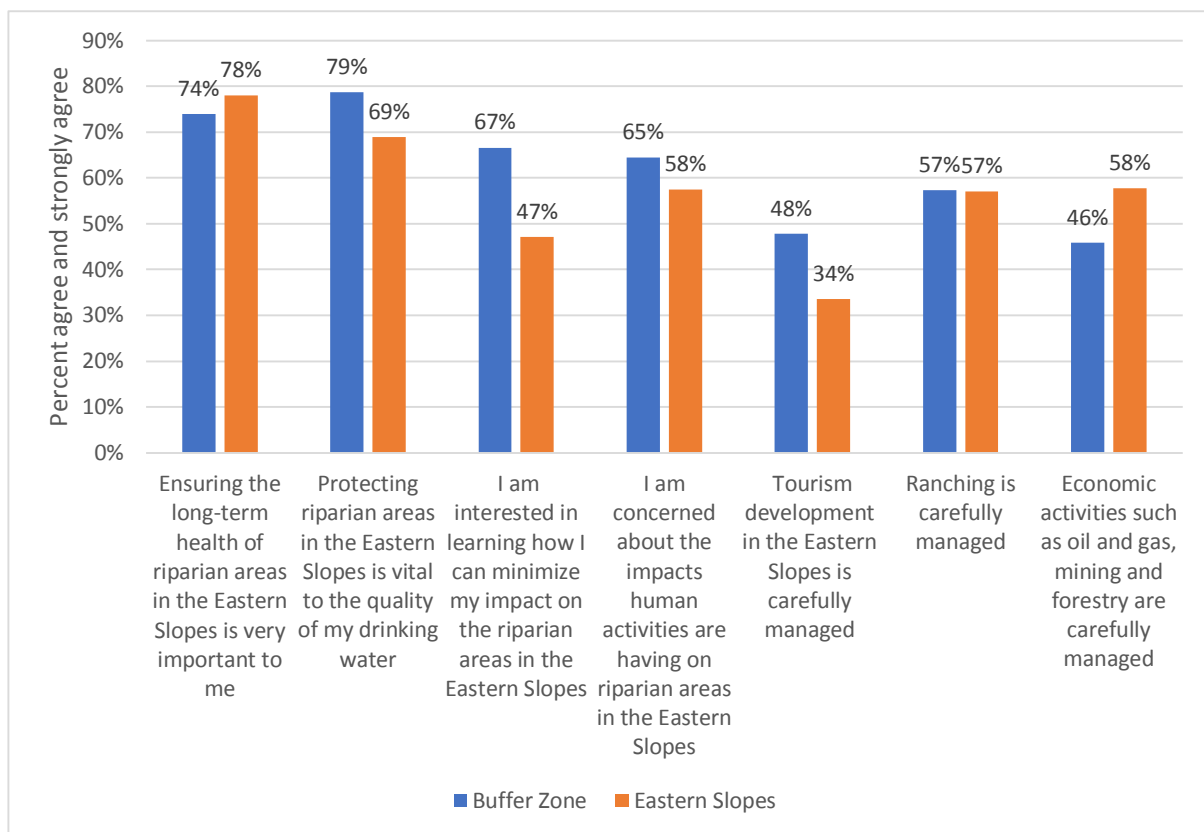


4.2 Attitudes Toward Protection and Use

Over three-quarters of respondents feel protection of riparian areas in the Eastern Slopes is important to them. Buffer zone respondents place a higher degree of importance on protection of riparian areas within the Eastern Slopes in relation to their drinking water than those living in the Eastern Slopes.

Just over one-third of Eastern Slopes residents feel tourism is carefully managed, compared with almost half of buffer zone respondents. Almost 60% of Eastern Slopes residents feel ranching and oil and gas activities are carefully managed, compared with 46% of those from the buffer zone. This may be a reflection of where they are currently employed, given oil and gas is a major source of employment for Eastern Slopes residents.

