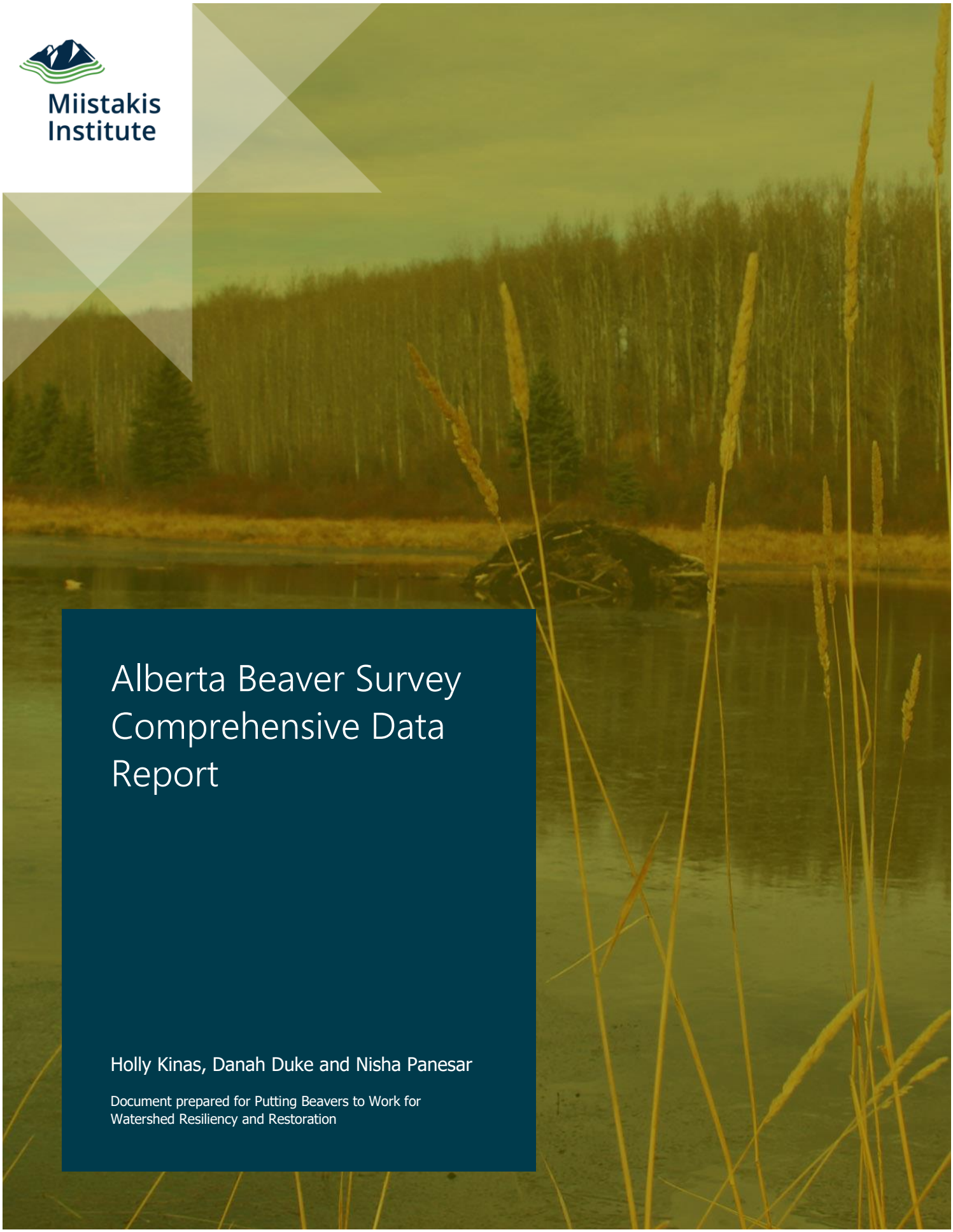

Miistakis Institute

# Alberta Beaver Survey Comprehensive Data Report

Holly Kinas, Danah Duke and Nisha Panesar

Document prepared for Putting Beavers to Work for Watershed Resiliency and Restoration

# Alberta Beaver Survey
# Comprehensive Data Report

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# Introduction

Beavers keep water on the landscape, leading to landscape stability and resiliency which benefits ecosystems, land owners and land managers. In parts of Canada and around the world, beavers are becoming increasingly valued for their role in watershed health including, but not limited to, improved water storage, stream temperature moderation, reduced stream velocities, and habitat creation. As a result, beavers have gained recognition as a tool for climate change adaptation and species-at-risk recovery. There is a growing interest in Alberta for using beavers as a tool for watershed restoration.

The *Putting Beavers to Work for Watershed Resiliency and Restoration* collaborative, with partner Cows and Fish (Alberta Riparian Habitat Management Society), was started in the summer of 2016 and has been exploring the role that beavers play in watershed health in Alberta.. To date, the collaborative has focused its efforts on four main components: hosting educational workshops and webinars on beaver ecology, benefits, and coexistence; hosting hands-on coexistence tools workshops; conducting social science research to evaluate Albertans' knowledge and perceptions about beavers, their habitat, and their management; and creation of awareness materials to inform and encourage coexistence and acceptance of beavers by landowners, land managers, and policy makers.

As part of the social science research component for *Putting Beavers to Work,* a survey was chosen as the best method to assess rural Albertans' knowledge and perceptions about beavers, their habitat, and their management. Evaluating Albertans knowledge and perceptions about beavers is a key component to the collaborative work as it will help us better understand any knowledge gaps or emerging/reoccurring impacts that Alberta landowners are experiencing. The outcome of the survey is to develop educational materials targeting any revealed knowledge gaps and areas of most concern, as well as providing insight into how Albertans approach beaver management.

# Survey Methods

## Survey Creation

A literature review of past beaver surveys was conducted and was used as the basis of forming the questions within this survey; resources included: (Alberta Riparian Habitat Management Society, n.d.; Clements, 1998; D'eon et al., 1995; Department of Natural Resources, 1988; Sandra A Jonker, Muth, Organ, Zwick, & Siemer, 2006; Sandra A Jonker, Muth, Zwick, & Siemer, 2009; Sandra Andrea Jonker, 2003; McKinstry & Anderson, 1998; Morzillo & Needham, 2015; Needham & Morzillo, 2011; New York State Department of Environmental Conservation, 1992; Northeast Science & Technology, n.d.; Purdy, Decker, Malecki, & Proud, 1985; Reiter, Brunson, & Schmidt,

1999; Siemer, Brown, Jonker, & Muth, 2003; Siemer, Jonker, Decker, & Organ, 2013; Wigley & Garner, n.d.).

The Alberta Beaver Survey was an online survey hosted by SurveyMonkey Inc. (SurveyMonkey Inc., 2017) (https://www.surveymonkey.com/). Written PDF copies were also made available at the request of participants or could be printed from the *Putting Beavers to Work* website (http://www.rockies.ca/beavers/index.php).

The survey was designed and pre-tested for distribution. The survey was designed to protect the anonymity and voluntary participation of respondents.

The survey used a combination of: multiple choice, checkbox, matrix, rating, drop down, slider, true/false, and open-ended response style questions. When possible, multi-part questions used row randomization. Skip logic was applied to several questions, as indicated in the comprehensive summary of questions below. There were a total of 49 questions in the survey.

On May 31, 2017 the "Southern Alberta Beaver Survey: Assessing Knowledge and Perceptions about Beavers" was launched and was open for participation until the closing date of July 26, 2017.

During the survey period the survey name was changed to "Alberta Beaver Survey: Assessing Knowledge and Perceptions about Beavers", as the study area was expanded to include all of the province of Alberta. The name was changed as a result of determining that the number of responses needed to statistically represent the southern Alberta region (383 respondents, 95% confidence level, 5% margin of error) was similar to the number needed for the entire province (385 respondents, 95% confidence level, 5% margin of error).

The *Putting Beavers to Work* project recognizes that the survey is biased towards southern Alberta, defined as the municipalities included in the South Saskatchewan River Basin. This bias is present because the distribution of the survey consisted of the Cows and Fish and Miistakis networks, which are heavily based in southern Alberta.

## Survey Distribution

A distribution plan was created and primarily relied on the Cows and Fish and Miistakis networks distributing and promoting the survey to their networks, including landowners they come in contact with. Distributors ranged from NGOs, government organizations, municipalities, and private landowners. Distribution of the survey link was also sent out via Twitter and Facebook social media outlets. Distribution of the survey link and associated survey materials (poster, post card, social media examples, and written survey PDF) were sent to all distribution participants three times: initially with the launch of the survey, a reminder in the middle of the survey period (4 weeks left), and a reminder near the end of the survey period (2 weeks left).

The below preamble was provided to all survey respondents as an introduction in both the written and online surveys:

> This survey was created to assess knowledge and perceptions about beavers, their habitat and management in Alberta. The information collected will be used to inform beaver management in Alberta, as well as help inform the development of education materials and management tools.
>
> This survey is being conducted in partnership by the Miistakis Institute and Cows and Fish (Alberta Riparian Habitat Management Society), and will take approximately 25-30 minutes to complete.
>
> Participation in this survey is voluntary and results will be aggregated and feedback will not be attributed to any individuals. If you have questions about this written survey, please contact Nisha (nisha@rockies.ca or 403-440-8444).
>
> The results of this survey will be available in a formal report created after the survey period at: www.rockies.ca and www.cowsandfish.org.

A conclusion was provided to the respondents and is as follows:

> Thank you for participating in our "Southern Alberta Beaver Survey: Assessing Knowledge and Perceptions Towards Beavers." The results of this survey will be available in a formal report created after the survey period at: www.rockies.ca and www.cowsandfish.org.
>
> If you would like more information about beaver ecology or methods to coexist with beavers (i.e. pond leveling devices, exclusion devices, beaver reintroduction efforts, etc.) please contact Holly at the Miistakis Institute at holly@rockies.ca, 403-440-8444, or the staff at Cows and Fish at riparian@cowsandfish.org, 403-381-5538 (for regional staff check out cowsandfish.org/contact.html).
>
> Funding for this research is generously provided by the Calgary Foundation.

In order to participate in this survey, participants were required to be at least 18 years of age or older. If they answered question #3, "Are you 18 years of age or older?" they were directed to an explanation page and then the conclusion page. The explanation provided is below:

> "In order to participate in this survey you must be 18 years of age or older."

Any discrepancies between the SurveyMonkey Inc. survey form and the written survey form (ex. bolding, question formatting, lack of randomization of rows in some multi-part questions in written survey) were negligible as we did not receive any written survey forms therefore analysis is based on the SurveyMonkey Inc. survey form.

## Analysis

Questions that were open-ended were analyzed and categorized using HyperResearch software (ResearchWare Inc., 2015).

### Text Analysis Assumptions

When cleaning survey data for question 37, regarding municipality location of the property, the following conflicts occurred and were addressed:

- When there was a conflict of more than one location given (ex. "City of Red Deer/Red Deer County") we choose to select the first location given and remove the second (from above example, City of Red Deer would be selected).
- Some municipalities listed had changed names in the past so when a previous name was used, it was corrected to the current name using the Government of Alberta: Municipal Affairs (2017) *Municipal Profiles* webpage.

For open-ended numerical response questions, where respondents were asked to provide a number, the following assumptions were made in order to clean and analyze the data:

- Beaver population estimate
    - Any time a range was given, the lower value was taken, so as not to overestimate (ex. 5-6 beavers was coded as 5)
    - Anytime a 'more than' (>) or 'less than' (<) symbol was used in the response, it was categorized as the next closest number (ex. <5 was coded as 4).
    - When the term 'colony' was used for beaver population estimate, a colony was coded as 5 individuals based on the book by Lorne Fitch (2016) that states: "A typical colony contains an average of five individuals; the adult pair, kits of the year and kits of the previous year."
    - For responses that referenced number of dams (ex. "1 dam, unsure of family size"), it was coded as 1 beaver as a single individual can create a dam and thus does not overestimate the population size. If the response is multiple dams, it was still coded as 1 beaver. Similar to this, when responses referenced the number of lodges, it was coded as 1 beaver per lodge as family groups will live together in a single lodge so two lodges assumes as least two beavers.
    - For responses that state beavers are present but they are unsure of the number they are coded as 1 beaver present.

For open-ended non-numerical response questions, where respondents were asked to provide text, the analysis approach varied for each question but typically was analyzed by placing each response into categories or by noting emerging topics.

# Responses

The survey was open from May 31, 2017 to July 26, 2017, inclusively. We received 639 usable surveys (0 of these were hard copy and 639 were completed on-line via

SurveyMonkey Inc.). Assuming a target population of 385, we can be 95% certain that the results are accurate within (plus or minus) 5%. Response rate varied for each question, therefore some questions may have varying statistical validity. There were 303 complete responses (every question answered).

# Summary of Key Results by Section

## Demographic

The majority of respondents (69.93%) own land/property and are responsible for the management of that land/property. There was an even representation from respondents within southern Alberta (49.61%) and respondents in the other regions of Alberta (central and northern) (49.61%).

## Eligibility

With the exception of 1 respondent, all respondents were 18 years of age or older and therefore eligible to complete the survey.

## Knowledge

Overall, respondents indicated a high level of understanding towards beavers (average correct response rate was 69.4%). The knowledge questions that resulted with the most discrepancy were in regards to fish movement barriers and beaver youth dispersal.

Confusion is apparent when it comes to who has legal authority to manage beavers on private land as responses varied greatly. Respondents' top two answers were that private landowners (72.55%) and the Government of Alberta (65.45%) have legal authority to manage beaver on private land in Alberta.

There is also a varied response in the knowledge about when a private landowner can remove a beaver or beaver dam from their property as most respondents indicated that a permit is required (42.45%) or that they can remove a beaver/dam at any time (33.65%). As well, some respondents don't know when a beaver or dam can legally be removed (21.99%).

## Feelings towards Beavers

Overall, the majority of respondents feel beavers are more beneficial (73.86%) than harmful (7.59%).

Responses to various statements (question 9) varied greatly, however, respondents indicated support for beavers on the landscape and as an important part of the ecosystem, a need to address damage caused by beavers, a desire to promote coexistence and the need for beaver management.

When respondents were asked which situation would make them most happy with regard to beaver population, the majority of respondents answered that they would be happy if beaver populations either increased (37.40%) or remained the same (37.00%). This outcome shows the support for beavers to persist, and even grow in numbers on the landscape.

## Concerns

The majority of respondents are not at all concerned about human, pet, or livestock health and safety related issues but 47.05% of respondents are slightly concerned about potential damage to their property.

Of the negative impacts caused by beavers listed, the two rated as a 'serious problem' were 'flooding of crops or fields' and 'flooding of a home or other building,' with the other impacts being rated as 'moderate problems.

## Local Beaver Presence

42.19% of respondents have beavers living on their property, property they manage, or adjacent properties within the last 5 years. Of these respondents, the majority of them, who answered the questions, indicated that beavers are common or very common and estimate that 1-5 beavers currently exist on their property, property they manage, or adjacent properties.

While 29% of respondents indicate beavers to be a moderate (19.25%) or extreme (9.63%) problem, 27.81% indicate beavers as a slight problem while 36.36% of people living with beavers indicate beavers are not a problem at all indicating a high level of coexistence in Alberta

The majority of respondents with beavers present described the severity of beaver damage to their property in the last 5 years as light damage. The most common occurrence of damage, within their own property, is damage to trees or shrubs, with 38.30% having this occur more than 5 times. For each other type of damage, the majority of respondents have never experienced that type of damage or have only experienced it 1-2 times.

Respondents selected that 'overflow of a pond, lake, or stream' and 'damage to trees or shrubs' were tolerable, while 'Flooding of a road or driveway,' 'Flooding of crops, pasture, or fields,' and 'Damage to culverts (e.g. Plugged culverts, erosion around culverts)' were unreasonable.

In conclusion, respondents show a high level of tolerance for damage caused by beavers as they consider damage levels to be light and damage type to be tolerable. The majority of respondents have experienced tree and shrub damage multiple times but have not often, or at all, experienced the more costly damage types such as flooding of a road or driveway or crops. It is plausible to infer that the majority of landowners don't see beavers as a serious problem, but those that experience a high level of damage consider them a serious problem.

## Historical Local Beaver Presence

3.59% of respondents currently have no beavers living on their property, property they manage, or adjacent properties within the last 5 years but have had them in the past (over 5 years ago). Of these respondents, the majority of them, who answered these questions, indicated that beavers were uncommon or rare and estimate that historically 1-5 beavers existed on their property, property they manage, or adjacent properties over a one year period.

Of the respondents who had beavers present in the past, the majority consider beavers only to be a slight problem (43.75%) and 37.50% consider beavers to be 'not a problem.'

