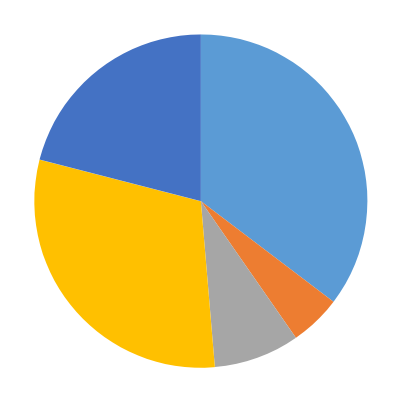




Reducing the
impacts of cats
on birds and
wildlife

2017-2019

Results of a Public Opinion Poll and
Telephone Survey in BC



STEWARDSHIP CENTRE

FOR BRITISH COLUMBIA

Acknowledgements

This project was undertaken with the financial support of the Government of Canada provided through the federal Department of Environment and Climate Change Canada.

In-kind technical review and project support was provided by Dr. Sara Harris (University of British Columbia); Sarah Cooper and Ted Cheskey (Nature Canada) and Tanya Luszcz and Krista DeGroot (Canadian Wildlife Service/Partners in Flight).

University of British Columbia Environmental Science students Evelyn Gunawan, Riko Ishikawa and Rawel Sidhu were the authors of the original research study.

Thanks also to the seven participants from municipal and animal welfare organizations, including those from Dawson Creek, Kitimat and Nanaimo for taking the time to participate in the 2017 research.

Margaret Holm edited the 2017 report. DG Blair and Patrick Burke completed the 2019 comparative analysis.

The Stewardship Centre for BC (SCBC) was created to assist governments, businesses, conservation and environmental organizations, and citizens carry out stewardship activities in the most efficient, effective, and rewarding ways. A leader in promoting stewardship values as the foundation for sustainability, the SCBC wants to help make “shared stewardship” – the voluntary adoption of environmentally sustainable practices by all sectors of society – a reality in British Columbia.

For more information about the Stewardship Centre, go to www.stewardshipcentrebc.ca.

This project was undertaken with the financial support of the Government of Canada.

Ce projet a été réalisé avec l'appui financier du gouvernement du Canada.

Canada 



Introduction

While cats provide an important source of companionship for many Canadians, they are also estimated to be one of the single largest sources of human-related bird mortality.

Domestic cats are a threat to wild birds due to the common practice of allowing cats to roam outside unsupervised and the increase in feral cat populations in urban and rural areas. Behavioural change among pet owners has the potential to mitigate this human-related wildlife impact.

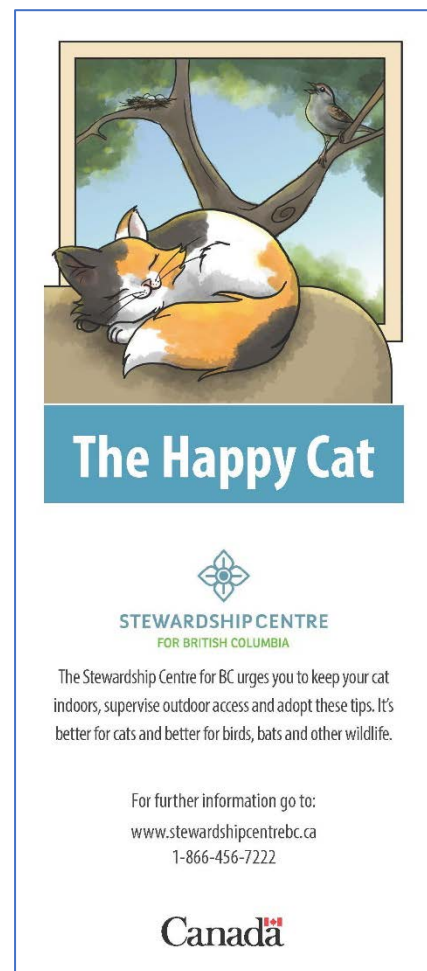
The Stewardship Centre for British Columbia (SCBC) worked with University of British Columbia (UBC) Environmental Science students to develop a public online survey and a targeted telephone survey to better understand perceptions of British Columbians regarding domestic cats that are allowed to roam freely. The results will help inform the design of an educational program the SCBC will be implementing.

The project objectives were:

1. To assess the knowledge and attitudes of a British Columbians on allowing cats to roam;
2. To rank potential solutions based on how favorably they are perceived by pet owners;
3. To interview animal welfare and municipal staff/elected officials in a sample of communities to evaluate attitudes to no-roam bylaws;
4. To gauge whether there is interest amongst those interviewed to utilize tools to limit cat predation of birds.

The survey was part of a larger three-year project led by SCBC to encourage British Columbians to adopt Stewardship Practices -- actions taken to reduce the impact of roaming cats on bird populations.

While the impact of domestic and feral cats on bird mortality has been documented, there are few studies examining public attitudes towards roaming cats. To our knowledge, this is the first such study in British Columbia.



In addition to this survey, SCBC has developed educational resources, like the popular Happy Cat brochure, to help people and local governments act to reduce the impact of roaming cats on birds and other wildlife.

Visit: www.stewardshipcentrebc.ca/cats-and-birds.

Background

The Impact of Roaming Cats on Wild Birds



There are over 9.3 million pet cats (CFHS 2017) and an estimated 1.4-4.2 million feral cats in Canada that are responsible for killing millions of birds annually (Blancher, 2013). Approximately 12% of Canada's total wild bird population has declined over the past 40 years (Calvert et al., 2013) due to multiple causes. However, with an estimated 75% of all human-related bird deaths caused by domestic cats, the impact of cats far overshadows other sources of human-related bird mortality (Blancher, 2013).

A four-year study conducted by Environment Canada (2012) found that while marine oil activities kill approximately 1000 birds per year and collisions with buildings and other structures kill an estimate of 16-42 million of birds per year, cats kill more birds per year than all other sources of human-related activities combined, an estimated 100-350 million birds per year (Calvert, 2013).

Even using conservative estimates, 2-7% of all birds in southern Canada are killed by cats each year (Blancher, 2013). Given their ability to overwhelm and prey on existing native species, cats are classified as an invasive species capable of causing significant destruction to the local ecology (Dauphiné and Cooper 2009).