Figure 21 Attitudes Towards Protection and Use

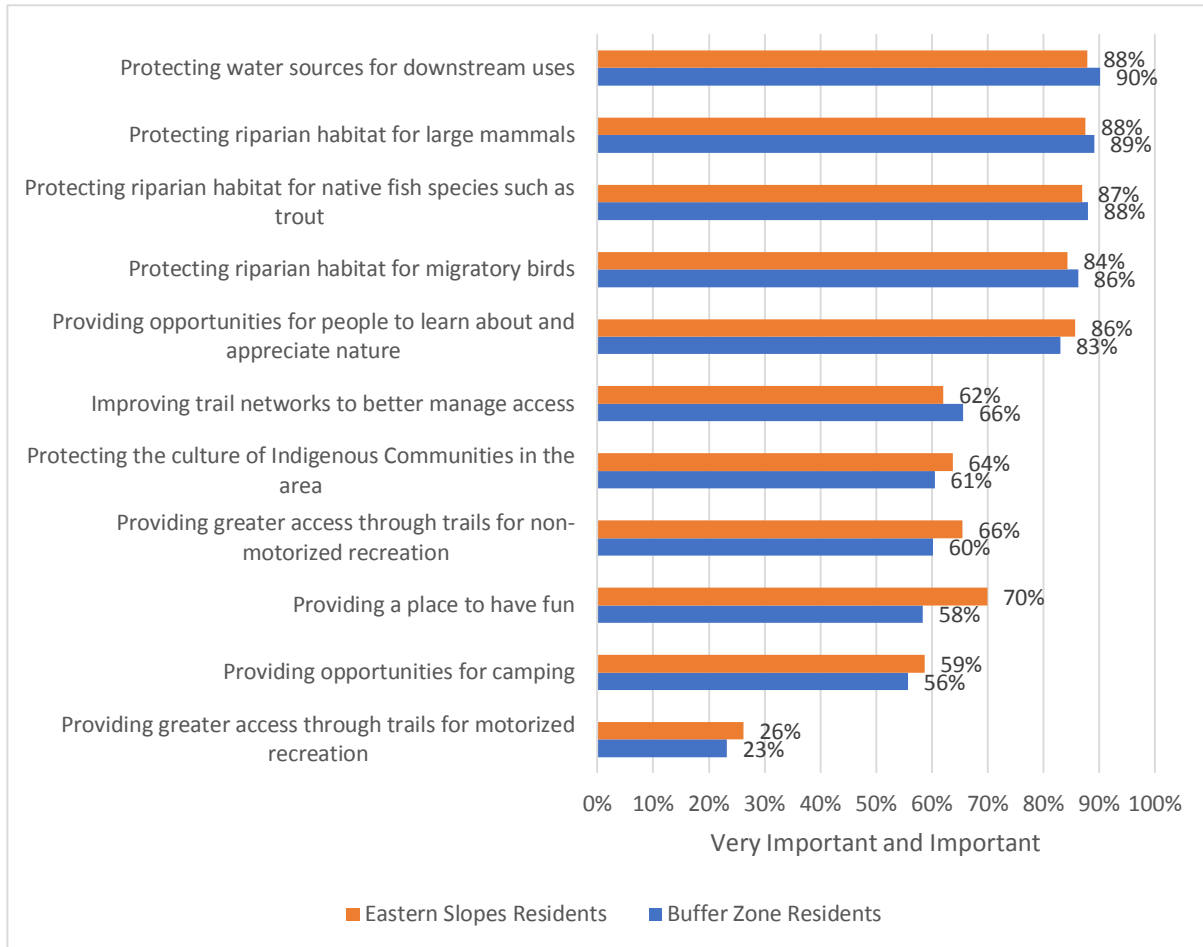


There is a high degree of consistency between residents of the Eastern Slopes and the buffer zone related to the importance of protecting water sources and riparian areas for fish, large mammals, migratory birds, and appreciation of nature, with more than 80% indicating these are important. There are no differences by type of recreation or demographics.

The lowest percentage of importance measured pertaining to protection and use is attributed to providing greater access for motorized recreation through expanded trails.