Respondents described the severity of the damage caused by beavers historically as light damage. The most common occurrence of damage, within their own property, reported by respondents who historically had beavers, and answered this question, is damage to trees or shrubs, with 40.00% having this occur 1-2 times. For each other type of damage, the majority of respondents have never experienced this damage. Respondents selected all damage types to be either tolerable or not applicable.

In conclusion, when compared to the responses from respondents who currently have beavers present on their land, this group seems to have experienced less damage, and the damage that did occur is considered to be light and tolerable.

## Beaver Benefits

Respondents indicated their support for coexisting with beavers with 48.56% of respondents indicating some level of interest in having beavers live on their property with 21.77% indicating no interest in having beavers live on their property.

Benefits from beavers are being realized with respondents indicating receiving increased riparian vegetation (39.56%), increased species diversity (39.07%) and increased wildlife numbers (35.78%), and enhanced aesthetic qualities (55.53%) from beaver presence. There is also an indication of a need for greater understanding of the benefits afforded by beavers as 37.23% indicated they do not know if they are receiving all the benefits they want from beavers. A majority of respondents also indicated a desire for additional benefits afforded by beavers including increased riparian vegetation, increased species diversity, increased wildlife numbers, improved water quality, reduced flooding, aesthetic qualities and nature watching opportunities.

## Tolerance and Management Actions

Overall, respondents are in favour of actions including undertaking research, riparian management, tree wrapping, using beaver coexistence tools, removing dams and relocating beavers as a means to manage beavers. Two unacceptable actions include 'frighten the beaver away' or 'destroy the beaver (lethal control).'

The vast majority of respondents have never undertaken any of the listed management actions with the exception of 'leaving the beaver alone'

The variety of responses to who should be responsible for addressing problems with beavers (individuals 66.76%, municipal government 52.91%, provincial government 62.33% and regulated trappers 42.11%) indicates a need for clarity on roles and responsibilities related to beaver management.

## Incentives

Respondents indicated their support for coexistence with beavers with their indication to take advantage of incentives that would allow beavers to live on their or neighbouring property (information, technical support, tree planting, coexistence tools, financial compensation). Diversionary feeding was one incentive with less support. Two additional incentives were noted including relocation related incentives to decrease potential issues (i.e. beaver-proof at a reduced cost to neighbours before relocation occurs), and information in the form of a 'before and after' case study of a beaver project.

## Demographic

79 different Alberta municipalities were represented in this survey and one municipality from the United States of America.

The majority of the respondents (48.87%) have owned or managed their land for 11-50 years and either own or manage 'less than 1 acre (less than 0.40ha) (36.91%) or 'more than one quarter section (more than 64.75ha) of land. 58.61% of respondents have shoreline/streambank present that they own or manage. The top 3 primary land use activities that currently occur on the land that respondents own or manage is residential-primary residence (33.6%), agriculture - livestock grazing (17.4%), and agriculture – annual crop (11.0%). The top 3 secondary land use activities that currently occur on the land that respondents own or manage is natural areas (12.50%), hunting (10.71%), and agriculture – perennial crops (9.44%).

The mode age range of respondents is 36-45 (22.77%). 83.38% of the respondents are ages 26-65.

## Additional Comments

The top 5 formats for educational information on beavers and beaver management are: website (70.31%), online-video (eg. YouTube) (48.75%), in-person workshop (38.75%), e-mail (35.62%), and pamphlet/brochure (33.44%).

When respondents were asked to specify what they would like to know about beavers, their impacts, and/or how to coexist with them, the top 3 categories were determined: Coexistence (how to coexist, mitigation tools), Benefits/impacts, Beaver General information (biology, ecology, population numbers, etc.).

114 respondents answered yes, they would like to receive information on beavers and beaver management. 116 respondents answered yes, they would be interested in

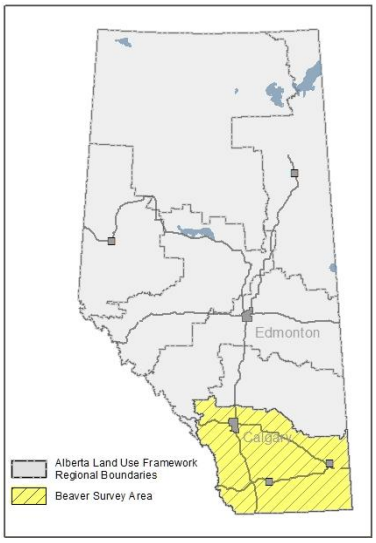
attending a workshop on beaver management, coexistence, or relocation. 53 respondents answered yes, they would be interested in accepting or donating a beaver for relocation.

# Comprehensive Summary of Survey Responses for the Alberta Beaver Survey: Assessing Knowledge and Perceptions about Beavers

## Demographic

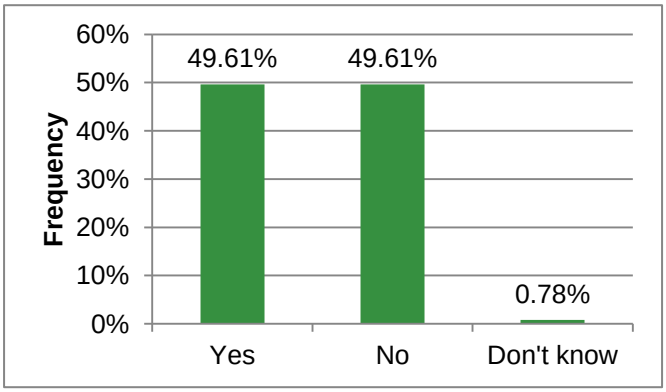
### Numeric and Graphical Responses by Question

Southern Alberta Region



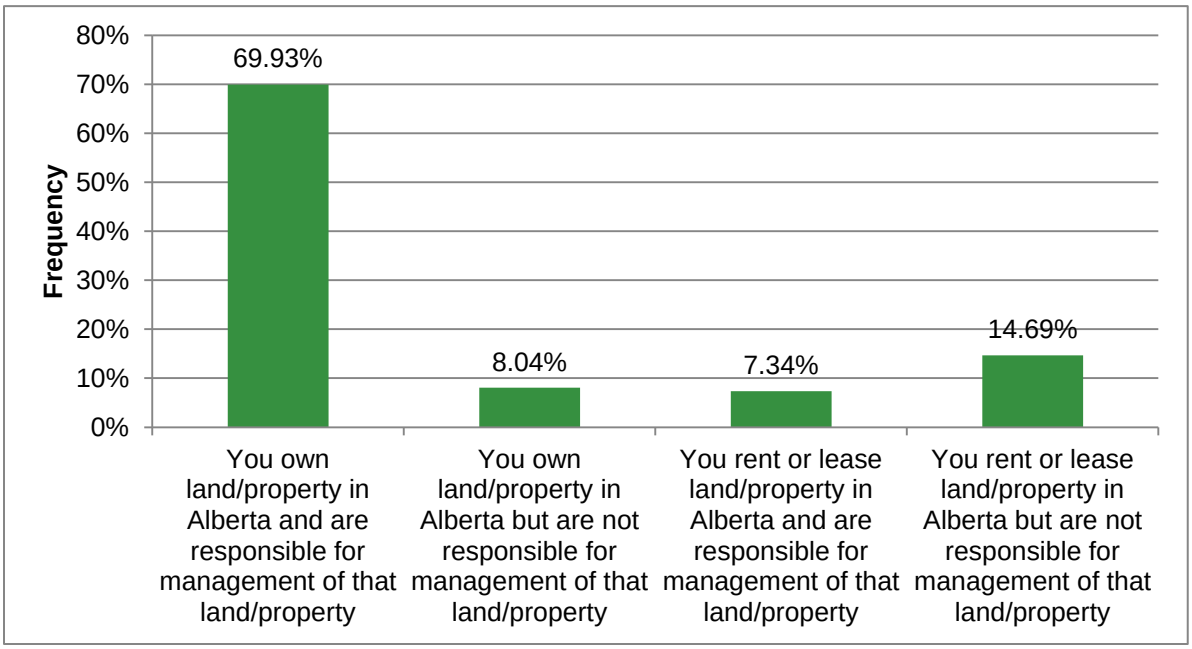

1. Do you currently live in or manage land in southern Alberta (yellow section/"Beaver Survey Area")?

| Answer Choices | Responses | |
|---|---|---|
| Yes | 49.61% | 317 |
| No | 49.61% | 317 |
| Don't know | 0.78% | 5 |
| | Answered | 639 |
| | Skipped | 0 |



2. With respect to beavers, please select the category that you most relate to personally (we recognize that more than one can apply but please select only one and respond to the survey from that perspective):

| Answer Choices | Responses | |
|---|---|---|
| You own land/property in Alberta and are responsible for management of that land/property | 69.93% | 400 |
| You own land/property in Alberta but are not responsible for management of that land/property | 8.04% | 46 |
| You rent or lease land/property in Alberta and are responsible for management of that land/property | 7.34% | 42 |
| You rent or lease land/property in Alberta but are not responsible for management of that land/property | 14.69% | 84 |
| | **Answered** | **572** |
| | **Skipped** | **67** |



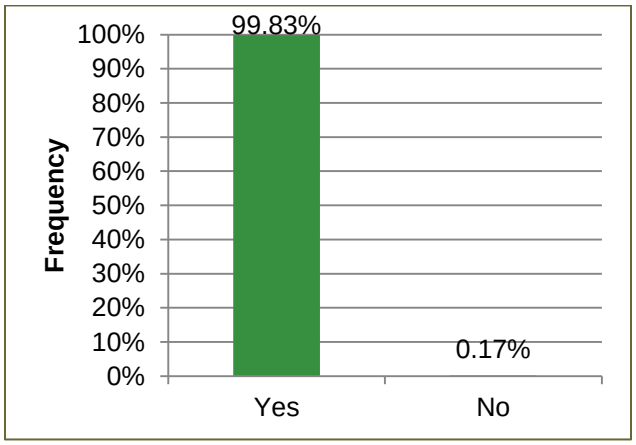

69.93% of respondents own land/property in Alberta and are responsible for management of that land/property.

# Eligibility

## Numeric and Graphical Responses by Question

3. Are you 18 years of age or older:

| Answer Choices | Responses | |
|---|---|---|
| Yes | 99.83% | 571 |
| No | 0.17% | 1 |
| | Answered | 572 |
| | Skipped | 67 |




99.83% of respondents were eligible to participate in the survey.

## Knowledge

### Numeric and Graphical Responses by Question

4. Please answer true or false to the following statements:

***Note:** The correct answer has been shaded in blue. Question shaded in red were answered incorrectly or "don't know" by the majority of respondents*

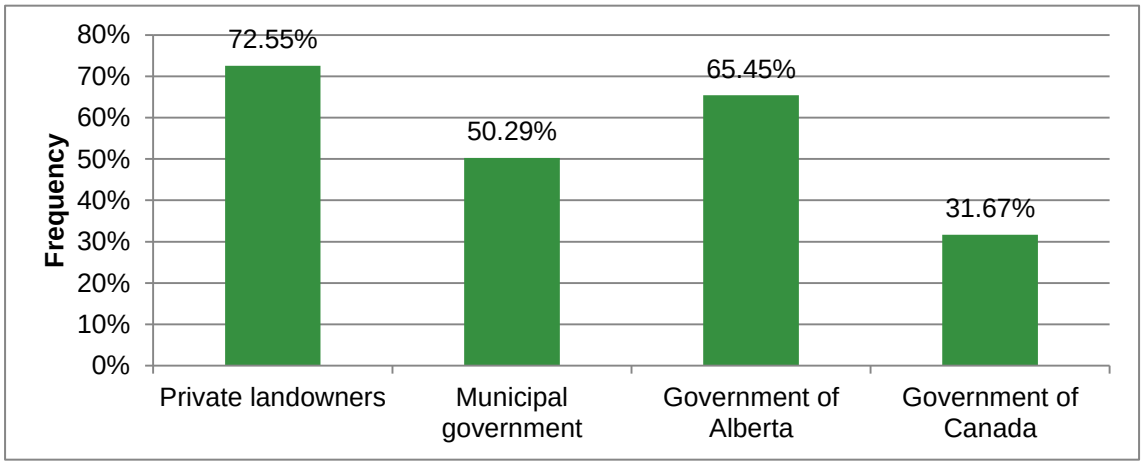
| | True | | False | | Don't Know | | Total |
|---|---|---|---|---|---|---|---|
| **Beavers naturally exist in Alberta** | 94.44% | 493 | 2.11% | 11 | 3.45% | 18 | 522 |
| **Beaver population numbers today are greater than their historic (pre-1900) numbers in Alberta** | 19.62% | 102 | 44.62% | 232 | 35.77% | 186 | 520 |
| **Beavers spend the majority of their life in waterbodies** | 80.50% | 421 | 8.80% | 46 | 10.71% | 56 | 523 |
| **Beavers build both dams and lodges** | 95.02% | 496 | 0.96% | 5 | 4.02% | 21 | 522 |
| **Beavers eat fish** | 10.00% | 52 | 71.35% | 371 | 18.65% | 97 | 520 |
| **Beavers must chew on wood because their teeth do not stop growing** | 83.52% | 436 | 5.56% | 29 | 10.92% | 57 | 522 |
| **Beavers have webbed feet** | 87.00% | 455 | 5.54% | 29 | 7.46% | 39 | 523 |
| **Beaver dams can create ponds (wetlands) that help replenish groundwater** | 87.76% | 459 | 4.59% | 24 | 7.65% | 40 | 523 |
| **Beaver dams can create ponds that are important for fish such as trout** | 81.42% | 425 | 7.66% | 40 | 10.92% | 57 | 522 |
| **Beaver dams act as barriers to fish movement in streams** | 44.44% | 232 | 34.48% | 180 | 21.07% | 110 | 522 |
| **Beaver colonies can have up to 12 individuals living in one location** | 58.81% | 307 | 8.81% | 46 | 32.38% | 169 | 522 |
| **Young beavers disperse at 6 months of age** | 22.88% | 119 | 26.73% | 139 | 50.38% | 262 | 520 |
| **Beavers are driven to build dams based on the sound and feeling of running water** | 63.10% | 330 | 10.13% | 53 | 26.77% | 140 | 523 |
| **Beavers create wetlands and habitat that benefits other living things** | 95.39% | 497 | 1.54% | 8 | 3.07% | 16 | 521 |
| **Ponds created by beaver dams generally help reduce** | 63.29% | 331 | 23.52% | 123 | 13.19% | 69 | 523 |

| | True | | False | | Don't Know | | Total |
|---|---|---|---|---|---|---|---|
| **the threat of flooding** | | | | | | | |
| **Water captured behind beaver dams results in lower flows and causes insufficient water downstream.** | 27.78% | 145 | 61.30% | 320 | 10.92% | 57 | 522 |
| **Cutting of trees by beavers results in loss of tree populations** | 37.55% | 196 | 52.30% | 273 | 10.15% | 53 | 522 |
| | | | | | **Answered** | | **523** |
| | | | | | **Skipped** | | **116** |

The majority of respondents answered the questions correctly. The two statements with incorrect answers were: "Beaver dams act as barriers to fish movement in streams" and "Young beavers disperse at 6 months of age."

5. Which of the following has legal authority to manage beaver on private land in Alberta? (Please check all that apply)

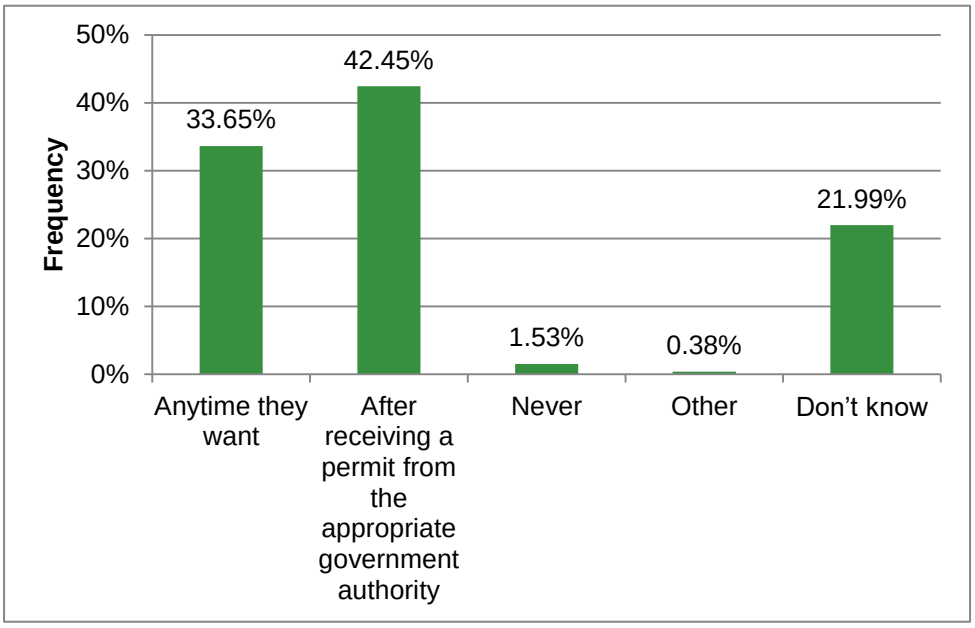
| Answer Choices | Responses | |
|---|---|---|
| Private landowners | 72.55% | 378 |
| Municipal government | 50.29% | 262 |
| Government of Alberta | 65.45% | 341 |
| Government of Canada | 31.67% | 165 |
| | Answered | 521 |
| | Skipped | 118 |




Respondents' top two answers were that private landowners (72.55%) and the Government of Alberta (65.45%) have legal authority to manage beaver on private land in Alberta.