Cats kept strictly indoors or supervised while outdoors pose no threat to birds and other wildlife. While they are far less numerous than domestic cats, feral cats (cats without an owner) are estimated to be responsible for nearly 60% of the estimate of cat predation of birds (Blancher, 2013). Given the opportunity to roam, domestic house cats are also well-equipped to hunt and kill birds (Calvert et al., 2013).

Even healthy, well-fed, and domesticated cats have their predatory instincts well-intact, and will not hesitate to prey on birds and small mammals when given the chance (Blancher, 2013). Hunting wildlife appears to be intrinsic and genetically imprinted in cats, as efforts to feed, and even overfeed, outdoor cats have had no success in stopping their inherent instinct to hunt (Adamec, 1976).

Reducing the number of feral cats and keeping domestic cats from roaming will help curb the number of bird deaths due to cat predation.

Cats and Birds in British Columbia

British Columbia is especially vulnerable to this wildlife conservation issue. Over 300 bird species, the highest of any province, breed in British Columbia (Campbell 1990). While no data are available on how many of these species are threatened by cat predation, a few studies detailing the vulnerability of bird populations in British Columbia have been published.

Feral and domestic cats were responsible for 22% of all predation events of the Song Sparrow nesting in a conservation area in British Columbia (Rithet's Bog Conservation Society, 2011). Pearson and Blair (2013) noted that birds residing in urban regions where cat ownership is high, such as the Fraser Valley and Southern Vancouver Island, can face a heightened risk of cat predation, especially during the spring and summer months when fledgling birds are the most numerous.

Cats are a threat to grass and scrub-nesting bird species in British Columbia, which face a heightened risk for cat predation due to the increased time spent on the ground where cats have more access to them (Blancher 2013).

Cases of widespread declines in island-nesting bird population due to feral cats have been documented in British Columbia. As well, rare and threatened bird species native to British Columbia, such as the Band-tailed Pigeon and Yellow-breasted Chat, are vulnerable to cat predation (SCBC, 2016).

While these cases demonstrate that cat predation has an adverse effect on the bird populations of British Columbia, more comprehensive investigation should be conducted to understand the scope and magnitude of this problem within the province.

Pet Cat Owners' Perceptions on Roaming Cats

While no research has targeted British Columbian pet owners specifically, multiple studies across North America found that cat owners are against restricting the roaming of cats (Gramza et al., 2016; Lord, 2008; McDonald et al., 2015; and Slater et al., 2008).

Lord (2008) found that the percentage of cat owners who perceived the roaming of cats to be positive (62.1%) was much higher than that of non-cat owners (42.5%). No discernable difference in response was detected among urban, suburban, and rural respondents (Lord, 2008).



Cats kill an estimated 100-350 million birds per year in Canada, more than all other sources of human-related activities combined (Blancher, 2013)

A recent study by McDonald et al. (2015) lends support to these findings and suggests that cat owners are generally willing to allow their cats to roam because they do not view their pets as being harmful to wildlife. Moreover, 68% of cat owners from that study felt that cats had either no or little influence on bird populations.

To ascertain attitudes to roaming cats amongst British Columbians, SCBC commissioned a public opinion survey and targeted telephone interviews of which are summarized in this report.



Methods

Online Survey

Students in a UBC Environmental Science course used the Google Surveys tool to design an online survey (see Appendix A), consisting of ten multiple-choice questions. Only people over 19 years of age (question one) who then completed all the remaining survey questions were selected for the analysis. The survey was run twice: February 2017 and March 2019 for approximately two weeks on each occasion.

Google Surveys is a business product that facilitates customized market research of internet and cell phone users. Census information and internal Google data are used to obtain a representative sample by comparing respondent demographics (based on gender, age, and geography) to the demographics of the general population.

After selecting participants aged 19 years and older, participants were asked nine questions to determine knowledge and attitudes to allowing cats to roam, and perceptions on solutions to cat predation on birds. Google Surveys collected answers from 300 people in each survey.

In 2017, 134 cat owners and 166 non-cat owners living in urban and rural regions of British Columbia participated in the survey. In 2019, 109 cat owners and 191 non-cat owners participated.

Telephone Interviews

In 2017, the researchers also contacted a short list of local governments and animal welfare organizations by email and followed up with phone interviews, to determine if there were local bylaws on the roaming of cats, future actions planned to address this issue, and interest or capacity to take additional steps.

Each interview lasted approximately 30 minutes and the data collected were organized and summarized as qualitative data. A total of seven interviews were completed with representatives from four local governments and three animal welfare organizations in six BC communities (Appendix B).

The research methodologies for the online survey and telephone interviews were reviewed and approved by the Behavioural Research Ethics Board at the University of British Columbia.

Results

Online Survey

Cats Per Household

In 2017, of those surveyed, over 42% of respondents (134) had cats as pets while 57% (166) did not. In 2019, 36% had cats while 64% did not. Both sets of figures are higher than a survey of Canadians that shows the national average of 35% of Canadians who own cats (per Nature Canada 2016).