Figure 22 Importance of Protecting Riparian Areas

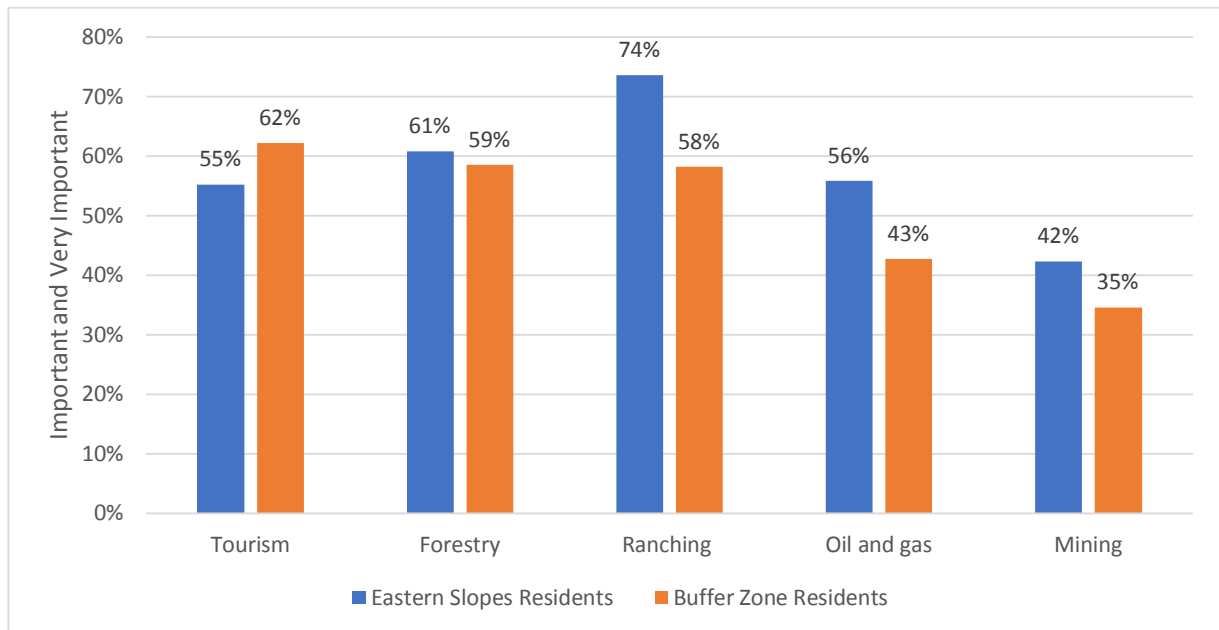




4.3 Attitudes Towards Economic Growth

Mining within the Eastern Slopes has the lowest amount of support among Eastern Slopes and buffer zone residents. Ranching has the highest importance among Eastern Slopes residents, followed by tourism.

Figure 23 Importance of Economic Activities





Section 5 – Awareness of Environmental Organizations

Respondents were asked to rate their level of awareness of five environmental organizations operating in Alberta. CPAWS has the highest level of awareness among Albertans within the buffer zone, followed by Trout Unlimited Canada. Four percent of buffer zone residents are familiar with what Cows and Fish does, and a further 14% have heard the name. Those living within the Eastern Slopes have a higher awareness of CPAWS, Trout Unlimited Canada, Yellowstone to Yukon, and Cows and Fish. There were no significant differences across the demographics related to awareness for any of the organizations. Somewhat surprisingly, there was also no difference in the understanding of what a riparian area is based on the respondent's awareness of Cows and Fish.

Figure 24 Awareness of Environmental Organizations (buffer zone)