6. Under what conditions can private landowners legally remove beaver or beaver dams from their property?

| Answer Choices | Responses | |
|---|---|---|
| Anytime they want | 33.65% | 176 |
| After receiving a permit from the appropriate government authority | 42.45% | 222 |
| Never | 1.53% | 8 |
| Other | 0.38% | 2 |
| Don't know | 21.99% | 115 |
| | Answered | 523 |
| | Skipped | 116 |




The majority of respondents' believe that private landowners can legally remove beaver or beaver dams from their property 'after receiving a permit from the appropriate government authority' (42.45%) and 'anytime they want' (33.65%).

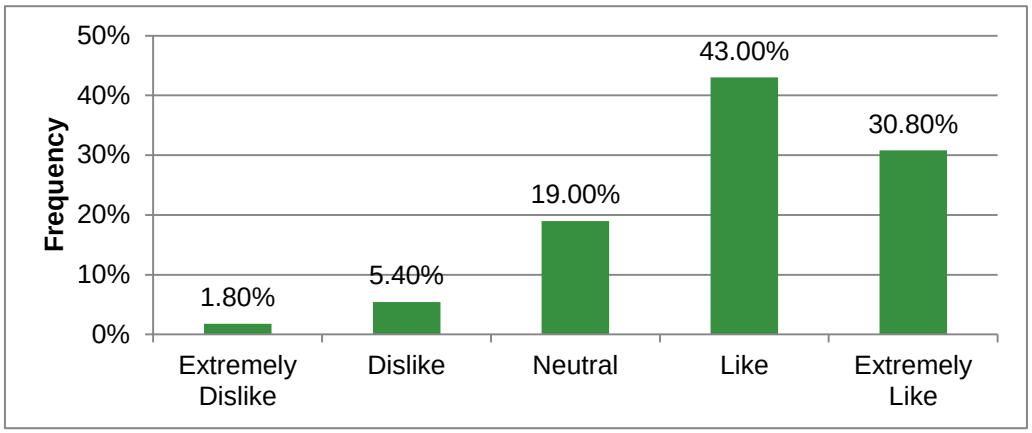
***Note:** Those respondents who answered "Other" did not leave open-ended responses.*

## Feelings towards Beavers

### Numeric and Graphical Responses by Question

7. In general, how do you feel about beavers?

| Answer Choices | Responses | |
|---|---|---|
| **Extremely Dislike** | 1.80% | 9 |
| **Dislike** | 5.40% | 27 |
| **Neutral** | 19.00% | 95 |
| **Like** | 43.00% | 215 |
| **Extremely Like** | 30.80% | 154 |
| | **Answered** | **500** |
| | **Skipped** | **139** |

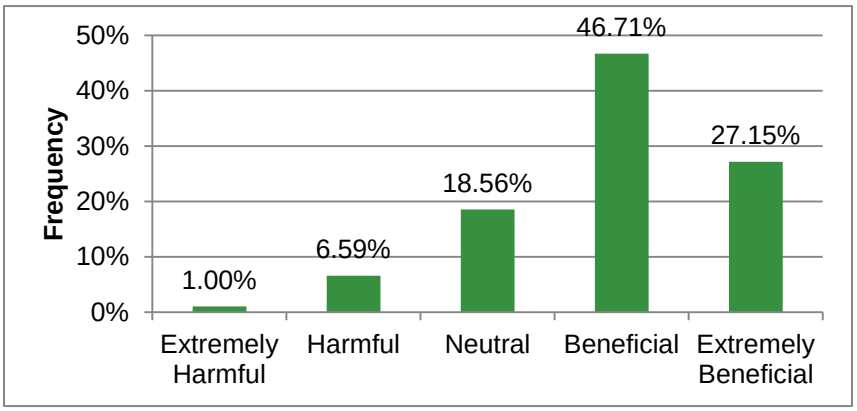



73.80% of respondents like beavers.

Open-ended responses available upon request.

8. In general, do you feel beavers are:

| Scale | Responses | |
|---|---|---|
| **Extremely Harmful** | 1.00% | 5 |
| **Harmful** | 6.59% | 33 |
| **Neutral** | 18.56% | 93 |
| **Beneficial** | 46.71% | 234 |
| **Extremely Beneficial** | 27.15% | 136 |
| | **Answered** | **501** |
| | **Skipped** | **138** |




73.86% of respondents feel beavers are beneficial.

Open-ended responses from the comments section were analyzed and the following categories were compiled and are stated in the table below:

| Category | % Topic Mentioned | Times Topic Mentioned |
|---|---|---|
| Both Harmful and Beneficial | **28.57%** | **24** |
| Benefits | **22.62%** | **19** |
| Negative Impact | **15.48%** | **13** |
| Location/Activity Dependent | **14.29%** | **12** |
| Management | **9.52%** | **8** |
| Infrastructure | **5.95%** | **5** |
| Economy | **2.38%** | **2** |
| No Benefit | **1.19%** | **1** |
| | **100%** | **84** |

Open-ended responses available upon request.

9. To what extent do you **<u>disagree or agree</u>** with the following statements? (please select only one response per row)

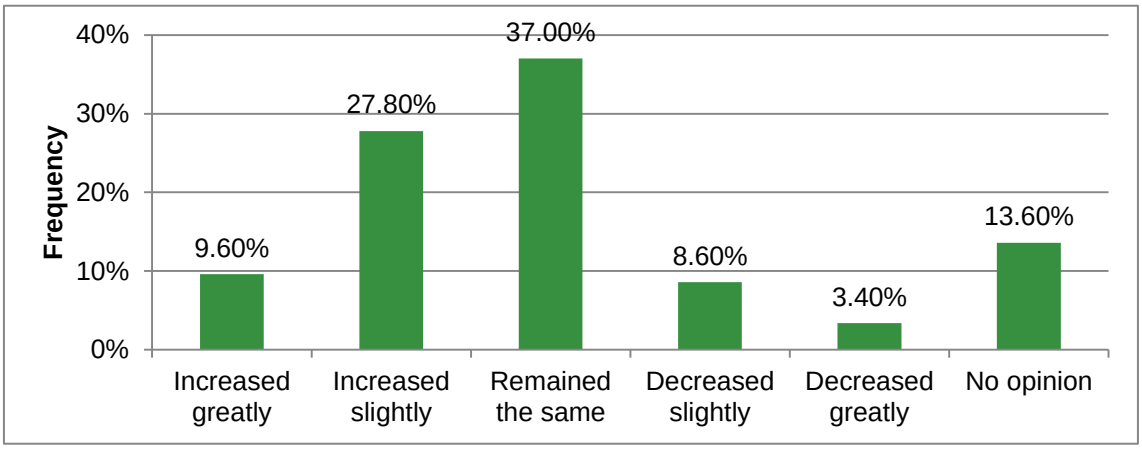
| Statements | Strongly Disagree | | Slightly Disagree | | Neutral | | Slightly Agree | | Strongly Agree | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I may never see a beaver, but it is important to me that they exist | 3.80% | 19 | 2.80% | 14 | 12.20% | 61 | 20.20% | 101 | 61.00% | 305 | 500 |
| I am afraid of beavers | 72.85% | 365 | 13.97% | 70 | 9.38% | 47 | 2.59% | 13 | 1.20% | 6 | 501 |
| I would get enjoyment from seeing beavers | 3.60% | 18 | 1.20% | 6 | 12.80% | 64 | 23.80% | 119 | 58.60% | 293 | 500 |
| Beaver damage to roads or bridges is a major problem | 14.74% | 74 | 23.11% | 116 | 22.11% | 111 | 29.68% | 149 | 10.36% | 52 | 502 |
| Beaver damage to property (other than roads & bridges) is a major problem | 15.20% | 76 | 29.00% | 145 | 22.00% | 110 | 25.00% | 125 | 8.80% | 44 | 500 |
| Beavers are an important part of the natural ecosystem | 1.00% | 5 | 1.60% | 8 | 4.40% | 22 | 18.00% | 90 | 75.00% | 375 | 500 |
| Drinking water contaminated by beaver exposes people to diseases | 15.23% | 76 | 17.84% | 89 | 22.44% | 112 | 31.86% | 159 | 12.63% | 63 | 499 |
| Beavers are a nuisance | 26.40% | 132 | 27.20% | 136 | 16.80% | 84 | 24.60% | 123 | 5.00% | 25 | 500 |
| People should be willing to tolerate some conflict with beavers | 1.61% | 8 | 6.63% | 33 | 8.63% | 43 | 39.76% | 198 | 43.37% | 216 | 498 |
| Beavers have a right to exist regardless of any damage they cause | 12.15% | 61 | 17.33% | 87 | 10.96% | 55 | 28.69% | 144 | 30.88% | 155 | 502 |
| When beaver dams burst they create flood damage to downstream areas | 11.75% | 59 | 23.90% | 120 | 25.50% | 128 | 34.06% | 171 | 4.78% | 24 | 502 |

| Statements | Strongly Disagree | | Slightly Disagree | | Neutral | | Slightly Agree | | Strongly Agree | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Beaver populations should be actively managed** | 7.21% | 36 | 13.83% | 69 | 21.64% | 108 | 35.47% | 177 | 21.84% | 109 | 499 |
| **No beaver should be killed** | 32.53% | 163 | 26.55% | 133 | 14.77% | 74 | 14.57% | 73 | 11.58% | 58 | 501 |
| **Beavers damage habitat for some wildlife or fish species** | 17.64% | 88 | 22.04% | 110 | 27.66% | 138 | 26.25% | 131 | 6.41% | 32 | 499 |
| **Beavers cause more harm than good** | 49.40% | 247 | 24.80% | 124 | 15.60% | 78 | 6.00% | 30 | 4.20% | 21 | 500 |
| | | | | | | | | | **Answered** | | **502** |
| | | | | | | | | | **Skipped** | | **137** |

Respondents' answers to each topic varied greatly. Please see the highest answer rate for each topic highlighted in green in the table above.

10. I would be happy if beaver populations:

| Answer Choices | Responses | |
|---|---|---|
| **Increased greatly** | 9.60% | 48 |
| **Increased slightly** | 27.80% | 139 |
| **Remained the same** | 37.00% | 185 |
| **Decreased slightly** | 8.60% | 43 |
| **Decreased greatly** | 3.40% | 17 |
| **No opinion** | 13.60% | 68 |
| | **Answered** | **500** |
| | **Skipped** | **139** |




37.40% of respondents would be happy if beaver populations increased, 37.00% would be happy if beaver populations remained the same, and 12% would be happy if beaver populations decreased. 13.60% of respondents had no opinion.

## Concerns

### Numeric and Graphical Responses by Question

11. If beavers are or were present on your property (or land you manage) or neighbouring properties, how concerned would you be about each of the following? (please select only one response per row)

| | Not at all concerned | | Slightly concerned | | Moderately concerned | | Extremely concerned | | No Opinion | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Your own personal health or safety** | 79.32% | 376 | 11.18% | 53 | 5.91% | 28 | 2.95% | 14 | 0.63% | 3 | 474 |
| **Health or safety of children** | 56.33% | 267 | 25.95% | 123 | 10.76% | 51 | 4.85% | 23 | 2.11% | 10 | 474 |
| **Health or safety of pets or livestock** | 53.05% | 252 | 30.11% | 143 | 9.05% | 43 | 5.89% | 28 | 1.89% | 9 | 475 |
| **Spread of diseases by beavers** | 56.24% | 266 | 27.06% | 128 | 10.36% | 49 | 4.44% | 21 | 1.90% | 9 | 473 |
| **Potential damage to your own property (or property that you manage) by beavers** | 17.72% | 84 | 47.05% | 223 | 24.47% | 116 | 10.13% | 48 | 0.63% | 3 | 474 |
| | | | | | | | | | **Answered** | | **475** |
| | | | | | | | | | **Skipped** | | **164** |

The majority of respondents are not at all concerned about human, pet, or livestock health and safety related issues but 47.05% of respondents are slightly concerned about potential damage to their property.

Open-ended responses available upon request.

12. To what extent would it be a **problem IF** beavers caused the following on your property or land you manage? (please select only one response per row)

| | Not at all a problem | | Minor problem | | Moderate problem | | Serious problem | | Don't Know | | Not Applicable | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Overflow of a pond, lake, or stream** | 15.79% | 75 | 32.00% | 152 | 26.95% | 128 | 13.05% | 62 | 0.84% | 4 | 11.37% | 54 | 475 |
| **Flooding of a road or driveway** | 4.03% | 19 | 19.28% | 91 | 34.53% | 163 | 31.99% | 151 | 0.21% | 1 | 9.96% | 47 | 472 |
| **Flooding of crops or fields** | 9.47% | 45 | 15.79% | 75 | 23.37% | 111 | 33.47% | 159 | 0.63% | 3 | 17.26% | 82 | 475 |
| **Flooding of a home or other building** | 5.70% | 27 | 3.80% | 18 | 11.81% | 56 | 65.61% | 311 | 0.21% | 1 | 12.87% | 61 | 474 |
| **Damage to trees and shrubs** | 13.92% | 66 | 35.23% | 167 | 30.38% | 144 | 13.92% | 66 | 0.00% | 0 | 6.54% | 31 | 474 |
| **Damage to culverts (e.g. plugged culverts, erosion around culverts)** | 4.21% | 20 | 21.68% | 103 | 32.84% | 156 | 29.26% | 139 | 1.47% | 7 | 10.53% | 50 | 475 |

**Answered** **475**

**Skipped** **164**

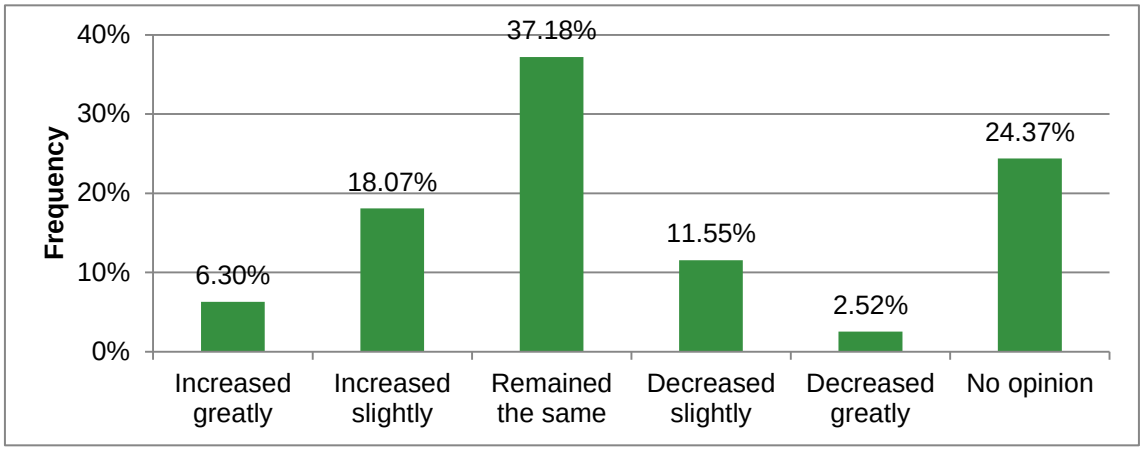
Each of the question categories was most highly rated as either a 'moderate problem' or a 'serious problem.' The two 'serious problem[s]' for respondents were 'flooding of crops or fields' and 'flooding of a home or other building.'

Open-ended responses were captured in the 'other' category where respondents were asked to 'please describe the impact and extent of the problem.' Emergent concerns were noted and will be discussed as part of the summary of this report. In the 'other' responses there were 8 respondents that mentioned the use of mitigation tools.

Open-ended responses available upon request.