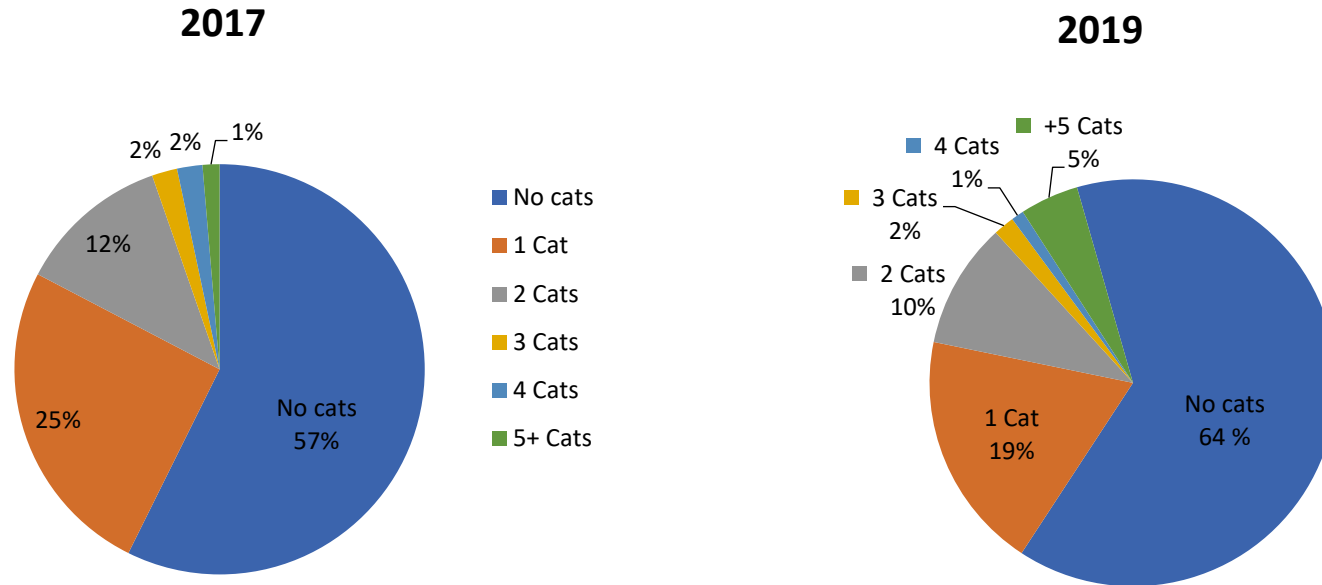
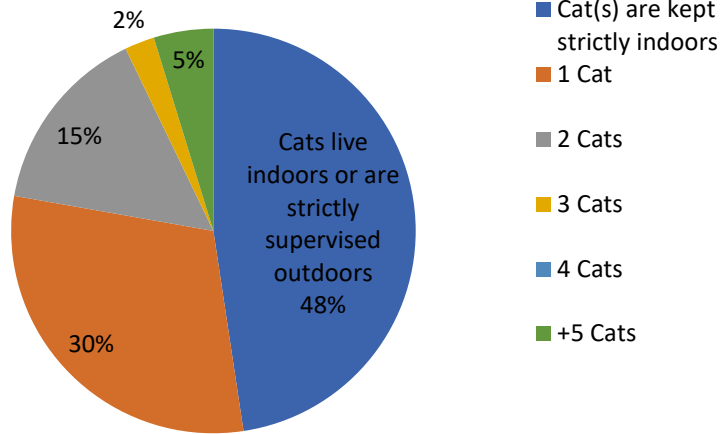


Figure 1: survey responses to “How many cats, if any, does your household have as pets.” N=300.

Supervision of Cats

In 2017, 48% of cat owners kept all their cats strictly indoors or supervised them if they were outdoors, while 53% allowed cats outside unsupervised. In 2019, 55% of cat owners surveyed keep their cats indoors or under supervision while outdoors while 45% allowed cats outside unsupervised highlighting a trend towards cat owners changing practices regarding cats roaming.

Supervision of cats (2017)



Supervision of cats (2019)

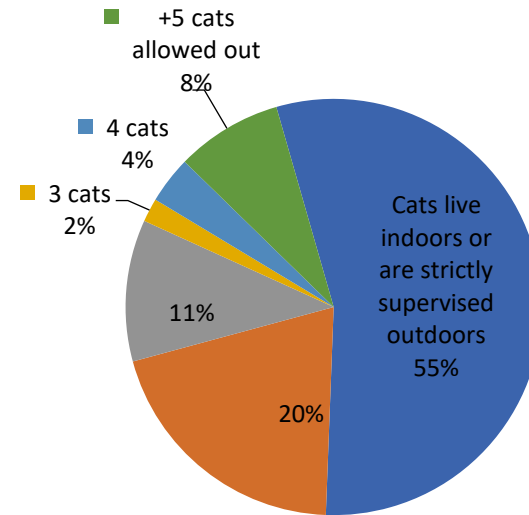


Figure 2. Cat owners survey response to question, “How many of those cats spend time outside?”

Attitudes to allowing cats to roam

In 2017, the survey found that two-thirds (67%) of British Columbian cat-owners felt it is appropriate or somewhat appropriate to allow cats to be outside unsupervised. Non-cat owners support for this practice was 43%, and 30% were unsure about this issue. In 2019, the survey results indicate that just over half of cat-owners (55%) feel it is appropriate or somewhat appropriate to allow cats to be outside unsupervised. In 2019, non-cat owners support was 36%. 2019 results indicate that there is less support by survey respondents than previously for the practice of allowing cats outside unsupervised.