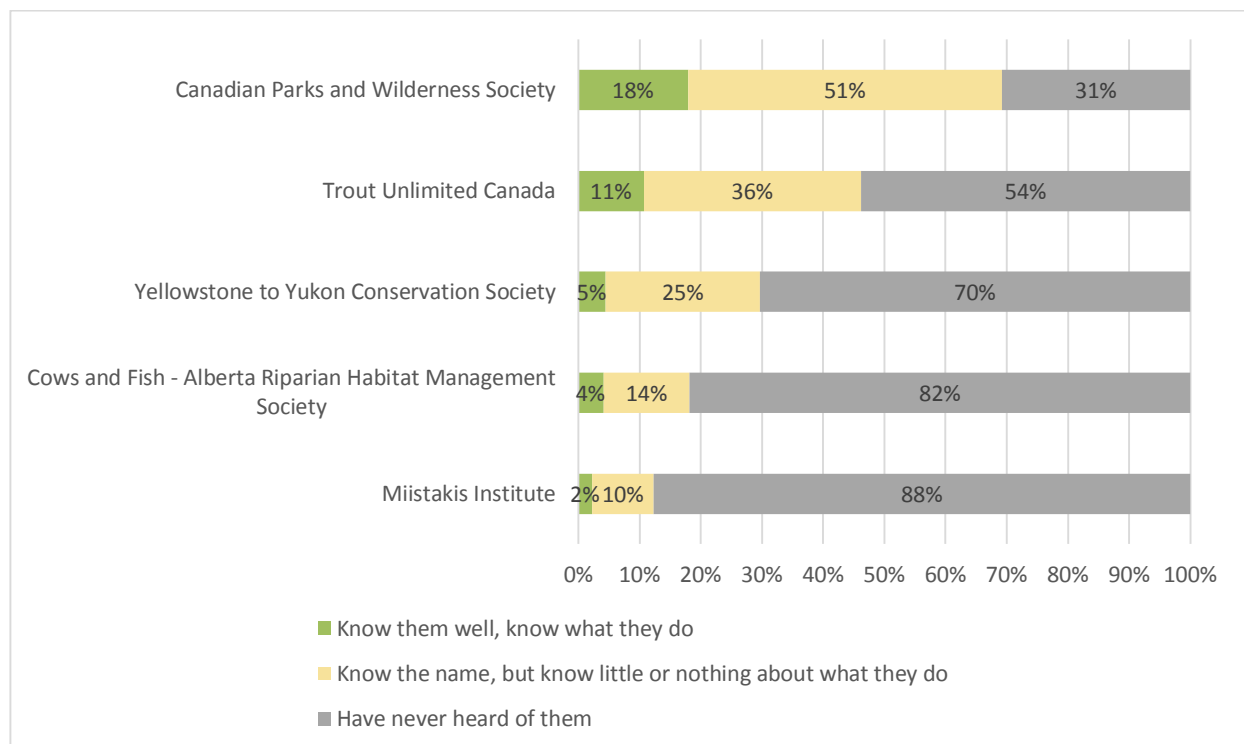
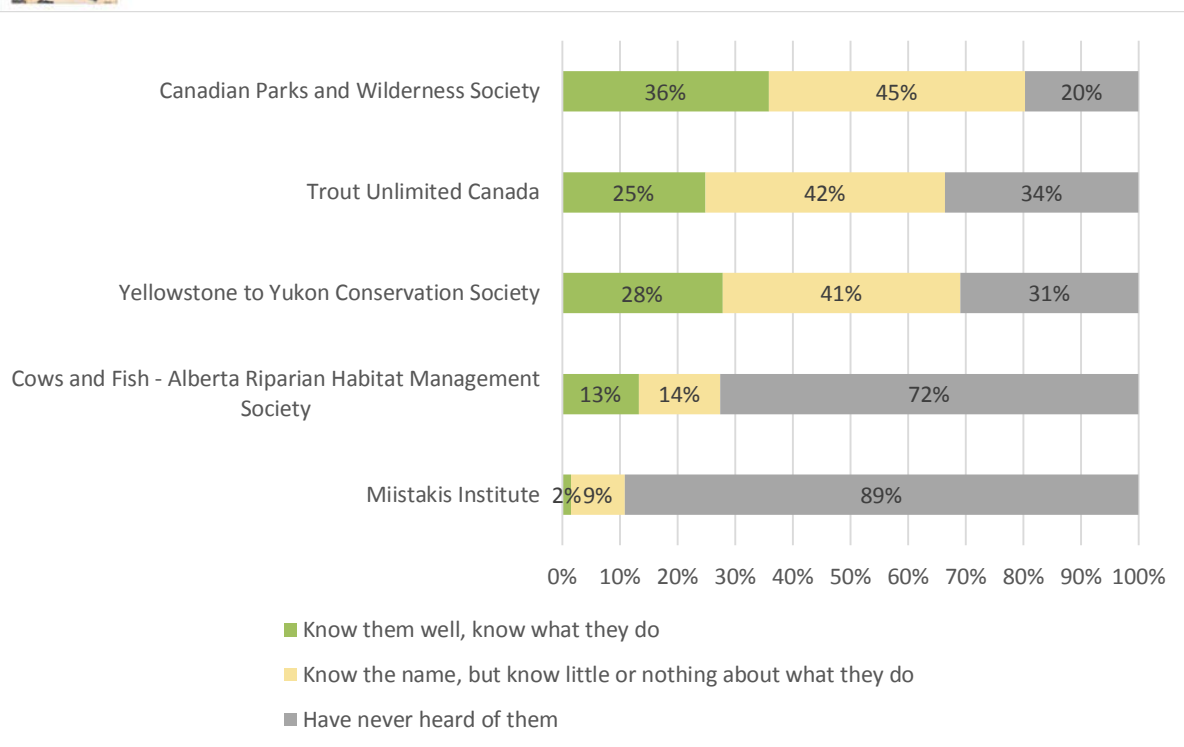


Figure 25 Awareness of Environmental Organizations (Eastern Slopes residents)



Cows and Fish

Alberta Riparian habitat Management Society





Appendices





Cows and Fish

Alberta Riparian habitat Management Society



D1: Which of the following age categories do you fall into?