13. Based on your present knowledge and experiences with beaver in Alberta, in your opinion, which statement best represents the extent of beaver damage in Alberta over the past 5 years?

| Answer Choices | Responses | |
|---|---|---|
| **Increased greatly** | 6.30% | 30 |
| **Increased slightly** | 18.07% | 86 |
| **Remained the same** | 37.18% | 177 |
| **Decreased slightly** | 11.55% | 55 |
| **Decreased greatly** | 2.52% | 12 |
| **No opinion** | 24.37% | 116 |
| | **Answered** | **476** |
| | **Skipped** | **163** |



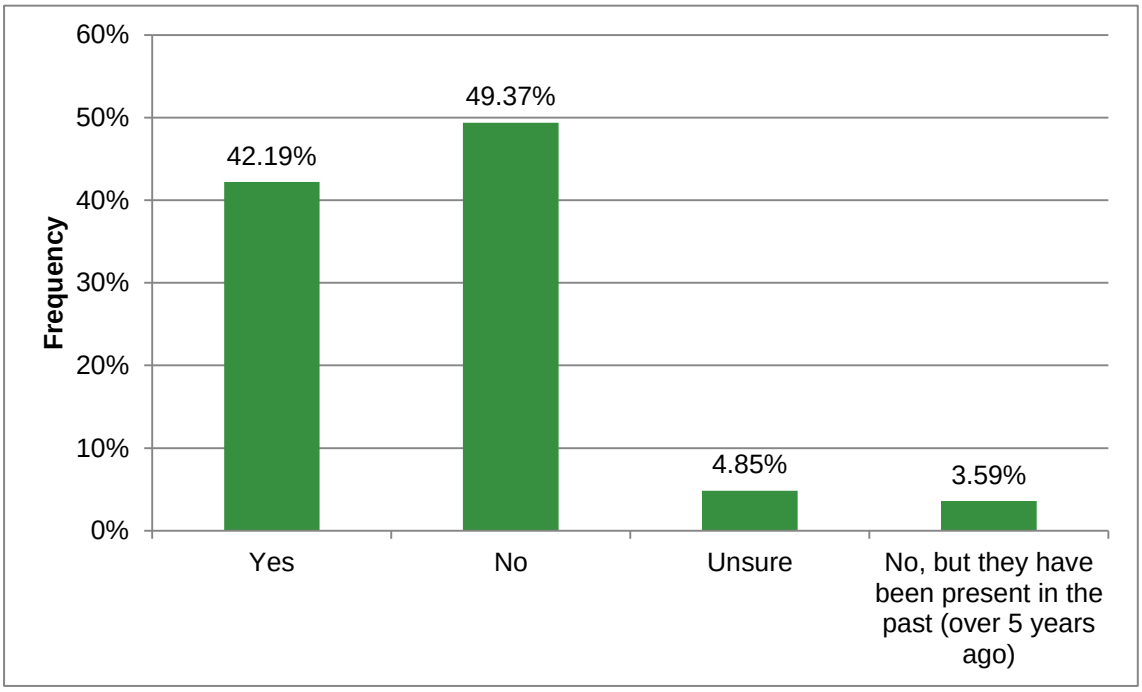

24.37% of respondents believe that extent of beaver damage in Alberta has increased, 37.18% of respondents believe the extent of beaver damage in Alberta has remained the same, and 14.07% of respondents believe that extent of beaver damage in Alberta has decreased. 24.37% of respondents had no opinion.

## Local Beaver Presence

### Numeric and Graphical Responses by Question

14. Are there beavers living on: **<u>your property, property that you manage, or adjacent properties</u>**? (within the last 5 years)

| Answer Choices | Responses | |
|---|---|---|
| Yes | 42.19% | 200 |
| No | 49.37% | 234 |
| Unsure | 4.85% | 23 |
| No, but they have been present in the past (over 5 years ago) | 3.59% | 17 |
| | Answered | 474 |
| | Skipped | 165 |




42.19% of respondents have beavers living on their property, property they manage, or adjacent properties within the last 5 years. 3.59% have historically (over 5 years ago) had beavers living on their property, property they manage, or adjacent properties.

***Note:** At this point in the survey, respondents were sorted by skip logic depending on their answers to question 14; the following skips were applied:

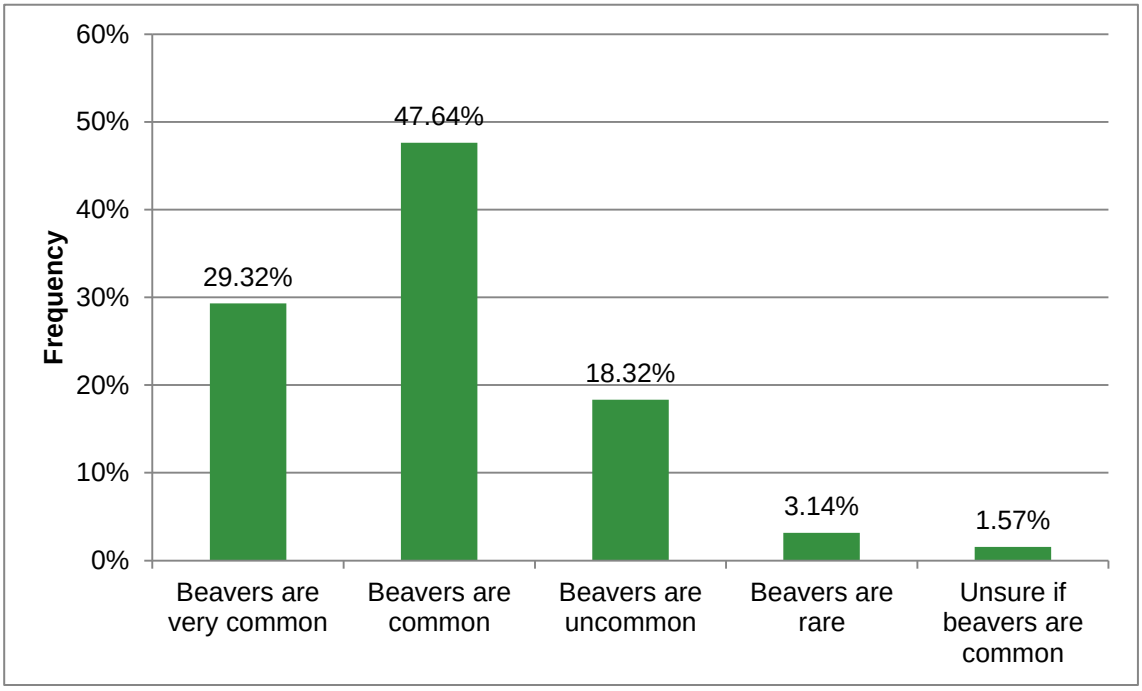
- Yes → continue to question 15
- No → skip to question 29

- Unsure → skip to question 29
- No, but they have been present in the past (over 5 years ago) → skip to question 22

This skip logic allowed for more targeted questions with the correct context for the specific respondent's circumstance.*

15. With regard to **<u>your property or property you manage</u>** which would you say is most true:

| Answer Choices | Responses | |
|---|---|---|
| **Beavers are very common** | 29.32% | 56 |
| **Beavers are common** | 47.64% | 91 |
| **Beavers are uncommon** | 18.32% | 35 |
| **Beavers are rare** | 3.14% | 6 |
| **Unsure if beavers are common** | 1.57% | 3 |
| | **Answered** | **191** |
| | **Skipped** | **448** |




76.96% of respondents who have beavers on their property, property they manage, or adjacent properties, and answered this question, say that beavers are common or very common on their property or property they manage.

16. How many beavers would you estimate currently exist on **<u>your property or property you manage</u>**?

| Categories (number of beavers) | Responses | |
|---|---|---|
| **0** | 22.58% | 42 |
| **1-5** | 31.18% | 58 |
| **6-10** | 16.13% | 30 |
| **11-50** | 19.89% | 37 |
| **51 or more** | 4.30% | 8 |
| **Unknown** | 5.91% | 11 |
| | **Answered** | **186** |
| | **Skipped** | **453** |

Of the respondents who have beavers present on their property, property they manage, or adjacent properties, and answered this question, 31.18% of respondents estimate that 1-5 beavers currently exist on their property or property they manage.

Open-ended responses available upon request.

17. How many beavers would you estimate currently exist on **<u>adjacent (neighbouring) properties</u>** to your property or property you manage?

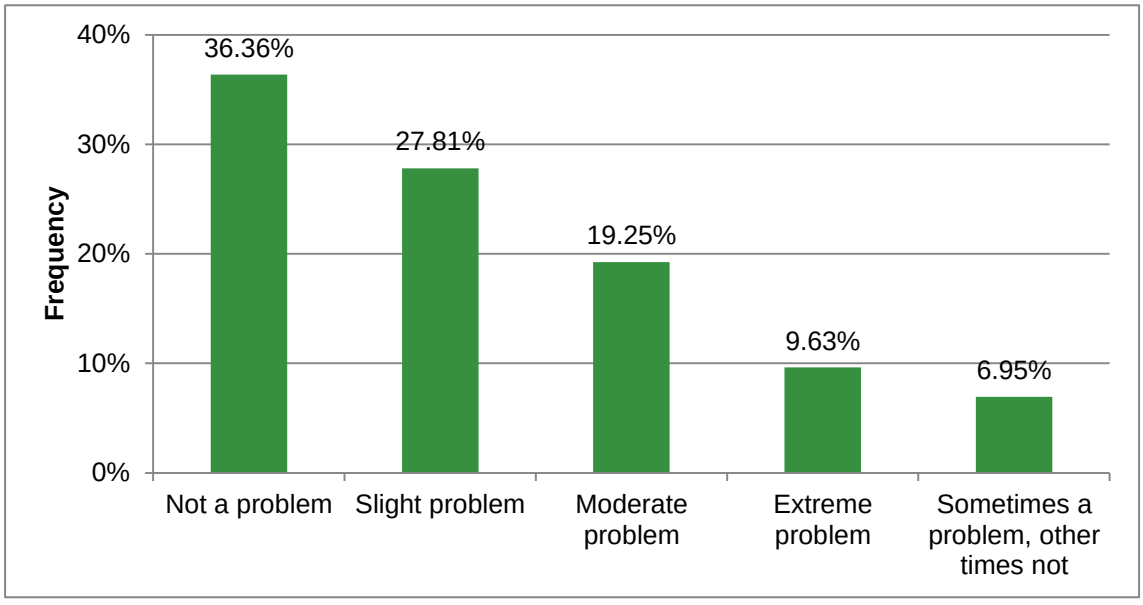
| Categories (number of beavers) | Responses | |
|---|---|---|
| **0** | 6.45% | 12 |
| **1-5** | 30.11% | 56 |
| **6-10** | 12.90% | 24 |
| **11-50** | 19.89% | 37 |
| **51 or more** | 6.99% | 13 |
| **Unknown** | 23.66% | 44 |
| | **Answered** | **186** |
| | **Skipped** | **453** |

Of the respondents who have beavers present on their property, property they manage, or adjacent properties, and answered this question, 30.11% of respondents estimate that 1-5 beavers currently exist on adjacent (neighbouring) properties.

Open-ended responses available upon request.

18. To what extent do you consider beavers to be a **problem on your property or land that you manage**?

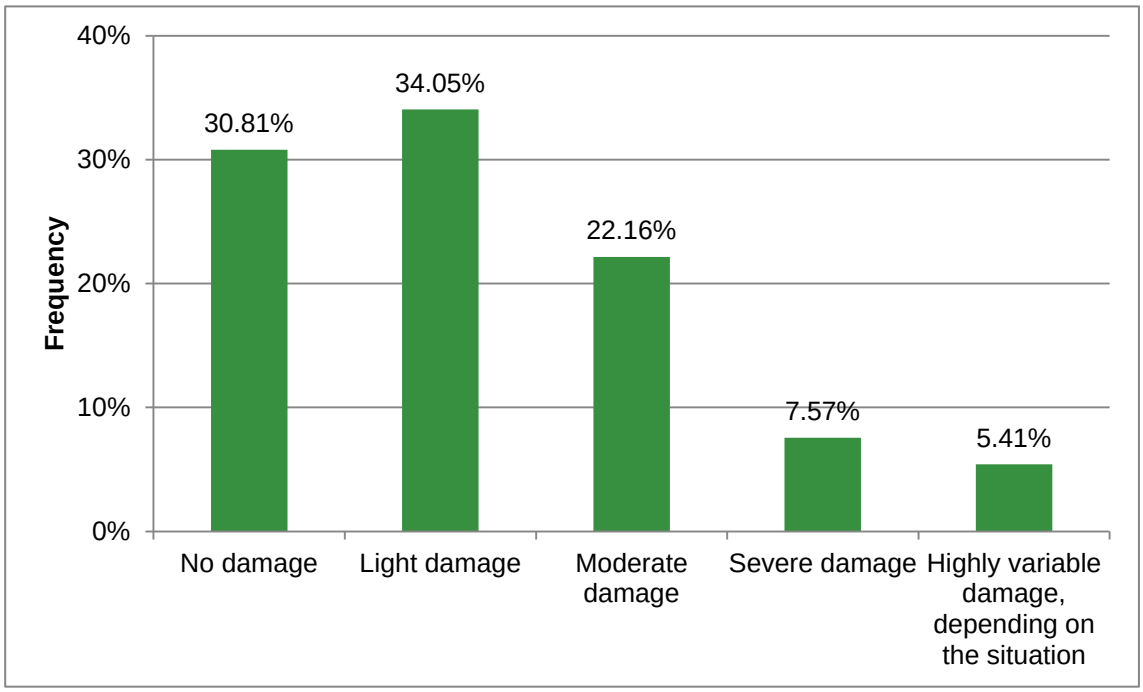
| Answer Choices | Responses | |
|---|---|---|
| Not a problem | 36.36% | 68 |
| Slight problem | 27.81% | 52 |
| Moderate problem | 19.25% | 36 |
| Extreme problem | 9.63% | 18 |
| Sometimes a problem, other times not | 6.95% | 13 |
| | Answered | 187 |
| | Skipped | 452 |




The majority (56.69%) of respondents who have beavers on their property, property they manage, or adjacent properties, and answered this question, consider beavers to be a problem to some degree on their property or land that they manage. 36.36% consider beavers to be 'not a problem.'

19. In general, how would you describe the severity of the beaver damage to your property in the last 5 years?

| Answer Choices | Responses | |
|---|---|---|
| No damage | 30.81% | 57 |
| Light damage | 34.05% | 63 |
| Moderate damage | 22.16% | 41 |
| Severe damage | 7.57% | 14 |
| Highly variable damage, depending on the situation | 5.41% | 10 |
| | **Answered** | **185** |
| | **Skipped** | **454** |




The majority of respondents who have beavers on their property, property they manage, or adjacent properties, and answered this question indicate some level of damage caused by beavers.

20. How often have beavers caused each of the following on **<u>your property over the past 5 years</u>**? (please select only one response per row)

| | Never | | 1-2 times | | 3-5 times | | More than 5 times | | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Overflow of a pond, lake, or stream** | 47.59% | 89 | 28.88% | 54 | 11.76% | 22 | 11.76% | 22 | 187 |
| **Flooding of a road or driveway** | 73.26% | 137 | 16.58% | 31 | 3.74% | 7 | 6.42% | 12 | 187 |
| **Flooding of crops, pasture, or fields** | 63.64% | 119 | 20.86% | 39 | 8.56% | 16 | 6.95% | 13 | 187 |
| **Flooding of a home or other building** | 95.70% | 178 | 2.69% | 5 | 1.61% | 3 | 0.00% | 0 | 186 |
| **Damage to trees or shrubs** | 18.09% | 34 | 26.60% | 50 | 17.02% | 32 | 38.30% | 72 | 188 |
| **Damage to culverts (e.g. Plugged culverts, erosion around culverts)** | 55.61% | 104 | 27.27% | 51 | 4.81% | 9 | 12.30% | 23 | 187 |
| **Blocked irrigation or drainage ditches** | 75.14% | 139 | 12.97% | 24 | 3.78% | 7 | 8.11% | 15 | 185 |
| | | | | | | | **Answered** | | **188** |
| | | | | | | | **Skipped** | | **451** |

The most common occurrence of damage, within their own property, reported by respondents who have beavers on their property, property they manage, or adjacent properties, and who answered this question, is damage to trees or shrubs, with 38.30% having this occur more than 5 times. For each other type of damage, the majority of respondents have never experienced that type of damage or have only experienced it 1-2 times.

Open-ended responses were captured in the 'other' category where respondents were asked to 'please describe the impact and how often beavers have caused it.' Emergent concerns were noted and will be discussed as part of the summary of this report. In the 'other' responses there was 1 respondent that mentioned the use of mitigation tools.

Open-ended responses available upon request.