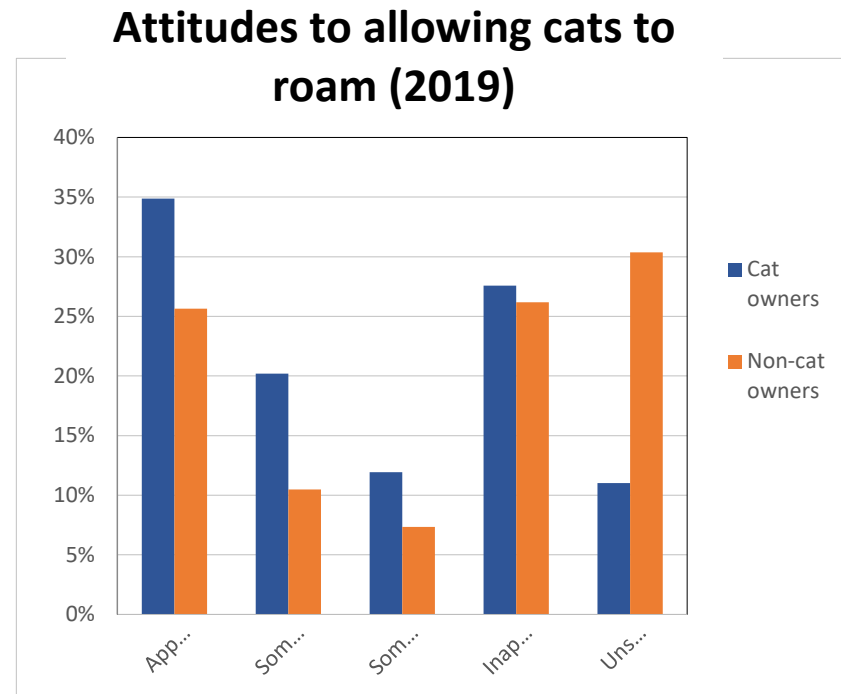
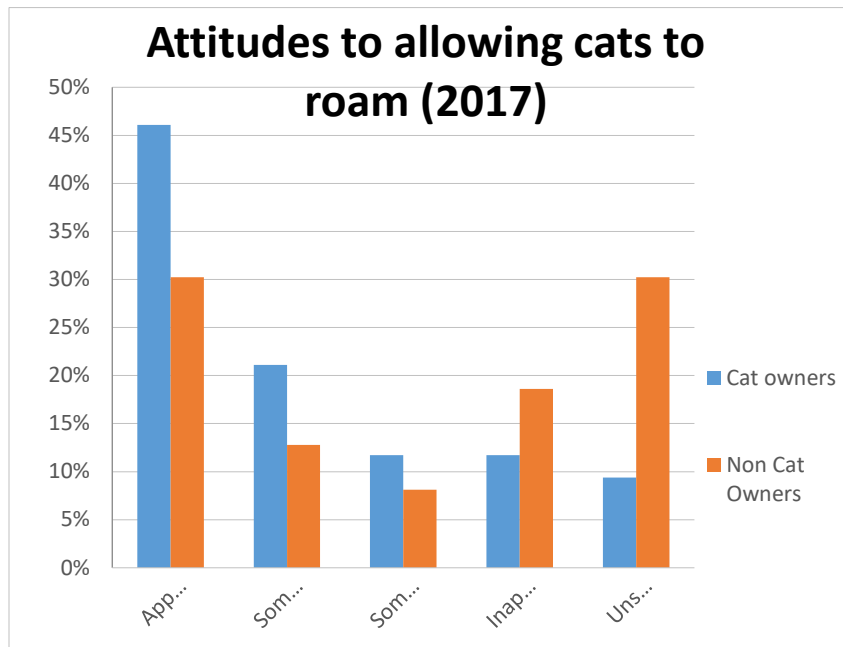
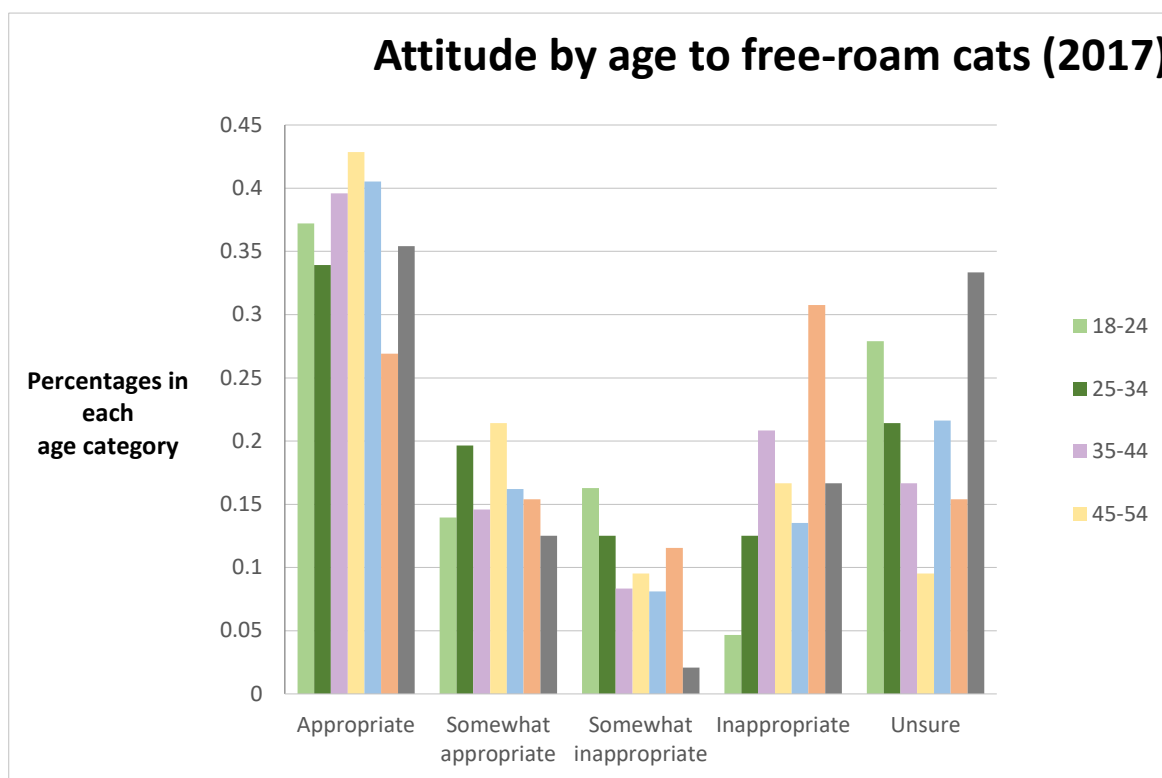


Figure 3. Survey response to the question “How appropriate is it for cat owners to allow their cats to be outside unsupervised?” (Total n=300)

Attitudes by age to allowing cats to roam

In 2017, attitudes to allowing cats to roam varied somewhat amongst age groups, with greatest acceptance among those aged 45-54 (65%), and least approval among respondents over 65 (42%).



In 2019, again attitudes to allowing cats to roam varied amongst age groups, with greatest acceptance among those aged 18-24, and least approval among respondents over 65+ and aged 35-44.