- ☐ 1 = Under 18
- ☐ 2 = 18 to 24
- ☐ 3 = 25 to 34
- ☐ 4 = 35 to 44
- ☐ 5 = 45 to 54
- ☐ 6 = 55 to 64
- ☐ 7 = 65 or older
- ☐ 9 = Prefer not to answer

D4: What is your gender?

- ☐ Male
- ☐ Female
- ☐ I prefer to self-describe as _____
- ☐ I prefer not to answer

D5. What is the postal code of your primary residence?

____ _



- 1. How often have you visited one or more areas within the Eastern Slopes? Would it be...**
 - a) More than 10 times in the past year [go to 2]
 - b) Between 1 and 10 times in the past year [go to 2]
 - c) Have visited in the past, but not in the past year [go to 2]
 - d) Have never visited the Eastern Slopes [go to 3 then to 13 [SHOW THE EXPLANATION AND GRAPHIC AFTER Q3 BEFORE SKIPPING TO Q13]

- 2. When you visited the Eastern Slopes, was this for ... (choose all that apply)**
 - a) Recreation and leisure
 - b) Employment
 - c) I have a residence within the Eastern Slopes
 - d) Other (please specify) _____

- 3. How familiar are you with the term “riparian areas”? [retain order]**
 - a) I have never heard the term before
 - b) I have heard the term, but not sure what it means
 - c) I know what riparian areas are and can identify them
 - i. Please briefly describe in your opinion what a riparian area is?
[comment box]

Many of the questions in this survey refer to riparian areas. Riparian areas are the lands adjacent to streams, rivers, lakes and wetlands, where the vegetation and soils are strongly influenced by the presence of water.