21. With regard to the impacts you have experienced, please indicate if you consider the following impacts to be **unreasonable, tolerable, or not applicable**. (please select only one response per row)

| | Unreasonable | | Tolerable | | Not Applicable | | Total |
|---|---|---|---|---|---|---|---|
| **Overflow of a pond, lake, or stream** | 13.90% | 26 | 62.57% | 117 | 23.53% | 44 | 187 |
| **Flooding of a road or driveway** | 44.92% | 84 | 18.72% | 35 | 36.36% | 68 | 187 |
| **Flooding of crops, pasture, or fields** | 36.90% | 69 | 29.95% | 56 | 33.16% | 62 | 187 |
| **Flooding of a home or other building** | 47.06% | 88 | 2.67% | 5 | 50.27% | 94 | 187 |
| **Damage to trees or shrubs** | 24.47% | 46 | 68.62% | 129 | 6.91% | 13 | 188 |
| **Damage to culverts (e.g. Plugged culverts, erosion around culverts)** | 40.11% | 75 | 31.55% | 59 | 28.34% | 53 | 187 |
| **Blocked irrigation or drainage ditches** | 32.26% | 60 | 22.58% | 42 | 45.16% | 84 | 186 |
| **Other: (please describe the impact and note whether it was unreasonable or tolerable)** | | | | | | | 18 |
| | | | | | | **Answered** | **189** |
| | | | | | | **Skipped** | **450** |

Respondents who have beavers on their property, property they manage, or adjacent properties, and answered this question, selected that 'overflow of a pond, lake, or stream' and 'damage to trees or shrubs' were tolerable, while 'Flooding of a road or driveway,' 'Flooding of crops, pasture, or fields,' and 'Damage to culverts (e.g. Plugged culverts, erosion around culverts)' were unreasonable. The other damage categories were considered 'not applicable.'

Open-ended responses were captured in the 'other' category where respondents were asked to 'please describe the impact and note whether it was unreasonable or tolerable.' There were no emergent concerns noted from the analysis of these responses. In the 'other' responses there were 4 respondents that mentioned the use of mitigation tools.

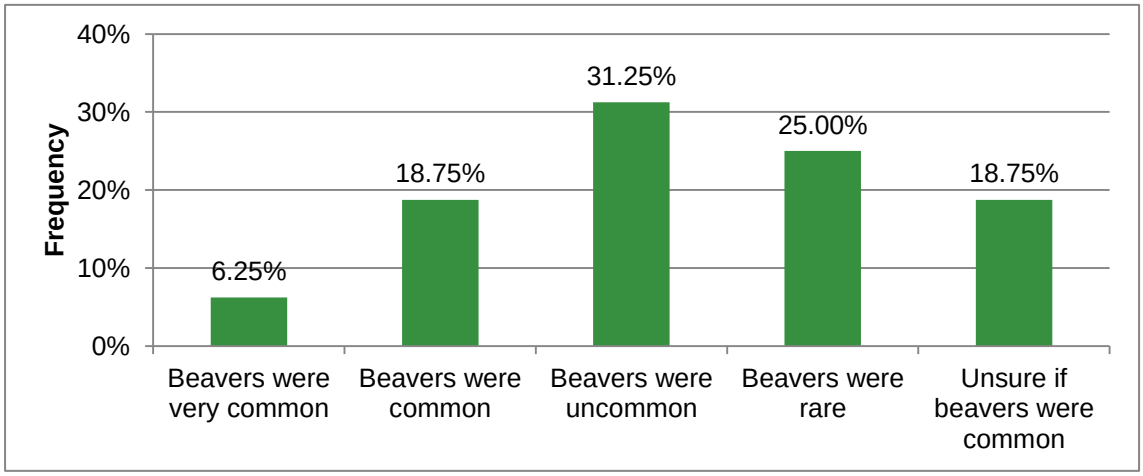
Open-ended responses available upon request.

## Historical Local Beaver Presence

### Numeric and Graphical Responses by Question

22. Historically, with regard to **<u>your property or property you manage</u>** which would you say is most true:

| Answer Choices | Responses | |
|---|---|---|
| Beavers were very common | 6.25% | 1 |
| Beavers were common | 18.75% | 3 |
| Beavers were uncommon | 31.25% | 5 |
| Beavers were rare | 25.00% | 4 |
| Unsure if beavers were common | 18.75% | 3 |
| | Answered | 16 |
| | Skipped | 623 |




56.25% of respondents who historically had beavers on their property, property they manage, or adjacent properties, and answered this question, say that beavers were uncommon or rare on their property or property they managed.

23. How many beavers would you estimate historically existed on **<u>your property or property you manage</u>** over a one year period?

| Categories (number of beavers) | Responses | |
|---|---|---|
| **0** | 7.41% | 1 |
| **1-5** | 64.29% | 9 |
| **6-10** | 7.41% | 1 |
| **11-50** | 0.00% | 0 |
| **51 or more** | 0.00% | 0 |
| **Unknown** | 21.43% | 3 |
| | **Answered** | **14** |
| | **Skipped** | **625** |

Of the respondents who historically had beavers present on their property, property they manage, or adjacent properties, and answered this question, 64.29% of respondents estimate that historically 1-5 beavers existed on their property or property they manage over a one year period.

Open-ended responses available upon request.

24. How many beavers would you estimate historically existed on **<u>adjacent (neighbouring) properties</u>** to your property or property you manage over a one year period?

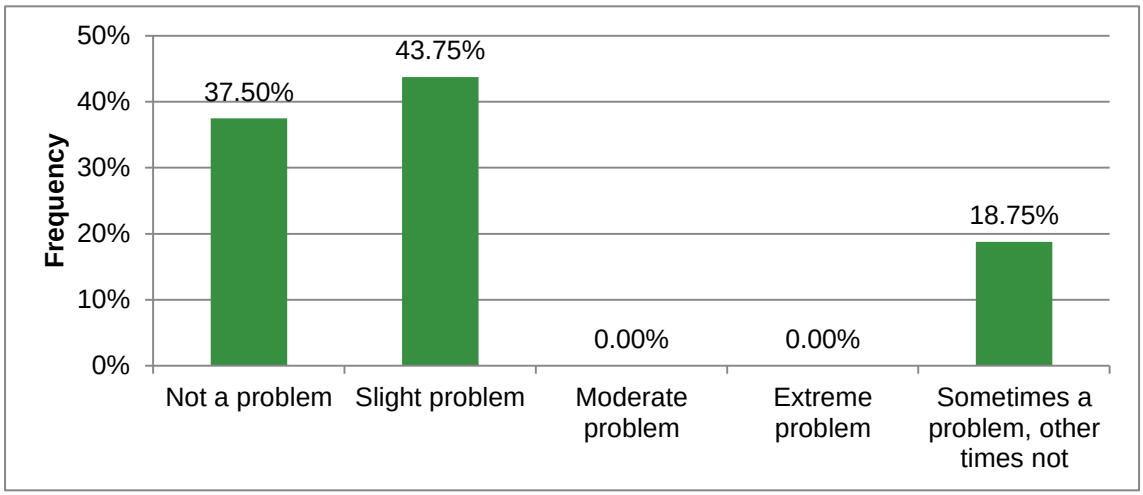
| Categories (number of beavers) | Responses | |
|---|---|---|
| **0** | 14.29% | 2 |
| **1-5** | 35.71% | 5 |
| **6-10** | 21.43% | 3 |
| **11-50** | 0.00% | 0 |
| **51 or more** | 0.00% | 0 |
| **Unknown** | 28.57% | 4 |
| | **Answered** | **14** |
| | **Skipped** | **625** |

Of the respondents who historically had beavers present on their property, property they manage, or adjacent properties, and answered this question, 35.71% of respondents estimate that historically 1-5 beavers existed on adjacent (neighbouring) properties over a one year period.

Open-ended responses available upon request.

25. Historically, to what extent did you consider beavers to be a **problem on your property or land that you manage**?

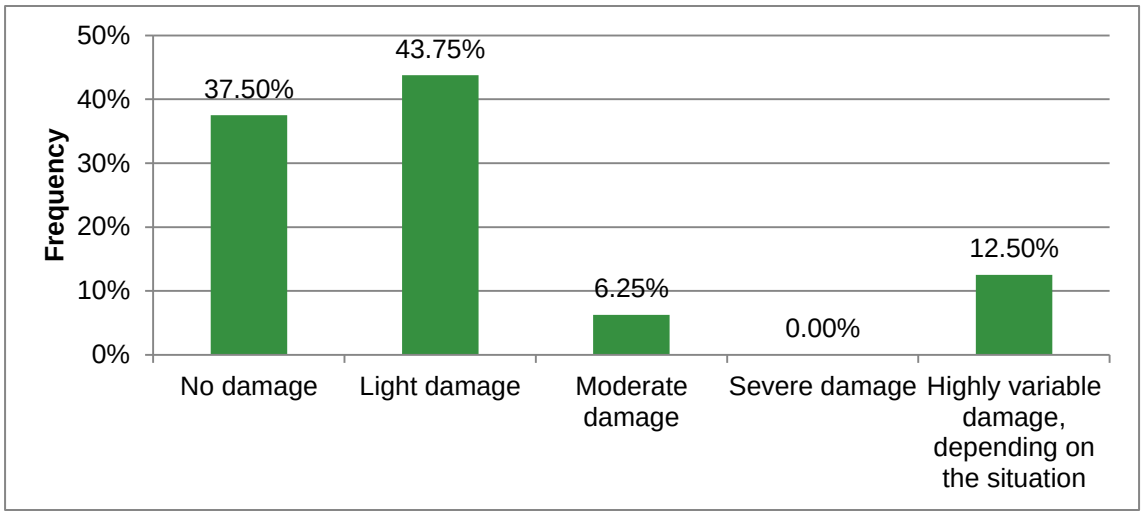
| Answer Choices | Responses | |
|---|---|---|
| Not a problem | 37.50% | 6 |
| Slight problem | 43.75% | 7 |
| Moderate problem | 0.00% | 0 |
| Extreme problem | 0.00% | 0 |
| Sometimes a problem, other times not | 18.75% | 3 |
| | Answered | 16 |
| | Skipped | 623 |




The majority of respondents (43.75%) of respondents who historically had beavers on their property, property they manage, or adjacent properties, and answered this question, considered beavers to be a 'slight problem' on their property or land that they manage. 37.50% considered beavers to be 'not a problem.'

26. In general, how would you describe the severity of the beaver damage to your property historically?

| Answer Choices | Responses | |
|---|---|---|
| **No damage** | 37.50% | 6 |
| **Light damage** | 43.75% | 7 |
| **Moderate damage** | 6.25% | 1 |
| **Severe damage** | 0.00% | 0 |
| **Highly variable damage, depending on the situation** | 12.50% | 2 |
| | **Answered** | **16** |
| | **Skipped** | **623** |




The majority (43.75%) of respondents who historically had beavers on their property, property they manage, or adjacent properties, and answered this question, described having 'light damage' to their property.

27. Historically, how often have beavers caused each of the following on **<u>your property</u>**? (please select only one response per row)

| | Never | | 1-2 times | | 3-5 times | | More than 5 times | | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Overflow of a pond, lake, or stream** | 60.00% | 9 | 33.33% | 5 | 6.67% | 1 | 0.00% | 0 | 15 |
| **Flooding of a road or driveway** | 53.33% | 8 | 26.67% | 4 | 13.33% | 2 | 6.67% | 1 | 15 |
| **Flooding of crops, pasture, or fields** | 73.33% | 11 | 20.00% | 3 | 6.67% | 1 | 0.00% | 0 | 15 |
| **Flooding of a home or other building** | 100.00% | 15 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 15 |
| **Damage to trees or shrubs** | 20.00% | 3 | 40.00% | 6 | 20.00% | 3 | 20.00% | 3 | 15 |
| **Damage to culverts (e.g. Plugged culverts, erosion around culverts)** | 46.67% | 7 | 20.00% | 3 | 13.33% | 2 | 20.00% | 3 | 15 |
| **Blocked irrigation or drainage ditches** | 73.33% | 11 | 13.33% | 2 | 6.67% | 1 | 6.67% | 1 | 15 |
| **Other: (please describe the impact and how often beavers have caused it)** | | | | | | | | | 3 |

| | |
|---|---|
| **Answered** | **15** |
| **Skipped** | **624** |

The most common occurrence of damage, within their own property, reported by respondents who historically had beavers on their property, property they manage, or adjacent properties, and answered this question, is damage to trees or shrubs, with 40.00% having this occur 1-2 times. For each other type of damage, the majority of respondents have never experienced this damage.

Open-ended responses were captured in the 'other' category where respondents were asked to 'please describe the impact and how often beavers have caused it.'

Open-ended responses available upon request.

28. With regard to the impacts you have experienced historically, please indicate if you consider the following impacts to be **unreasonable, tolerable, or not applicable**. (please select only one response per row)

| | Unreasonable | | Tolerable | | Not Applicable | | Total |
|---|---|---|---|---|---|---|---|
| **Overflow of a pond, lake, or stream** | 0.00% | 0 | 56.25% | 9 | 43.75% | 7 | 16 |
| **Flooding of a road or driveway** | 18.75% | 3 | 50.00% | 8 | 31.25% | 5 | 16 |
| **Flooding of crops, pasture, or fields** | 12.50% | 2 | 43.75% | 7 | 43.75% | 7 | 16 |
| **Flooding of a home or other building** | 37.50% | 6 | 12.50% | 2 | 50.00% | 8 | 16 |
| **Damage to trees or shrubs** | 0.00% | 0 | 81.25% | 13 | 18.75% | 3 | 16 |
| **Damage to culverts (e.g. Plugged culverts, erosion around culverts)** | 18.75% | 3 | 43.75% | 7 | 37.50% | 6 | 16 |
| **Blocked irrigation or drainage ditches** | 13.33% | 2 | 26.67% | 4 | 60.00% | 9 | 15 |
| **Other: (please describe the impact and note whether it was unreasonable or tolerable)** | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0 |
| | | | | | **Answered** | | **16** |
| | | | | | **Skipped** | | **623** |

Respondents who historically had beavers on their property, property they manage, or adjacent properties, and answered this question, selected all damage types to be either tolerable or not applicable.

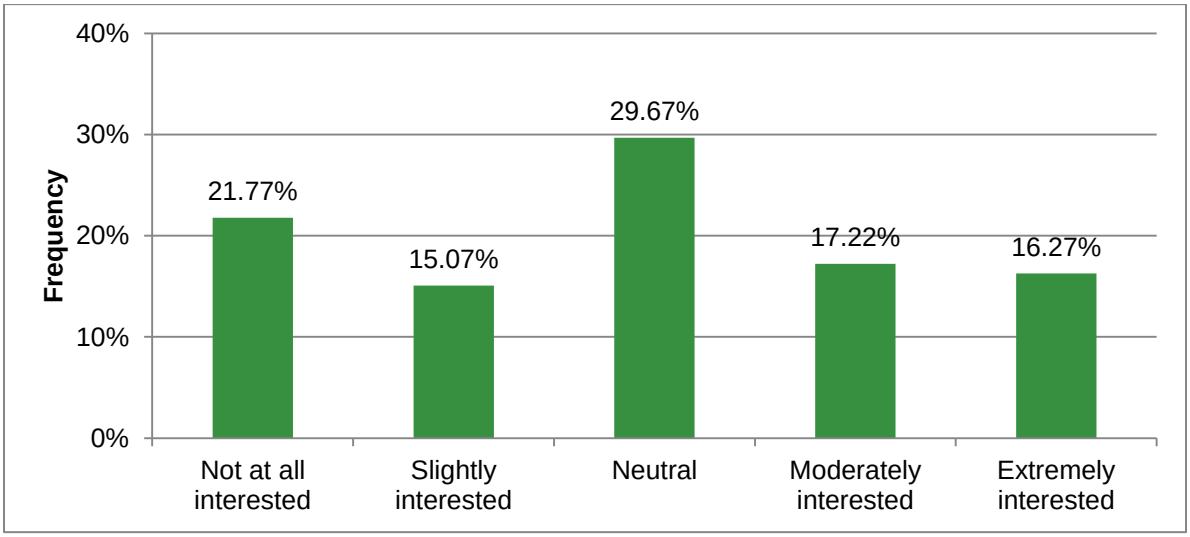
There were no open-ended responses were captured in the 'other' category where respondents were asked to 'please describe the impact and note whether it was unreasonable or tolerable.'