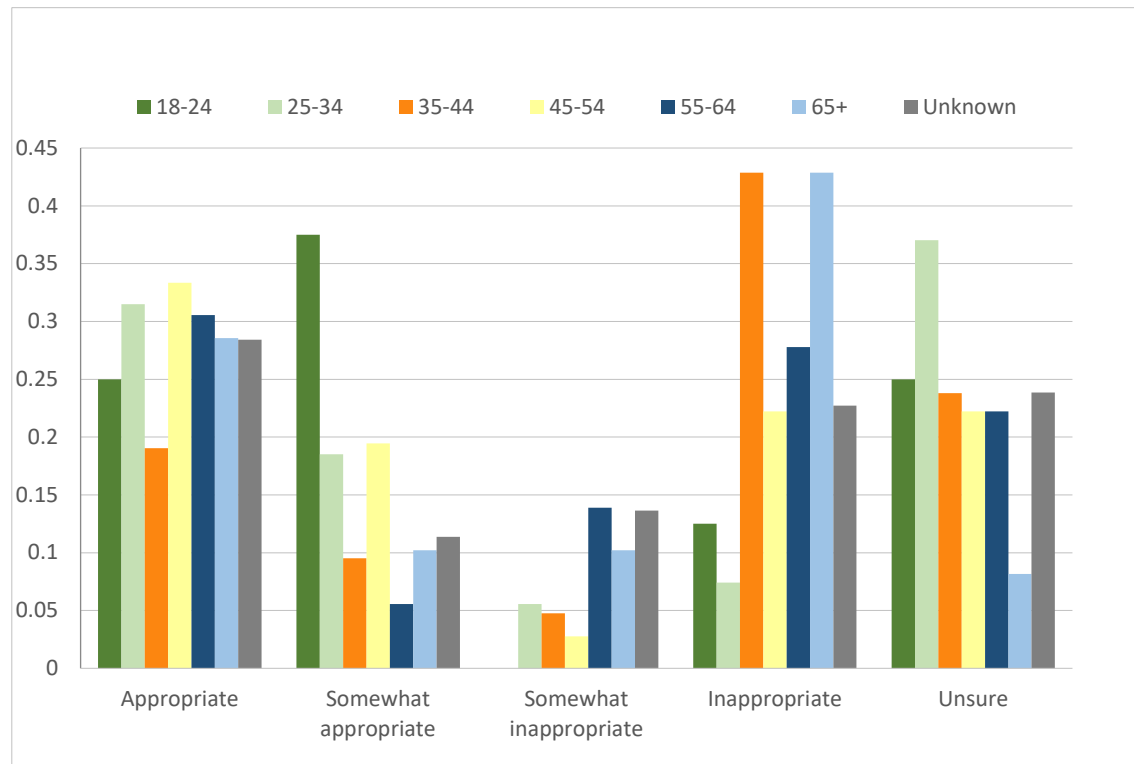


Figure 4. "How appropriate is it for cat-owners to allow their cats to be outside unsupervised?" N=300.

Reasons for allowing cats outside

In 2017, reasons given for allowing cats to be outside unsupervised appear to be linked to the cats' perceived needs and preferences to be outdoors. Over one third of cat owners chose "none of the above" suggesting that the options given in the survey were insufficient to determine all the reasons for allowing cats outside.

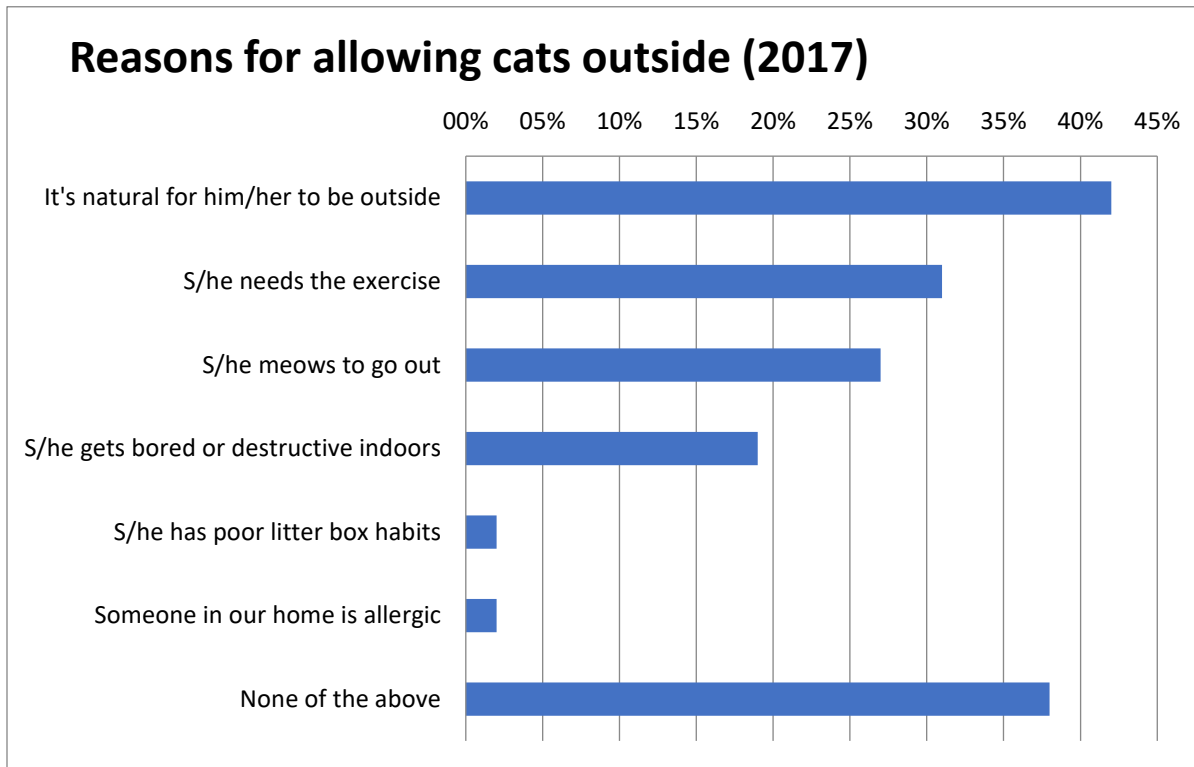


Figure 5. 2017 Cat owners answers to, "If you let cat(s) outdoors, what are your reasons?" N=134.

While in 2019, cat owners' reasons given for allowing cats to be outside unsupervised show a decrease in cat owners perception that it's natural for a cat to be outdoors with only 25% giving this reason in 2019 as opposed to 42% in 2017. Again, nearly one third of cat owners chose "none of the above" suggesting that the options given in the survey were insufficient to determine all the reasons for allowing cats outside.