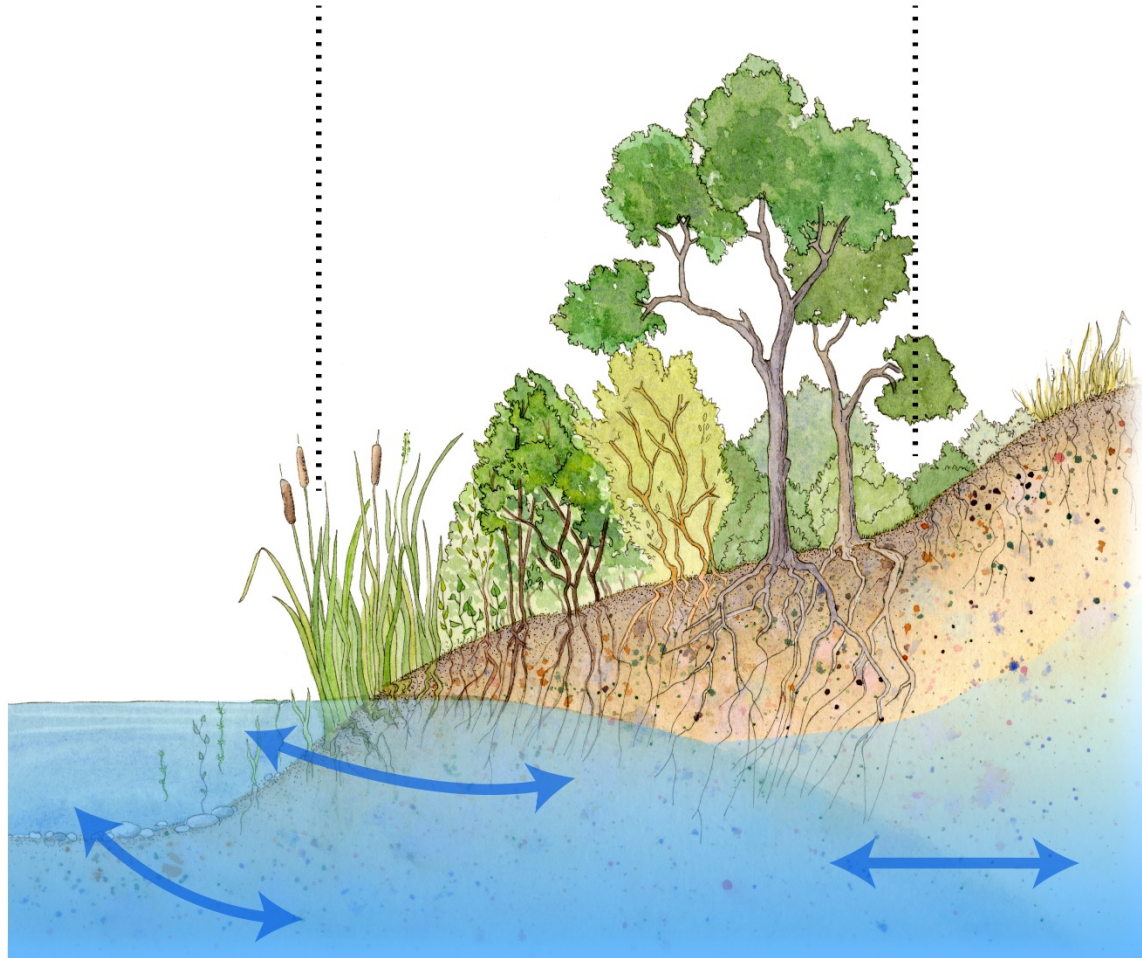


Cows and Fish

Alberta Riparian habitat Management Society



Aquatic Riparian Upland





[If Q2=a, answer 4 through 9; If Q2=b, answer 10 through 12; If Q2=a and b, answer 4 through 12;]; else go to 13]

4. Please indicate how often you take part in each of the following activities specifically within the Eastern Slopes in the spring, summer and fall.

Summer/Spring/Fall	Often (a few times a month or more)	Regularly (about once a month)	Occasionally (a few times a year)	Rarely (a few times every few years)	Never
a. Tent camping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. RV camping (trailer, 5th wheel, tent trailer etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Hiking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Canoeing, paddle boarding, kayaking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Off-highway vehicle use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Motor-boating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Horseback riding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Mountain biking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other Summer Activities not mentioned (please specify) _____

5. [If 2 = a] Please indicate how often you take part in each of the following activities specifically within the Eastern Slopes in winter.

Winter	Often (a few times a month or more)	Regularly (about once a month)	Occasionally (a few times a year)	Rarely (a few times every few years)	Never
a. Backcountry skiing/snowboarding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Snowboarding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Snowmobiling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Snowshoeing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Downhill skiing/snowboarding at a resort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Cross country skiing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Fat-bike trail riding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other Winter Activities not mentioned (please specify) _____



6. Which area(s) of the Eastern Slopes have you visited over the past 12 months for the purpose of outdoor recreation? Please name the recreation area, park or local names.

[comment box]

- ☐ Have not visited the Eastern Slopes for recreation in the past 12 months

7. Do you belong to a recreation group or club which recreates in the Eastern Slopes?

- ☐ Yes → Which recreation club or clubs do you belong to? _____
☐ No

8. In terms of **your recreation activities in the Eastern Slopes**, please rate your level of agreement with the following statements. If the statement is not applicable to you, please choose 'Not Applicable' or if you are not sure, please indicate 'Don't Know'.

[Scale from 1 strongly disagree to 5 strongly agree; N/A; D/K].

[If Q4=f] – Retain order for a, b, c, d

- a) Crossing rivers and streams on my OHV is a normal part of my travel routes in the Eastern Slopes
- b) When riding my OHV in the Eastern Slopes I always ride on managed trails, such as trails planned and managed by government, clubs, associations, and so on
- c) I prefer to make my own off-highway vehicle trails over following managed trails in the Eastern Slopes
- d) I only cross rivers and streams where there is a government approved crossing, such as a bridge or a hardened stream bed in the Eastern Slopes

[If Q4 has at least one activity identified]

- e) I am careful not to damage vegetation along shore lines of rivers, streams, or lakes in the Eastern Slopes
- f) I only camp in designated areas in the Eastern Slopes
- g) I have seen damage to shorelines along rivers, streams or lakes in the Eastern Slopes
- h) I am concerned about the impacts of certain recreational activities on riparian areas in the Eastern Slopes
- i) All recreational activities along shores of rivers, streams, or lakes can managed in a way that does not cause harm in the Eastern Slopes