## Beaver Benefits

### Numeric and Graphical Responses by Question

29. How interested would you be in having beavers living on your property?

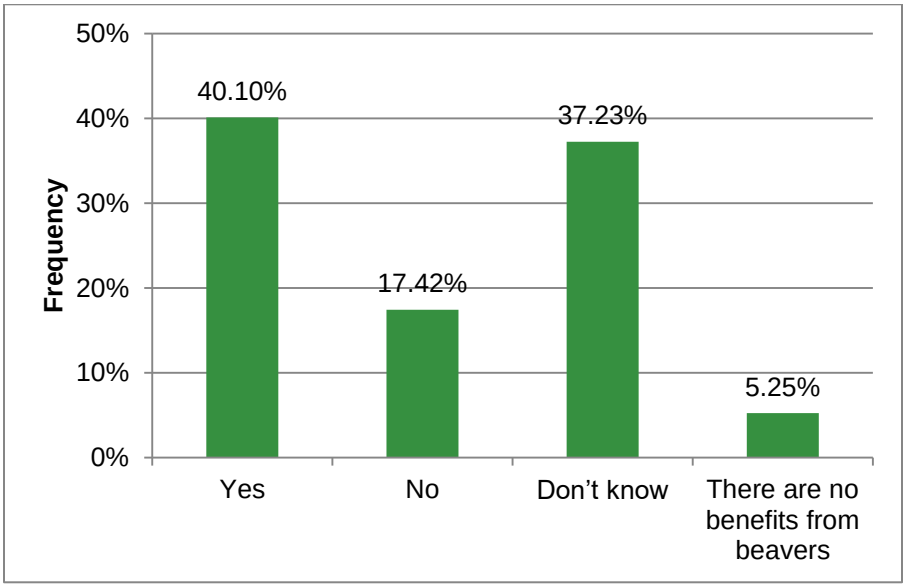
| Answer Choices | Responses | |
|---|---|---|
| **Not at all interested** | 21.77% | 91 |
| **Slightly interested** | 15.07% | 63 |
| **Neutral** | 29.67% | 124 |
| **Moderately interested** | 17.22% | 72 |
| **Extremely interested** | 16.27% | 68 |
| | **Answered** | **418** |
| | **Skipped** | **221** |




29.67% of respondents are neutral to having beavers living on their property and 21.77% are not at all interested in having beavers living on their property.
48.56% of respondents would be interested in having beavers on their property.

30. Do you receive all the benefits that you want to receive from beavers or beaver wetlands?

| Answer Choices | Responses | |
|---|---|---|
| **Yes** | 40.10% | 168 |
| **No** | 17.42% | 73 |
| **Don't know** | 37.23% | 156 |
| **There are no benefits from beavers** | 5.25% | 22 |
| | **Answered** | **419** |
| | **Skipped** | **220** |




40.10% of respondents answered yes, they receive all the benefits they want from beavers or beaver wetlands, and 37.23% answered that they don't know. 17.42% answered no, they do not receive all the benefits they want from beavers or beaver wetlands. 5.25% of respondents answered that there are no benefits from beavers.

31. Please select which category most applies to you with regard to receiving benefits from beavers: (please select only one response per row)

| | I have received this benefit | | I have not received this benefit but could | | This benefit is not applicable | | Not sure | | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Increased livestock watering areas** | 15.97% | 65 | 14.25% | 58 | 56.27% | 229 | 13.51% | 55 | 407 |
| **Increased riparian (streamside or shoreline) vegetation** | 39.56% | 161 | 20.64% | 84 | 27.03% | 110 | 12.78% | 52 | 407 |
| **Increased species diversity** | 39.07% | 159 | 22.60% | 92 | 20.88% | 85 | 17.44% | 71 | 407 |
| **Increased wildlife numbers** | 35.78% | 146 | 24.51% | 100 | 22.06% | 90 | 17.65% | 72 | 408 |
| **Elevated water tables** | 27.76% | 113 | 21.38% | 87 | 29.73% | 121 | 21.13% | 86 | 407 |
| **Improved water quality (reduction of sediment, etc.)** | 25.31% | 103 | 21.62% | 88 | 31.20% | 127 | 21.87% | 89 | 407 |
| **Reduced flooding** | 13.02% | 53 | 29.73% | 121 | 37.35% | 152 | 19.90% | 81 | 407 |
| **Increased fishing opportunities** | 14.22% | 58 | 23.04% | 94 | 48.77% | 199 | 13.97% | 57 | 408 |

| | I have received this benefit | | I have not received this benefit but could | | This benefit is not applicable | | Not sure | | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Increased waterfowl hunting opportunities** | 14.04% | 57 | 20.44% | 83 | 53.69% | 218 | 11.82% | 48 | 406 |
| **Aesthetic qualities/nature watching opportunities** | 55.53% | 226 | 16.95% | 69 | 19.66% | 80 | 7.86% | 32 | 407 |
| **Other: (please specify the benefit and which category it falls under)** | | | | | | | | | 38 |

| | |
|---|---|
| **Answered** | **410** |
| **Skipped** | **229** |

The majority of the respondents answered that either the benefit was not applicable or they are already receiving the benefit.

Open-ended responses were captured in the 'other' category where respondents were asked to 'please specify the benefit and which category it falls under.' Emergent benefits were noted and will be discussed as part of the summary of this report. In addition, emergent concerns were noted from the 'other' category of this question and will be discussed as part of the summary of this report.

Open-ended responses available upon request.

32. Please check off all of the benefits you would like to receive more of from beavers and are applicable to your land/property:

| | I want to receive more of this benefit | |
|---|---|---|
| **Increased livestock watering areas** | 82 | 25.15% |
| **Increased riparian (streamside) vegetation** | 215 | 65.95% |
| **Increased species diversity** | 242 | 74.23% |
| **Increased wildlife numbers** | 235 | 72.09% |
| **Elevated water tables** | 161 | 49.39% |
| **Improved water quality (reduction of sediment, etc.)** | 211 | 64.72% |
| **Reduced flooding** | 190 | 58.28% |
| **Increased fishing opportunities** | 132 | 40.49% |
| **Increased waterfowl hunting opportunities** | 90 | 27.61% |
| **Monetary return from fur trapping** | 60 | 18.40% |
| **Recreational trapping opportunities** | 64 | 19.63% |
| **Aesthetic qualities** | 212 | 65.03% |
| **Nature watching opportunities** | 251 | 76.99% |
| **Other** | 17 | 5.21% |
| **Other: (please specify)** | 32 | 9.82% |
| | **Answered** | **326** |
| | **Skipped** | **313** |

The top selected benefits are highlighted in green in the table above.

Open-ended responses available upon request.

33. Please select how you feel about the statements below with regard to your property, land that you manage, or adjacent properties: (please select only one response per row)

| | Increased | | Remained the same | | Decreased | | Unsure | | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Beaver numbers have** | 20.05% | 81 | 38.61% | 156 | 12.13% | 49 | 29.21% | 118 | 404 |
| **Beaver related problems have** | 14.39% | 58 | 44.67% | 180 | 11.17% | 45 | 29.78% | 120 | 403 |
| **Beaver related benefits have** | 7.73% | 31 | 47.38% | 190 | 13.47% | 54 | 31.42% | 126 | 401 |
| | | | | | | | **Answered** | | **406** |
| | | | | | | | **Skipped** | | **233** |

With regard to a respondent's property, land they manage, or adjacent properties the majority of respondents feel that beaver numbers have remained the same (38.61%), beaver related problems have remained the same (44.67%) and beaver related benefits have remained the same (47.38%).

## Tolerance and Management Actions

### Numeric and Graphical Responses by Question

34. How **unacceptable or acceptable** would it be to take each of the following actions related to beavers if they were in your area? Have you taken this action? Was this action successful?

***Note:** the SurveyMonkey Inc. question format for question 34 was a series of drops downs in one table which produced the following three tables. The open-ended 'other' responses are associated with the entire question.*

**How acceptable is this action?**

| | Unacceptable | | Neutral | | Acceptable | | Total |
|---|---|---|---|---|---|---|---|
| File a complaint with government | 17.02% | 56 | 37.69% | 124 | 45.29% | 149 | 329 |
| Contact non-government groups about how to deal with beavers | 8.56% | 28 | 22.02% | 72 | 69.42% | 227 | 327 |
| Ask for/ researched info about how to coexist with beavers | 4.91% | 16 | 13.80% | 45 | 81.29% | 265 | 326 |
| Intentionally use beaver for riparian management/ enhancement | 5.20% | 17 | 19.27% | 63 | 75.54% | 247 | 327 |
| Do nothing – I would leave the beaver alone | 13.64% | 45 | 22.42% | 74 | 63.94% | 211 | 330 |
| Wrap trees to prevent the beaver from chewing trees | 9.61% | 32 | 16.52% | 55 | 73.87% | 246 | 333 |
| Install beaver tools (exclusion devices or water level controllers) | 7.32% | 24 | 29.88% | 98 | 62.80% | 206 | 328 |
| Remove beaver dams or lodges in the area. | 35.76% | 118 | 23.33% | 77 | 40.91% | 135 | 330 |
| Capture and relocate the beaver to another location (yourself or ask someone to do so) | 24.85% | 82 | 23.64% | 78 | 51.52% | 170 | 330 |
| Frighten the beaver away | 41.28% | 135 | 32.72% | 107 | 25.99% | 85 | 327 |
| Destroy the beaver (lethal control) | 49.10% | 163 | 15.06% | 50 | 35.84% | 119 | 332 |
| Other: (please specify) | 5.88% | 1 | 70.59% | 12 | 23.53% | 4 | 17 |
| | | | | | **Answered** | | **344** |
| | | | | | **Skipped** | | **295** |

The majority of respondents believe most actions are acceptable. The two unacceptable actions were to 'frighten the beaver away' or 'destroy the beaver (lethal control).'

**Have you taken this action?**

| | Yes | | No | | Total |
|---|---|---|---|---|---|
| **File a complaint with government** | 9.18% | 27 | 90.82% | 267 | 294 |
| **Contact non-government groups about how to deal with beavers** | 18.09% | 53 | 81.91% | 240 | 293 |
| **Ask for/ researched info about how to coexist with beavers** | 26.12% | 76 | 73.88% | 215 | 291 |
| **Intentionally use beaver for riparian management/ enhancement** | 9.31% | 27 | 90.69% | 263 | 290 |
| **Do nothing – I would leave the beaver alone** | 55.90% | 161 | 44.10% | 127 | 288 |
| **Wrap trees to prevent the beaver from chewing trees** | 26.26% | 78 | 73.74% | 219 | 297 |
| **Install beaver tools (exclusion devices or water level controllers)** | 13.36% | 39 | 86.64% | 253 | 292 |
| **Remove beaver dams or lodges in the area.** | 27.03% | 80 | 72.97% | 216 | 296 |
| **Capture and relocate the beaver to another location (yourself or ask someone to do so)** | 6.06% | 18 | 93.94% | 279 | 297 |
| **Frighten the beaver away** | 8.59% | 25 | 91.41% | 266 | 291 |
| **Destroy the beaver (lethal control)** | 29.00% | 87 | 71.00% | 213 | 300 |
| **Other: (please specify)** | 22.22% | 4 | 77.78% | 14 | 18 |
| | | | | **Answered** | **344** |
| | | | | **Skipped** | **295** |

The majority of respondents have never taken any of the listed actions with the exception of 'do nothing – I would leave the beaver alone.'

**Was this action successful?**

| | Yes | | No | | N/A | | Total |
|---|---|---|---|---|---|---|---|
| **File a complaint with government** | 5.42% | 11 | 11.33% | 23 | 83.25% | 169 | 203 |
| **Contact non-government groups about how to deal with beavers** | 16.59% | 34 | 6.34% | 13 | 77.07% | 158 | 205 |
| **Ask for/ researched info about how to coexist with beavers** | 27.27% | 57 | 8.13% | 17 | 64.59% | 135 | 209 |
| **Intentionally use beaver for riparian management/ enhancement** | 13.50% | 27 | 6.00% | 12 | 80.50% | 161 | 200 |
| **Do nothing – I would leave the beaver alone** | 46.73% | 100 | 9.35% | 20 | 43.93% | 94 | 214 |
| **Wrap trees to prevent the beaver from chewing trees** | 30.73% | 67 | 4.59% | 10 | 64.68% | 141 | 218 |
| **Install beaver tools (exclusion devices or water level controllers)** | 15.12% | 31 | 5.37% | 11 | 79.51% | 163 | 205 |
| **Remove beaver dams or lodges in the area.** | 25.82% | 55 | 11.27% | 24 | 62.91% | 134 | 213 |
| **Capture and relocate the beaver to another location (yourself or ask someone to do so)** | 5.50% | 11 | 8.50% | 17 | 86.00% | 172 | 200 |
| **Frighten the beaver away** | 1.49% | 3 | 15.84% | 32 | 82.67% | 167 | 202 |
| **Destroy the beaver (lethal control)** | 33.49% | 71 | 6.13% | 13 | 60.38% | 128 | 212 |
| **Other: (please specify)** | 10.53% | 2 | 10.53% | 2 | 78.95% | 15 | 19 |
| | | | | | | **Answered** | **344** |
| | | | | | | **Skipped** | **295** |

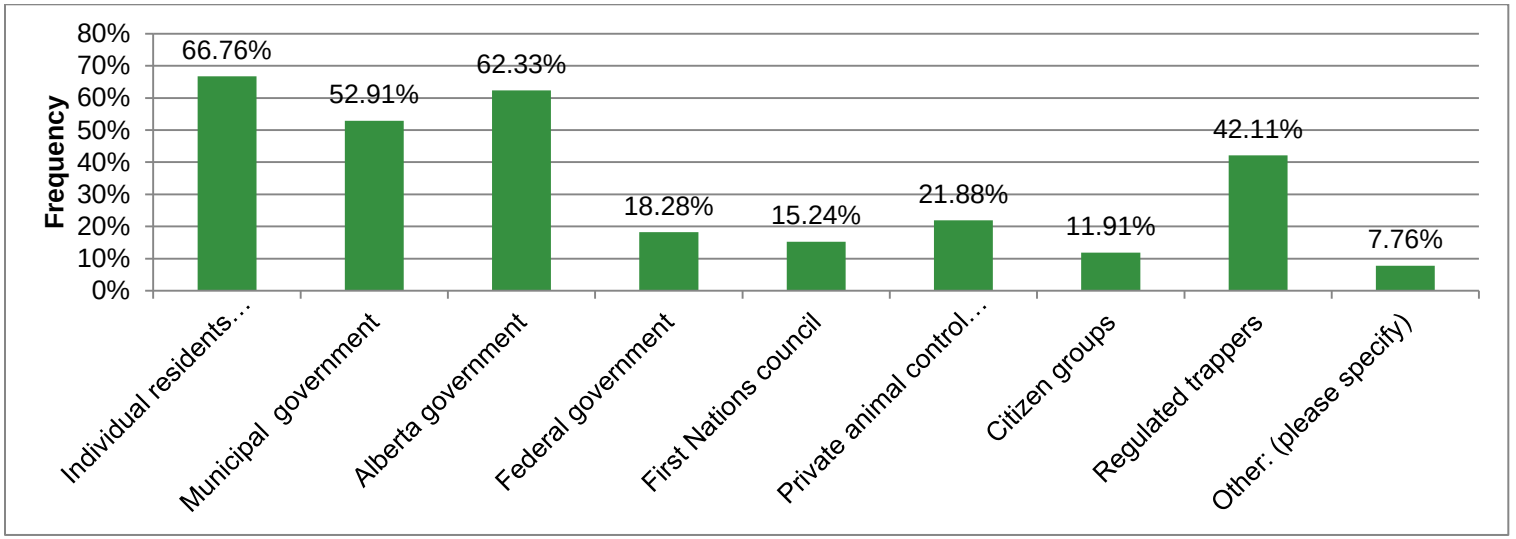
The majority of respondents selected N/A when asked if the action was successful. 46.73% of respondents said that to 'do nothing – I would leave the beaver alone' was successful.

Open-ended responses were captured in the 'other' category where respondents were asked to 'please specify.'

Open-ended responses available upon request.

35. Who do you think **should be responsible** for addressing problems with beavers **on your property or neighboring properties**? (Please check all that apply)

| Answer Choices | Responses | |
|---|---|---|
| Individual residents experiencing the problem | 66.76% | 241 |
| Municipal government | 52.91% | 191 |
| Alberta government | 62.33% | 225 |
| Federal government | 18.28% | 66 |
| First Nations council | 15.24% | 55 |
| Private animal control personnel | 21.88% | 79 |
| Citizen groups | 11.91% | 43 |
| Regulated trappers | 42.11% | 152 |
| Other: (please specify) | 7.76% | 28 |
| | **Answered** | **361** |
| | **Skipped** | **278** |



Respondents' top 4 groups that they think should be responsible for addressing problems with beavers on their property or neighboring properties is: individual residents experiencing the problem (66.76%), Alberta government (62.33%), Municipal government (52.91%) and regulated trappers (42.11%).

Open-ended responses were captured in the 'other' category where respondents were asked to 'please specify.' Emerging categories for responsibility are: environmental non-governmental organizations, research groups, non-lethal management companies, with the top category being a shared approach to responsibility (shared between various groups).

Open-ended responses available upon request.