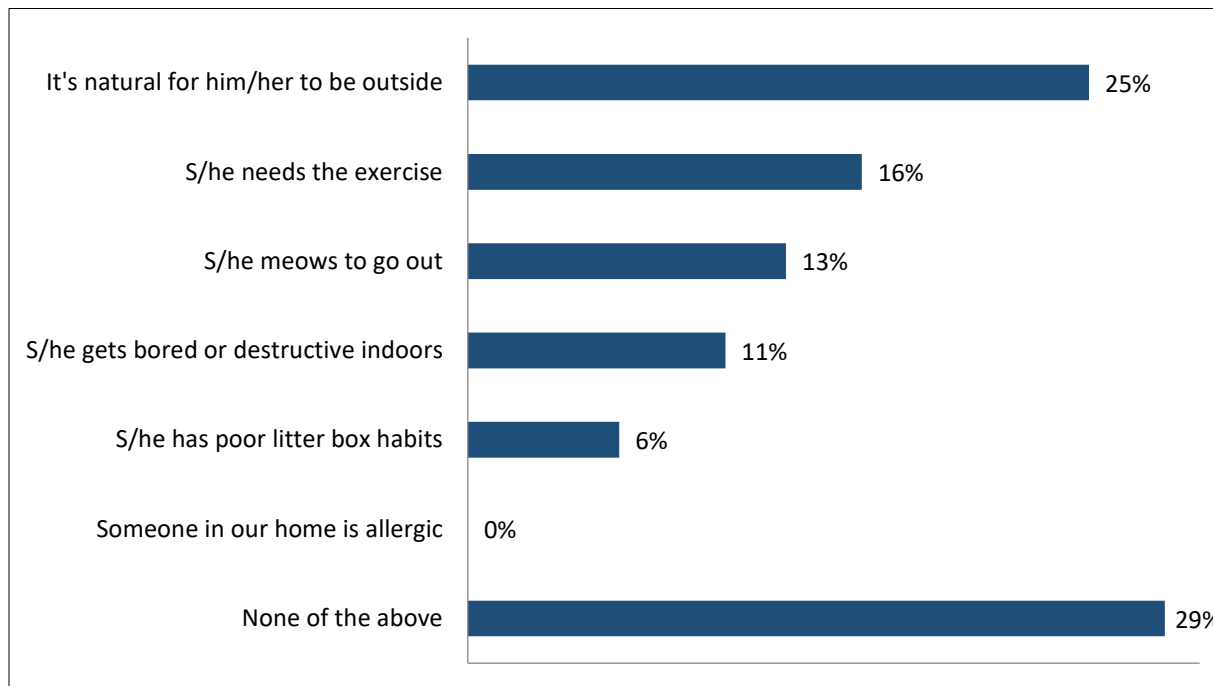
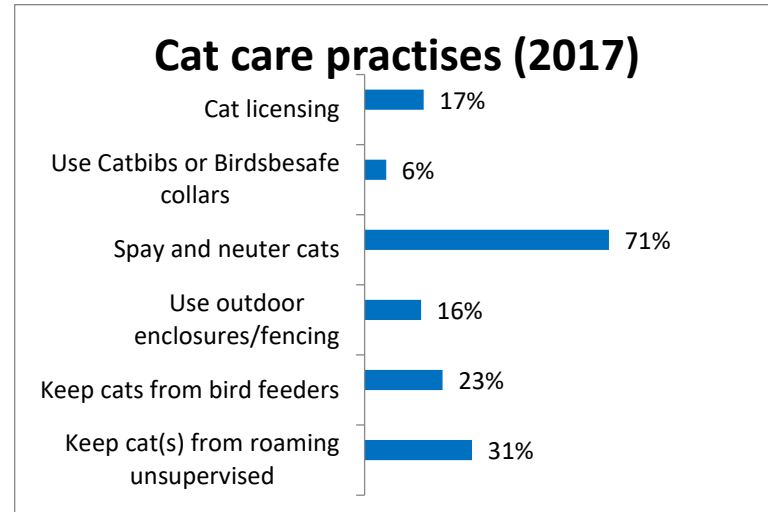


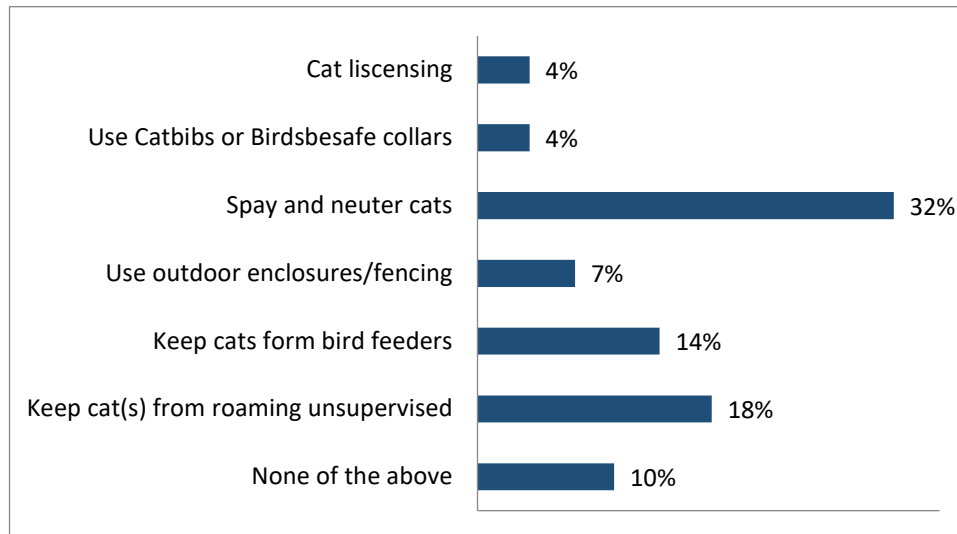
Figure 5. 2019 Cat owners' answers to, "If you let cat(s) outdoors, what are your reasons? Check all that apply." N=161.