9. [if 8g=agree/strongly agree] You mentioned you are concerned by impacts caused by certain recreational activities. Which activities and in what way are they causing impacts?
[Comment Box]

[IF 2=B, answer 10 through 12; else go to 13]

10. You mentioned earlier that you work within the Eastern Slopes. What type of work do you do? (do not read, select all that apply)

- ☐ Hunting/trapping
- ☐ Angling guides/ outfitters
- ☐ Agriculture/Ranching/Farming
- ☐ Timber Harvest
- ☐ Oil and Gas/ Pipelines
- ☐ Mining
- ☐ Government
- ☐ Scientific research
- ☐ Other (specify) _____

11. How frequently does your work bring you to the Eastern Slopes?

- ☐ Almost every day
- ☐ A few times a week
- ☐ A few times a month
- ☐ A few times a year
- ☐ Other (Specify) _____

12. **Thinking of the work you do in the Eastern Slopes**, please rate your level of agreement with the following statements in relation to riparian areas. If the statement is not applicable to you, please choose 'Not Applicable' or if you are not sure, please indicate 'Don't Know'.

[Scale from 1 strongly disagree to 5 strongly agree; N/A; D/K]

- a. I frequently encounter riparian areas in the work that I do in the Eastern Slopes
- b. I manage my work to minimize my impact on the riparian areas of the Eastern Slopes
- c. I am interested in learning about how I can do more to minimize the impact of the work I do on the riparian areas in the Eastern Slopes
- d. I ensure proper setbacks from wetlands, streams and rivers in doing my work in the Eastern Slopes



13. Thinking about riparian areas in the Eastern Slopes, please rate your level of agreement with the following statements. If the statement is not applicable to you, please choose 'Not Applicable' or if you are not sure, please indicate 'Don't Know'.

[Scale from 1 strongly disagree to 5 strongly agree; N/A; D/K]

- a. Ensuring the long-term health of riparian areas in the Eastern Slopes is very important to me
- b. Protecting riparian areas in the Eastern Slopes is vital to the quality of my drinking water
- c. I am interested in learning how I can minimize my impact on the riparian areas in the Eastern Slopes
- d. I am concerned about the impacts human activities area having on riparian areas in the Eastern Slopes
- e. Economic activities (grazing, forestry, oil and gas, etc.) in the Eastern Slopes is carefully managed to ensure protection of streams, rivers, lakes and riparian zones

14. Still referring to the Eastern Slopes, how important are each of the following to you.
Please rate each statement on a scale from 1 to 5, where 1 is not important at all and 5 is very important.

(Randomize order)

- a. Protecting riparian habitat for native fish species such as trout
- b. Protecting riparian habitat for migratory birds
- c. Providing opportunities for people to learn about and appreciate nature
- d. Protecting riparian habitat for large mammals
- e. Protecting the culture of Indigenous Communities in the area
- f. Providing opportunities for economic growth through tourism
- g. Providing opportunities for economic growth through resource development such as grazing, forestry, mining, and oil and gas
- h. Providing greater access with trails for motorized recreation
- i. Providing greater access with trails for non-motorized recreation
- j. Protecting water sources for downstream uses
- k. Improving trail networks to better manage access
- l. Providing opportunities for camping
- m. Providing a place to have fun



15. Please indicate your level of awareness of the following organizations: [randomize]

	Know them well, know what they do.	Know the name, but know little or nothing about what they do	Have never heard of them
Canadian Parks and Wilderness Society	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yellowstone to Yukon Conservation Society	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cows and Fish - Alberta Riparian Habitat Management Society	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miistakis Institute	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trout Unlimited Canada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>For the Planet Foundation</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Demographics

These next questions will help us to classify your responses. All of your responses will remain confidential

D2: Which of the following best describes your education? Would it be

- ☐ 1 = High school (includes some high school)
- ☐ 2 = Some post-secondary
- ☐ 3 = College or technical school graduation
- ☐ 4 = University graduation
- ☐ 9 = Prefer not to answer

D3: Which of the following best describes your total household before tax income? Would it be

- ☐ 1 = Under \$50, 000
- ☐ 2 = \$50,000 to \$100, 000
- ☐ 3 = More than \$100,000
- ☐ 9 = Prefer not to answer

Thank you for your participation in this survey.

This survey was sponsored by Cows and Fish – Alberta Riparian Habitat Management Society. To learn more about Cows and Fish, please visits <http://cowsandfish.org/>