## Incentives

### Numeric and Graphical Responses by Question

36. How **unlikely or likely** are you to take advantage of each of the following possible incentives that would allow beavers to live on your property or neighbouring properties? (please select only one response per row)

| | Extremely unlikely | | Unlikely | | Neutral | | Likely | | Extremely likely | | Not Applicable | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Information sent to you about how to coexist with beavers** | 12.29% | 43 | 6.00% | 21 | 12.00% | 42 | 28.29% | 99 | 34.57% | 121 | 6.86% | 24 | 350 |
| **Experts visit your home to provide technical information** | 12.89% | 45 | 12.61 % | 44 | 12.32% | 43 | 28.08% | 98 | 23.50% | 82 | 10.60% | 37 | 349 |
| **Experts plant trees near your home for food/shelter for beavers** | 16.62% | 58 | 10.32 % | 36 | 12.03% | 42 | 27.79% | 97 | 22.06% | 77 | 11.17% | 39 | 349 |
| **Diversionary feeding technique is used (food is supplied to beavers)** | 23.34% | 81 | 17.29 % | 60 | 15.56% | 54 | 19.60% | 68 | 12.97% | 45 | 11.24% | 39 | 347 |
| **Experts provide equipment and labour to install things such as tree wrapping materials, fences, or water control pipes** | 11.75% | 41 | 8.88% | 31 | 8.88% | 31 | 32.66% | 114 | 26.93% | 94 | 10.89% | 38 | 349 |

| | Extremely unlikely | | Unlikely | | Neutral | | Likely | | Extremely likely | | Not Applicable | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Financial compensation for damage caused by beavers** | 12.00% | 42 | 9.71% | 34 | 18.86% | 66 | 25.71% | 90 | 20.29% | 71 | 13.43% | 47 | 350 |
| **None of these incentives because I would not keep the beaver living on my property or neighboring properties** | 26.28% | 87 | 10.88 % | 36 | 15.11% | 50 | 5.74% | 19 | 6.34% | 21 | 35.65% | 118 | 331 |
| **Comments** | | | | | | | | | | | | | **27** |
| | | | | | | | | | | | **Answered** | | **352** |
| | | | | | | | | | | | **Skipped** | | **287** |

The majority of respondents are either 'likely' or 'extremely likely' to take advantage of most incentives that would allow beavers to live on their property or neighbouring properties with the exception of 'diversionary feeding technique is used (food is supplied to beavers),' to which the majority of respondents were 'extremely unlikely' to take advantage of.

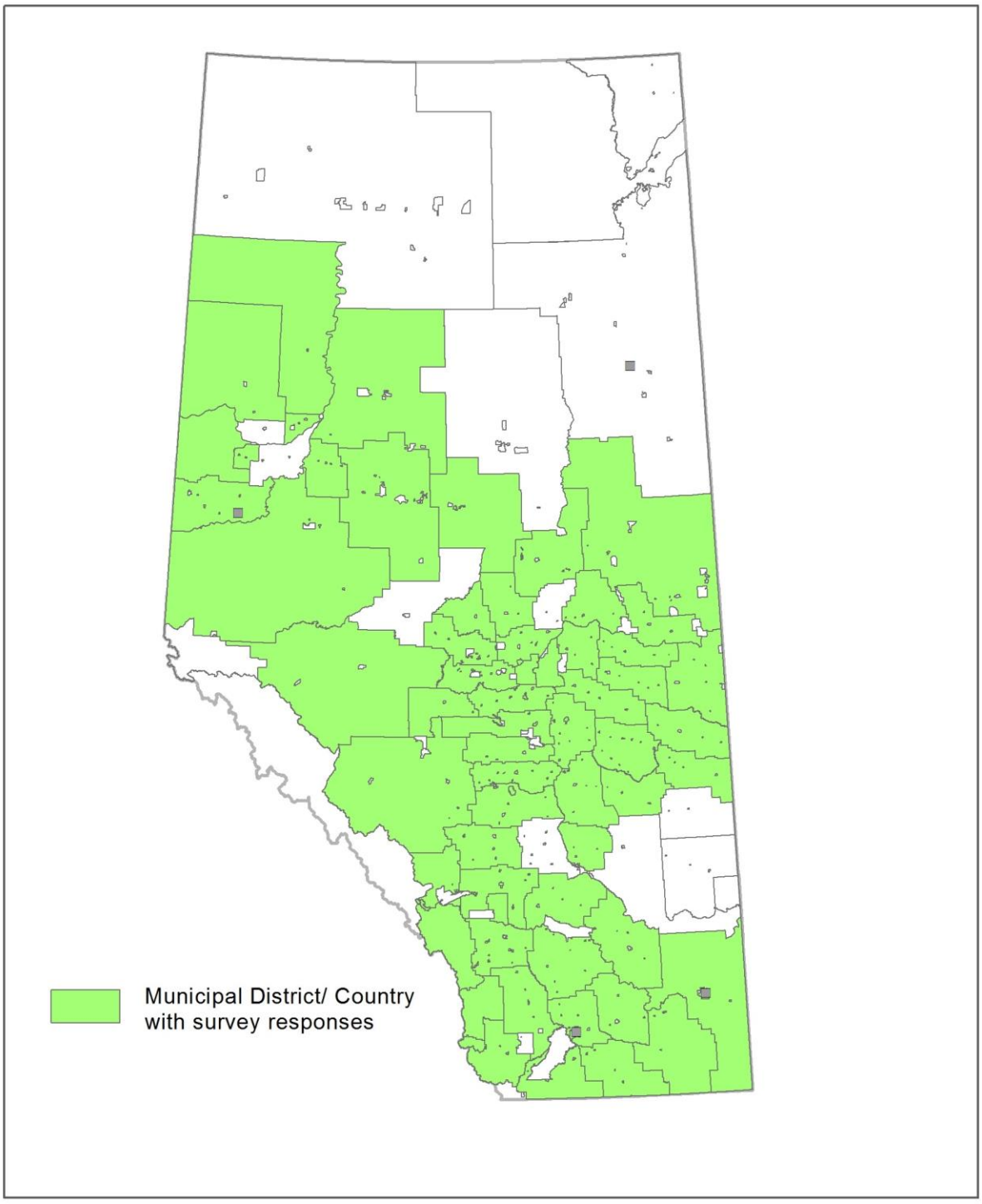
Open-ended responses were captured in the 'comments' category. Comments were analyzed and two additional incentives were noted: relocation related incentives to decrease potential issues (i.e. beaver-proof at a reduced cost to neighbours before relocation occurs), and information in the form of a 'before and after' case study of a beaver project.

Open-ended responses available upon request.

# Demographic

## Numeric and Graphical Responses by Question

37. Please select the municipality where you own, rent, or lease land/property in which you completed this survey in regards to:



| Answer Choices | Responses | |
|---|---|---|
| Athabasca County | 0.56% | 2 |
| Beaver County | 0.56% | 2 |
| Big Lakes County | 0.28% | 1 |
| Brazeau County | 0.56% | 2 |
| California | 0.28% | 1 |
| Camrose County | 0.84% | 3 |
| Cardston County | 0.56% | 2 |
| City of Airdrie | 0.28% | 1 |
| City of Calgary | 14.21% | 51 |
| City of Camrose | 0.28% | 1 |
| City of Edmonton | 1.67% | 6 |
| City of Grande Prairie | 0.28% | 1 |
| City of Lacombe | 0.28% | 1 |
| City of Leduc | 0.56% | 2 |
| City of Lethbridge | 1.11% | 4 |
| City of Medicine Hat | 0.84% | 3 |
| City of Red Deer | 2.23% | 8 |
| City of St. Albert | 0.28% | 1 |
| City of Wetaskiwin | 0.28% | 1 |
| Clear Hills County | 0.28% | 1 |
| Clearwater County | 1.67% | 6 |
| County of 40 Mile | 1.11% | 4 |
| County of Barrhead | 0.56% | 2 |
| County of Grande Prairie | 0.56% | 2 |
| County of Lethbridge | 3.06% | 11 |
| County of Minburn | 0.56% | 2 |
| County of Newell | 1.67% | 6 |
| County of Northern Lights | 0.56% | 2 |
| County of Paintearth | 0.28% | 1 |
| County of St. Paul | 0.56% | 2 |
| County of Stettler | 0.28% | 1 |
| County of Two Hills | 0.28% | 1 |
| County of Vermilion River | 0.56% | 2 |
| County of Warner | 0.84% | 3 |
| County of Wetaskiwin | 1.39% | 5 |
| Cypress County | 2.79% | 10 |
| Flagstaff County | 0.84% | 3 |
| Kananaskis Improvement District | 0.28% | 1 |
| Lac La Biche County | 0.28% | 1 |
| Lac Ste. Anne County | 0.84% | 3 |
| Lacombe County | 1.67% | 6 |

| | | |
|---|---|---|
| **Lamont County** | 0.28% | 1 |
| **Leduc County** | 1.11% | 4 |
| **MD Bighorn** | 2.23% | 8 |
| **MD Bonnyville** | 0.28% | 1 |
| **MD Greenview** | 0.28% | 1 |
| **MD Lesser Slave River** | 0.28% | 1 |
| **MD of Foothills** | 6.96% | 25 |
| **MD Peace** | 0.84% | 3 |
| **MD Pincher Creek** | 4.46% | 16 |
| **MD Provost** | 0.28% | 1 |
| **MD Ranchland** | 2.23% | 8 |
| **MD Smoky River** | 0.84% | 3 |
| **MD Spirit River** | 0.28% | 1 |
| **MD Taber** | 0.84% | 3 |
| **MD Wainwright** | 0.84% | 3 |
| **MD Willow Creek** | 1.11% | 4 |
| **Mountain View County** | 0.84% | 3 |
| **Municipality of Crowsnest Pass** | 0.84% | 3 |
| **Northern Sunrise County** | 0.28% | 1 |
| **Parkland County** | 0.84% | 3 |
| **Ponoka County** | 0.28% | 1 |
| **Red Deer County** | 1.39% | 5 |
| **Rockyview County** | 10.86% | 39 |
| **Saddle Hills County** | 0.28% | 1 |
| **Smoky Lake County** | 0.28% | 1 |
| **Starland County** | 0.56% | 2 |
| **Strathcona County** | 0.84% | 3 |
| **Sturgeon County** | 0.28% | 1 |
| **Summer Village of Ghost Lake** | 0.28% | 1 |
| **Summer Village of Waiparous** | 0.28% | 1 |
| **Town of Canmore** | 0.28% | 1 |
| **Town of Cochrane** | 1.39% | 5 |
| **Town of Devon** | 0.28% | 1 |
| **Town of Slave Lake** | 0.28% | 1 |
| **Town of Smoky Lake** | 0.28% | 1 |
| **Vulcan County** | 0.00% | 0 |
| **Westlock County** | 0.28% | 1 |
| **Wheatland County** | 2.51% | 9 |
| **Yellowhead County** | 0.28% | 1 |
| **Don’t know** | 6.41% | 23 |
| | **Answered** | 359 |
| | **Skipped** | 308 |

***Note:** originally the survey area was southern Alberta but was later expanded to include the entire province. As a result, we could not change question 37 to include every municipality in the province so if the respondent's municipality was not listed they had to fill in the 'other (please specify)' open-ended response section. These responses were combined with the checkbox responses and included in the summary table above. The municipalities that were unrecognizable were removed from the calculation. Also, there is potential that some respondents may have answered both the checkbox and the "other" section.*

79 different Alberta municipalities responded to this question and one response was from the United States of America. The "don't know" response category was not included as a municipality.

Open-ended responses available upon request.

38. Approximately how many years have you owned or managed this land?

The number of years that respondents have owned or managed their land was categorized into the following categories and results are provided.

| Categories (years) | Responses | |
|---|---|---|
| **0** | 2.89% | 9 |
| **1-5** | 28.94% | 90 |
| **6-10** | 12.54% | 39 |
| **11-50** | 48.87% | 152 |
| **51 or more** | 6.75% | 21 |
| **Unknown** | 0.00% | 0 |
| | **Average (years)** | **18** |
| | **Answered** | **311** |
| | **Skipped** | **328** |

48.87% of respondents have owned or managed their land for 11-50 years.

Open-ended responses available upon request.

39. Approximately how much land do you own or manage?

| Answer Choices | Responses | |
|---|---|---|
| Less than 1 acre (Less than 0.40ha) | 36.91% | 117 |
| 1 - 5 acres (0.40 - 2.02ha) | 7.26% | 23 |
| 6 – 20 acres (2.43 – 8.09ha) | 6.94% | 22 |
| 21 – 80 acres (8.50 – 32.37ha) | 6.31% | 20 |
| 81 – 160 acres (32.78 – 64.75ha) | 8.83% | 28 |
| More than one quarter section (more than 64.75ha) | 33.75% | 107 |
| | **Answered** | **317** |
| | **Skipped** | **322** |

The majority of the respondents own or manage either 'less than 1 acre (less than 0.40ha) of land (36.91%) or 'more than one quarter section (more than 64.75ha) of land.

40. Approximately how many kilometres (or miles) of shoreline or streambank do you own or manage? (Please indicate the unit of measurement, km or mi)

| Shoreline/Streambank Presence | Responses | |
|---|---|---|
| No shoreline/streambank | 38.46% | 105 |
| Shoreline/streambank present | 58.61% | 160 |
| Unknown | 2.93% | 8 |
| | **Answered** | **273** |
| | **Skipped** | **366** |

58.61% of respondents have shoreline/streambank present that they own or manage.

Please note that streams that were considered intermittent, ephemeral, or seasonal were included as shoreline/streambank present. Responses that were "NA" or had streambank present but did not own or manage it were considered to be 'no shoreline/streambank.'

Open-ended responses available upon request.

41. Please select the primary and secondary land use activities that currently occur on the land that you own or manage? (please select only one land use per column)

| | Primary land use | | Secondary land use | |
|---|---|---|---|---|
| **Agriculture – annual crop** | 11.00% | 55 | 7.14% | 28 |
| **Agriculture – perennial crops** | 5.2% | 26 | 9.44% | 37 |
| **Agriculture - livestock grazing** | 17.4% | 87 | 8.16% | 32 |
| **Agriculture – livestock in confined feeding operation** | 2.00% | 10 | 4.85% | 19 |
| **Residential-Primary residence** | 33.6% | 168 | 5.10% | 20 |
| **Residential-Recreational/Vacation/Temporary** | 7% | 35 | 6.89% | 27 |
| **Timber / forestry harvest** | 1% | 5 | 4.59% | 18 |
| **Orchards** | 1% | 5 | 3.83% | 15 |
| **Beekeeping** | 0.4% | 2 | 5.36% | 21 |
| **Commercial or industrial activities (non-agricultural)** | 1% | 5 | 3.57% | 14 |
| **Hunting** | 3.2% | 16 | 10.71% | 42 |
| **Trapping** | 2.4% | 12 | 4.59% | 18 |
| **Camping** | 2% | 10 | 5.36% | 21 |
| **Natural areas** | 10% | 50 | 12.50% | 49 |
| **All-terrain or off-road vehicle recreation** | 1.4% | 7 | 6.63% | 26 |
| **Other: (please specify below)** | 1.4% | 7 | 1.28% | 5 |
| **Total** | **100%** | **500** | **100%** | **392** |
| | **Other (please specify)** | | **18** | |
| | **Answered** | | **294** | |
| | **Skipped** | | **345** | |

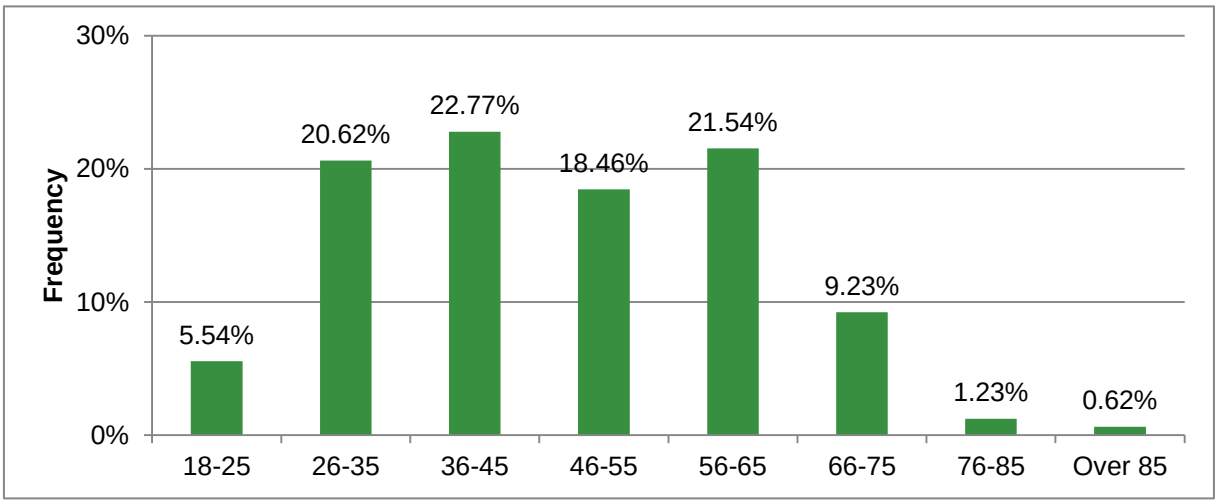
The top 3 primary land use activities that currently occur on the land that respondents own or manage is residential-primary residence (33.6%), agriculture - livestock grazing (17.4%), and agriculture – annual crop (11.0%). The top 3 secondary land use activities that currently occur on the land that respondents own or manage is natural areas (12.50%), hunting (10.71%), and agriculture – perennial crops (9.44%).