Cat care practices

In 2017, 92% percent of cat owners practice at least one activity listed. Since few local governments require cat licensing, it is not surprising that low numbers of those surveyed license cats. With few municipalities enforcing no-roam bylaws, the fact that 48% of cat owners do keep their cats indoors or supervised (see Figure 2) is evidence that people have reasons other than following bylaws for keeping cats indoors.



Cat care practices (2019)



In 2019, only 32% of cat owners spayed/neutered their cats as opposed to 71% in the previous survey. Again, in 2019, licensing has a low number of responses. Note that the survey tool in 2019 required that "none of the above" be a response option; while in 2017 it was not required. This may have skewed the responses.

Attitudes to cats as a cause of bird mortality

In 2017, the opinion among cat owners, where 45% agree or somewhat agree that cats are the most significant cause of bird deaths, corresponds with Figure 2, that shows 48% of cat owners indicating that they keep their cats supervised or indoors. Among non-cat owners, opinion is divided between agreeing/somewhat agreeing (33%) and disagreeing with the statement (33%). In 2019, a similar percentage (44%) of cat owners agree or somewhat agree that cats are the most significant cause of bird deaths. Among non-cat owners, opinion is divided between agreeing/somewhat agreeing (31%) and disagreeing with the statement (30%). Both surveys show a sizable percentage of respondents that are neutral on this question and not much change in attitudes during project time frame.

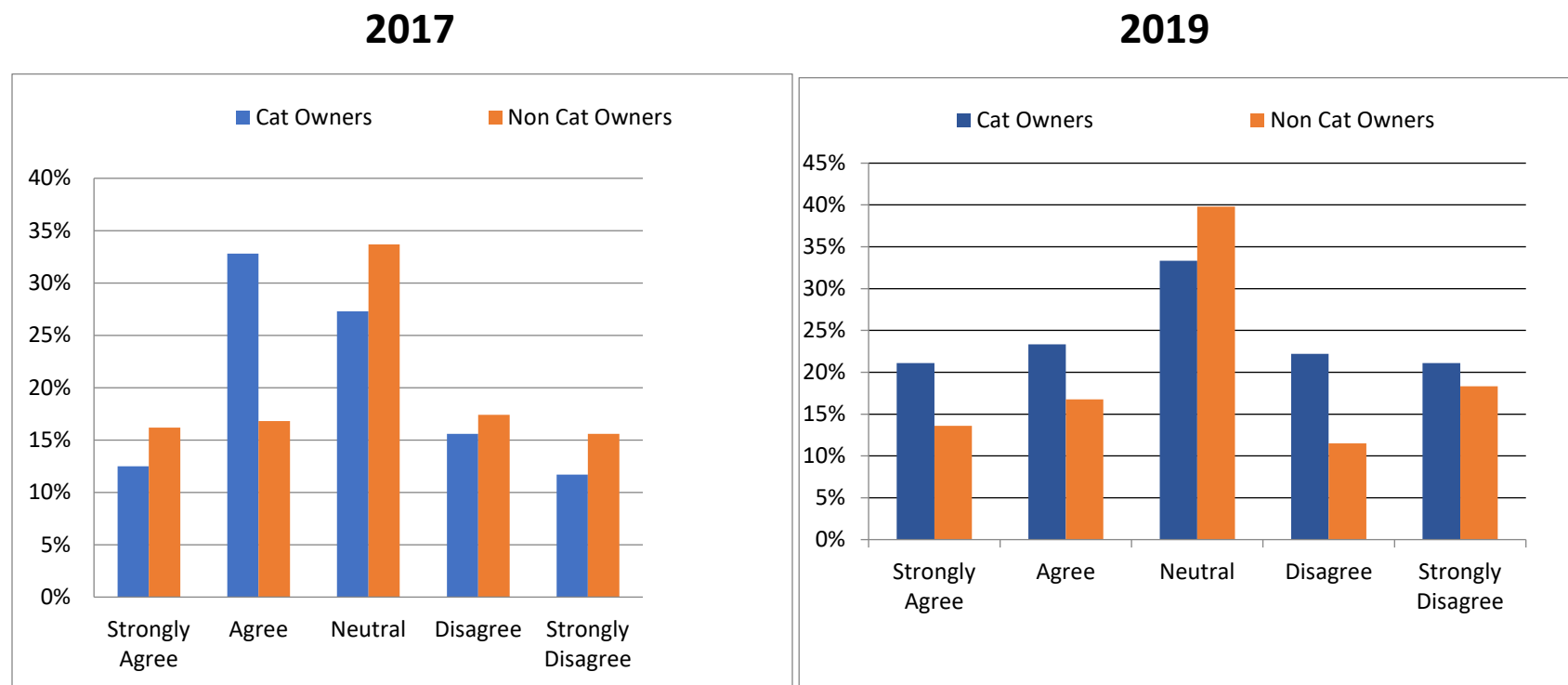
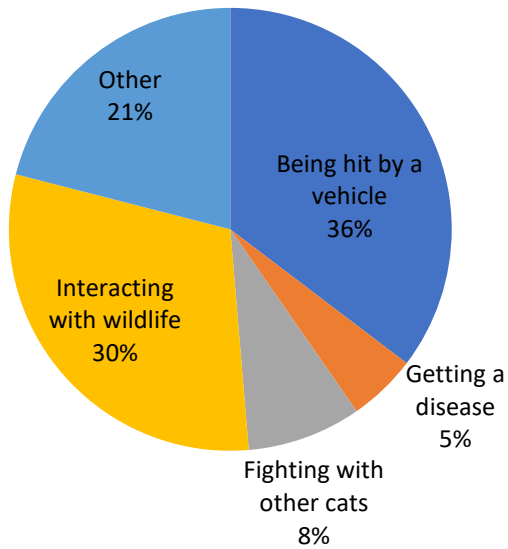


Figure 7. Level of agreement, "Cats are estimated to be one of the most significant causes of wildlife and bird deaths in Canada." N=300

Perceived threats to unsupervised cats

In 2017, being hit by a vehicle was seen as the biggest threat (36%) to roaming cats followed by interacting with wildlife (Figure 8). In 2019, a similar percentage saw that being hit by a vehicle was the biggest threat to cats (35%). Disease transmission from wildlife is not a significant concern by respondents in either survey.