Open-ended responses were captured in the 'other' category where respondents were asked to 'please specify.'

Open-ended responses available upon request.

42. Please select your age range:

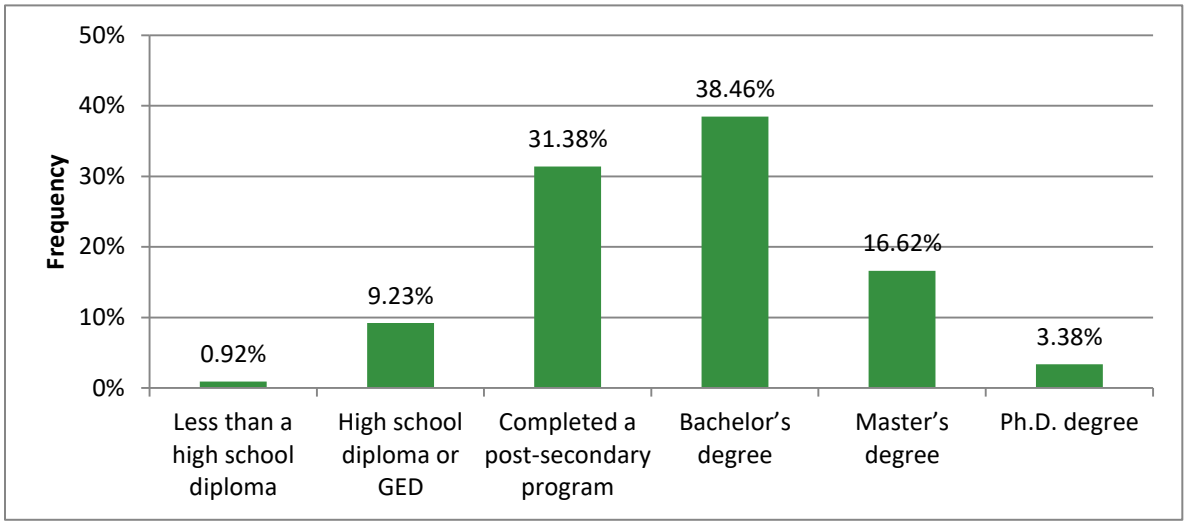
| Answer Choices | Responses | |
|---|---|---|
| **18-25** | 5.54% | 18 |
| **26-35** | 20.62% | 67 |
| **36-45** | 22.77% | 74 |
| **46-55** | 18.46% | 60 |
| **56-65** | 21.54% | 70 |
| **66-75** | 9.23% | 30 |
| **76-85** | 1.23% | 4 |
| **Over 85** | 0.62% | 2 |
| | **Answered** | **325** |
| | **Skipped** | **314** |




The mode age range of respondents is 36-45 (22.77%). 83.38% of the respondents are ages 26-65.

43. What is the highest level of education that you have achieved?

| Answer Choices | Responses | |
|---|---|---|
| Less than a high school diploma | 0.92% | 3 |
| High school diploma or GED | 9.23% | 30 |
| Completed a post-secondary program | 31.38% | 102 |
| Bachelor's degree | 38.46% | 125 |
| Master's degree | 16.62% | 54 |
| Ph.D. degree | 3.38% | 11 |
| | **Answered** | **325** |
| | **Skipped** | **314** |



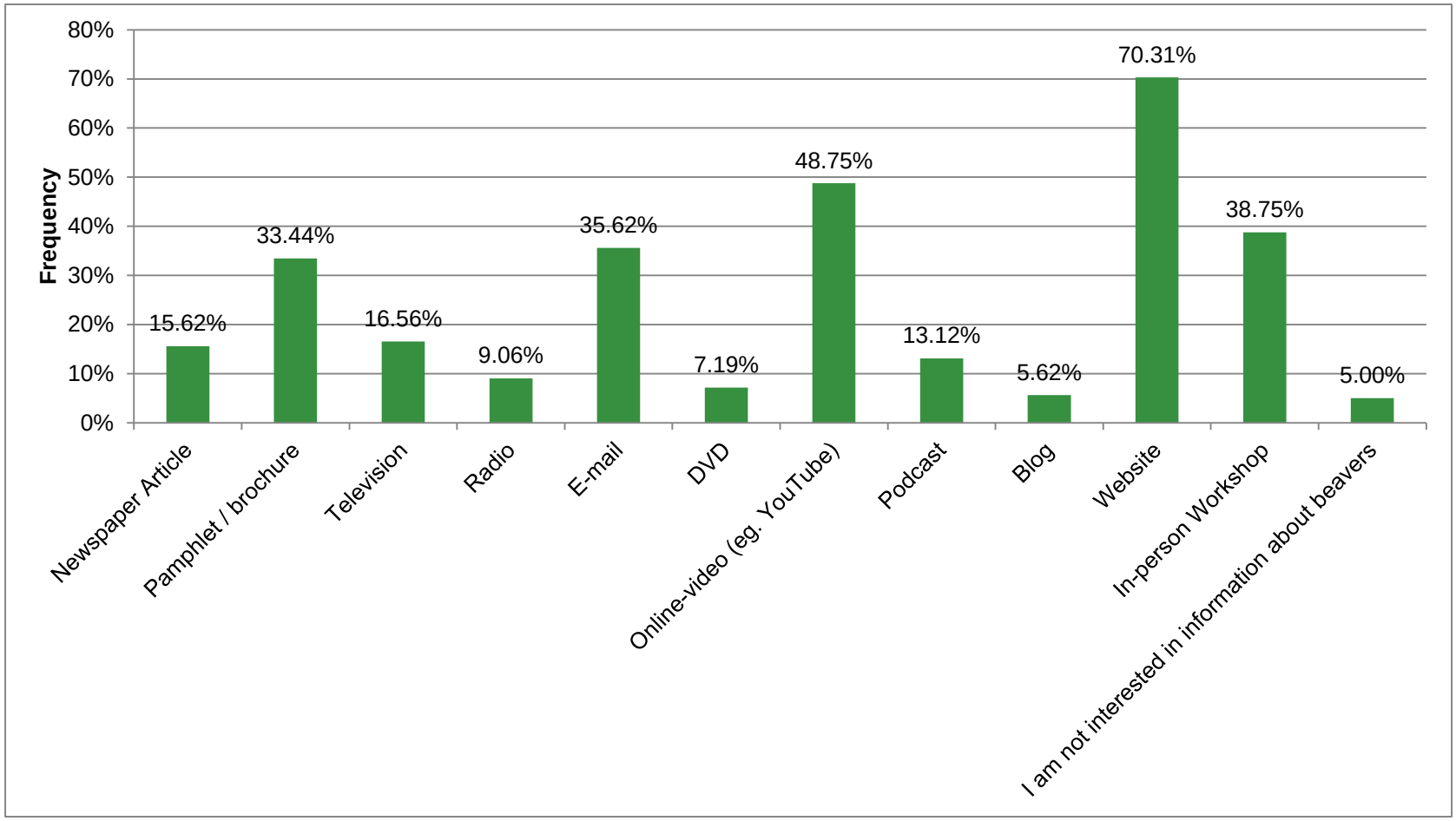

38.46% of respondents have completed a Bachelor's degree.

## Final Comments

### Numeric and Graphical Responses by Question

44. We are planning on developing educational information on beavers and beaver management and want to provide it in a format that will be most useful. Please check off your preference for the **top 3 formats** you would use below:

| Answer Choices | Responses | |
|---|---|---|
| Newspaper Article | 15.62% | 50 |
| Pamphlet / brochure | 33.44% | 107 |
| Television | 16.56% | 53 |
| Radio | 9.06% | 29 |
| E-mail | 35.62% | 114 |
| DVD | 7.19% | 23 |
| Online-video (eg. YouTube) | 48.75% | 156 |
| Podcast | 13.12% | 42 |
| Blog | 5.62% | 18 |
| Website | 70.31% | 225 |
| In-person Workshop | 38.75% | 124 |
| I am not interested in information about beavers | 5.00% | 16 |
| Other (please specify) | | 12 |
| | **Answered** | **320** |
| | **Skipped** | **319** |



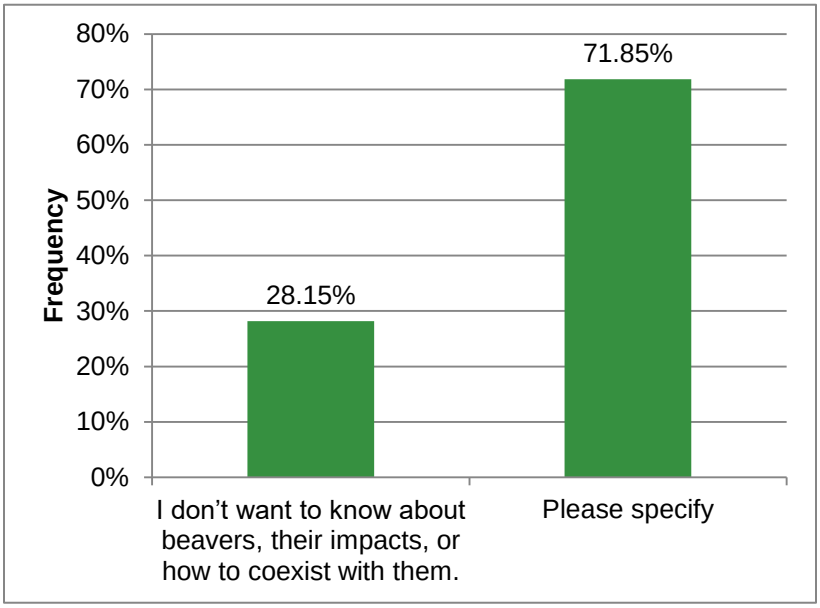

The top 5 formats for educational information on beavers and beaver management are: website (70.31%), online-video (eg. YouTube) (48.75%), in-person workshop (38.75%), e-mail (35.62%), and pamphlet/brochure (33.44%).

Open-ended responses were captured in the 'other' category where respondents were asked to 'please specify.'

Open-ended responses available upon request.

45. Please tell us what you would like to know about beavers, their impacts, and/or how to coexist with them:

| Answer Choices | Responses | |
|---|---|---|
| I don't want to know about beavers, their impacts, or how to coexist with them. | 28.15% | 67 |
| Please specify | 71.85% | 171 |
| | Answered | 238 |
| | Skipped | 401 |




171 respondents commented when they were asked to specify what they would like to know about beavers, their impacts, and/or how to coexist with them.

Open-ended responses were captured from the 'please specify' section. Categories for what respondents would like to know are stated in the table below:

| Category | % Topic Mentioned | Times Topic Mentioned |
|---|---|---|
| Coexistence (how to coexist, mitigation tools) | 32.49% | 77 |
| Benefits/impacts | 27.00% | 64 |
| Beaver General information (biology, ecology, population numbers, etc.) | 16.03% | 38 |
| Everything | 7.59% | 18 |
| Other | 5.91% | 14 |

| | | |
|---|---|---|
| Education/dialogue (how to educate others, community dialogue, where to find information) | **4.22%** | **10** |
| Regulatory (laws, regulations, strategies) | **3.80%** | **9** |
| Factsheet | **1.69%** | **4** |
| Project/Learnings | **1.27%** | **3** |
| | **100%** | **237** |

Open-ended responses available upon request.

46. Would you like to receive information on beavers and beaver management?

| Answer Choices | Responses | |
|---|---|---|
| **No** | 60.96% | 178 |
| **Yes** | 39.04% | 114 |
| | **Answered** | **292** |
| | **Skipped** | **347** |

114 respondents answered yes, they would like to receive information on beavers and beaver management. Respondents were given the option to provide their name, email address, and phone number. This information and all other responses to this question have been withheld to protect respondents' privacy.

47. Would you be interested in attending a workshop on beaver management, coexistence, or relocation?

| Answer Choices | Responses | |
|---|---|---|
| **No** | 60.41% | 177 |
| **Yes** | 39.59% | 116 |
| | **Answered** | **293** |
| | **Skipped** | **346** |

116 respondents answered yes, they would be interested in attending a workshop on beaver management, coexistence, or relocation. Respondents were given the option to provide their name, email address, and phone number. This information and all other responses to this question have been withheld to protect respondents' privacy.

48. Would you be interested in accepting or donating a beaver for relocation?

| Answer Choices | Responses | |
|---|---|---|
| **No** | 81.97% | 241 |
| **Yes** | 18.03% | 53 |
| | **Answered** | **294** |
| | **Skipped** | **345** |

53 respondents answered yes, they would be interested in accepting or donating a beaver for relocation. Respondents were given the option to provide their name, email address, and phone number. This information and all other responses to this question have been withheld to protect respondents' privacy.

49. If you have any additional comments about beavers please write them below:

Open-ended responses available upon request.

# Emergent Concerns

Question 12, 20, 21, and 31 were analyzed for emergent concerns and revealed several concerns:

1. Replacement of Plants and trees (Q12)
2. Bank erosion from dam outflow (Q12)
3. Flooding may weaken the road (Q12)
4. Removal of wind break trees in an area where it's difficult to grow large trees(Q12)
5. Road flooding or blockage due to downed trees creates a concern about access in/out of areas where there may be only one road in/out. This causes a safety risk as emergency access is prevented. (Q12, 20)
6. Lost grazing area due to deadfall, cattle will not enter these areas. (Q12)
7. Danger while horseback riding as beaver chewed stumps can be an impaling hazard to both horse and rider (Q8)
8. Lack of aeration in stream due to high water level (Q20)
9. Injury to pet dog (Q20)
10. Felling trees into areas that pose a safety risk (ex. near major roads, fences, etc.) (Q20)
11. Blocked outflow from reservoir (Q20)
12. Flooding of an area with an electric cattle fence renders it useless (Q20)
13. "- upstream of dam water is killing riparian vegetation and causing slope failures in banks
    - - great nature watching
    - - water table so high flooding park, causing complaints from citizens regarding limited access on pathways
    - - upstream bank nesting of birds had lost nests
    - - great increase in mink populations" (Q31)
14. Elevated water table is a concern to some (ex. "Elevated water table is not a benefit. Our driveway is a swamp because it wont dry up.") (Q31)

These emerging concerns reflect the personal opinions of the respondents.

# Emergent Benefits

Respondents were asked to select which category most applied to them with regard to receiving benefits from beavers (question 31) and had the opportunity to provide 'other'

benefits as an open-ended response. From analysis of the responses, three emergent benefits were revealed:

1. A reduced risk of fire;
2. Beavers as a harvestable fur resource; and
3. Flood damage mitigation

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# Appendix A: Distribution Materials

## Poster

**Please Take Our Survey!**
**Southern Alberta Beaver Survey**

**Assessing Knowledge and Perceptions about Beavers**

Understanding Albertans' knowledge and perceptions about beavers, their habitat and management is important to realize benefits and address impacts. This survey is being conducted in partnership by the Miistakis Institute and Cows and Fish (Alberta Riparian Habitat Management Society). It is available online from May 31 to July 26 and will take approximately 25-30 minutes to complete:

**https://www.surveymonkey.com/r/albertabeaver**

Participation in the survey is voluntary. Results will be aggregated and feedback will not be attributed to individuals. If you prefer to participate in the survey via a written, mail-in copy, please email nisha@rockies.ca to receive your survey. The results of this survey will be available in a formal report created after the survey period at: www.rockies.ca and www.cowsandfish.org, and will be used to help inform the development of education materials about beavers and their management.

Miistakis Institute

## Post Card


Cows and Fish
Please Take Our Survey!
Miistakis Institute
Southern Alberta Beaver Survey
Assessing Knowledge and Perceptions about Beavers
https://www.surveymonkey.com/r/albertabeaver

## Beaver Survey Social Media Examples

### Promotional tweet

Please feel free to use the below tweets and add your own tags or hashtags:

Please take the @Miistakis and @CowsandFish #ABBeaverSurvey! Open till July 26 https://www.surveymonkey.com/r/albertabeaver

What cuts like a chainsaw & swims like a fish? Beaver! Take the @Miistakis and @CowsandFish #ABBeaverSurvey! https://www.surveymonkey.com/r/albertabeaver

Busy as a beaver? Take a break and take the @Miistakis and @CowsandFish #ABBeaverSurvey! https://www.surveymonkey.com/r/albertabeaver

### Reminder Tweets

Only 4 weeks left! Have your say on beavers. Please do the #ABBeaverSurvey https://www.surveymonkey.com/r/albertabeaver

Only 2 weeks left! Have your say on beavers. Please do the #ABBeaverSurvey https://www.surveymonkey.com/r/albertabeaver

### #ABBeaverSurvey