Perceived threats to unsupervised cats (2017)



Perceived threats to unsupervised cats (2019)

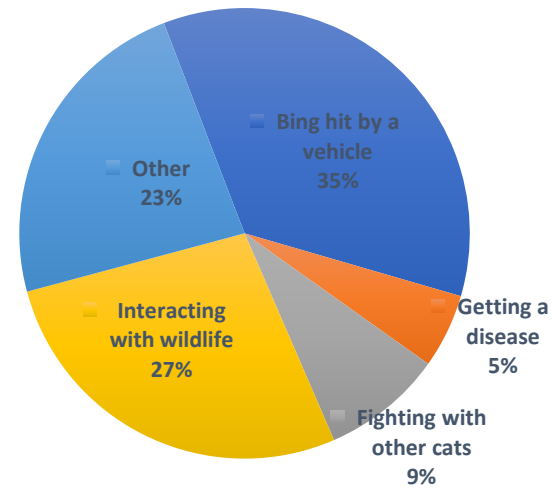


Figure 8: “What do you think is the biggest threat to unsupervised cats in your community?” N=300.

Support for reducing impacts of roaming cats

Figure 9 shows the attitudes of a select group within the survey, cat owners who allow their cats to roam.

In 2017, these individuals were asked which actions they would consider adopting. More than 20% indicate a lack of support for any action listed. A no-roam bylaw is unpopular as is cat licensing, keeping cats indoors or using outdoor enclosures. Education is also not a popular option for this group. Although almost 60% support pet sterilization, the chief benefit of this practice is to prevent unwanted pregnancies rather than prevent wildlife mortality.

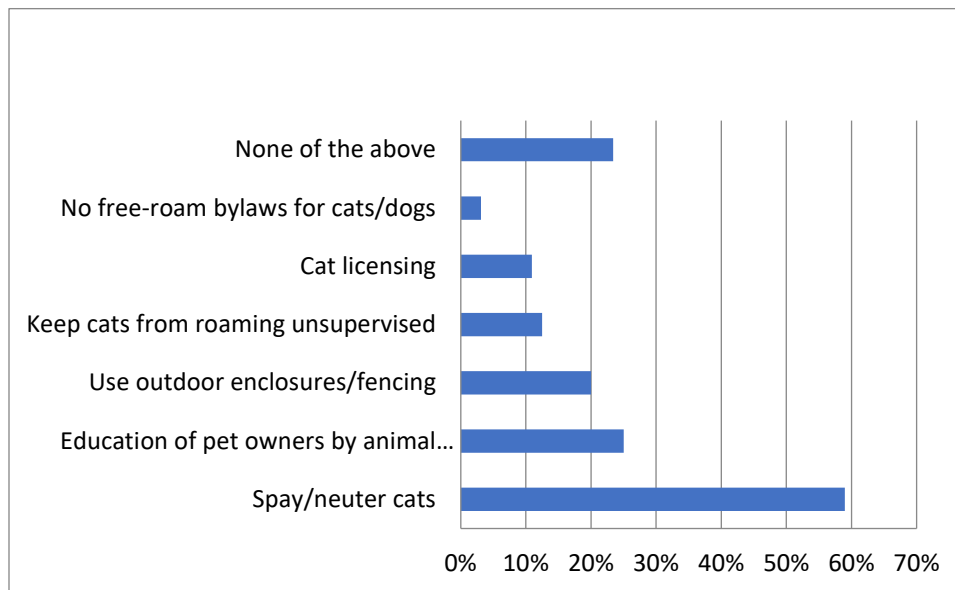


Fig. 9: 2017 Cat owners who let their cats out, responses to the survey question, “Thinking about ways to reduce cat impacts on birds and wildlife and to improve cat health and safety, which of the following practices would you support or adopt”.

Results in 2019 are similar to 2017, with almost 20% indicating none of the above and neither education, no-roam bylaws, cat licensing, keeping cats indoors or using outdoor enclosures are actions that they would support. Notable is in this 2019 group, only 34% support spay/neuter cats.

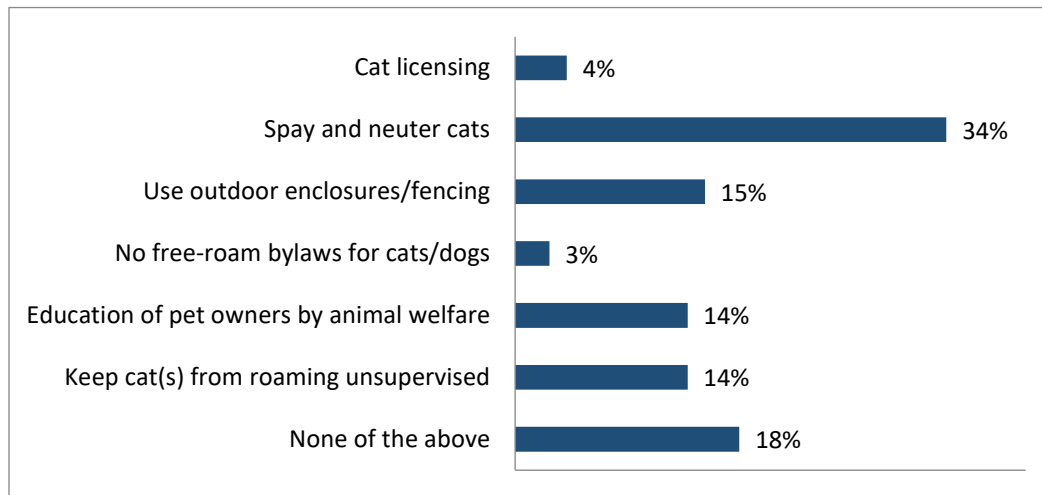


Fig. 9: 2019 Cat owners who let their cats out, responses to the survey question, “Thinking about ways to reduce cat impacts on birds and wildlife and to improve cat health and safety, which of the following practices would you support or adopt”.

Preferred information sources

In 2017, the majority of both cat owners and non-owners prefer to get their information from a website, with cat owners also viewing veterinarians and humane societies as a trusted choice.

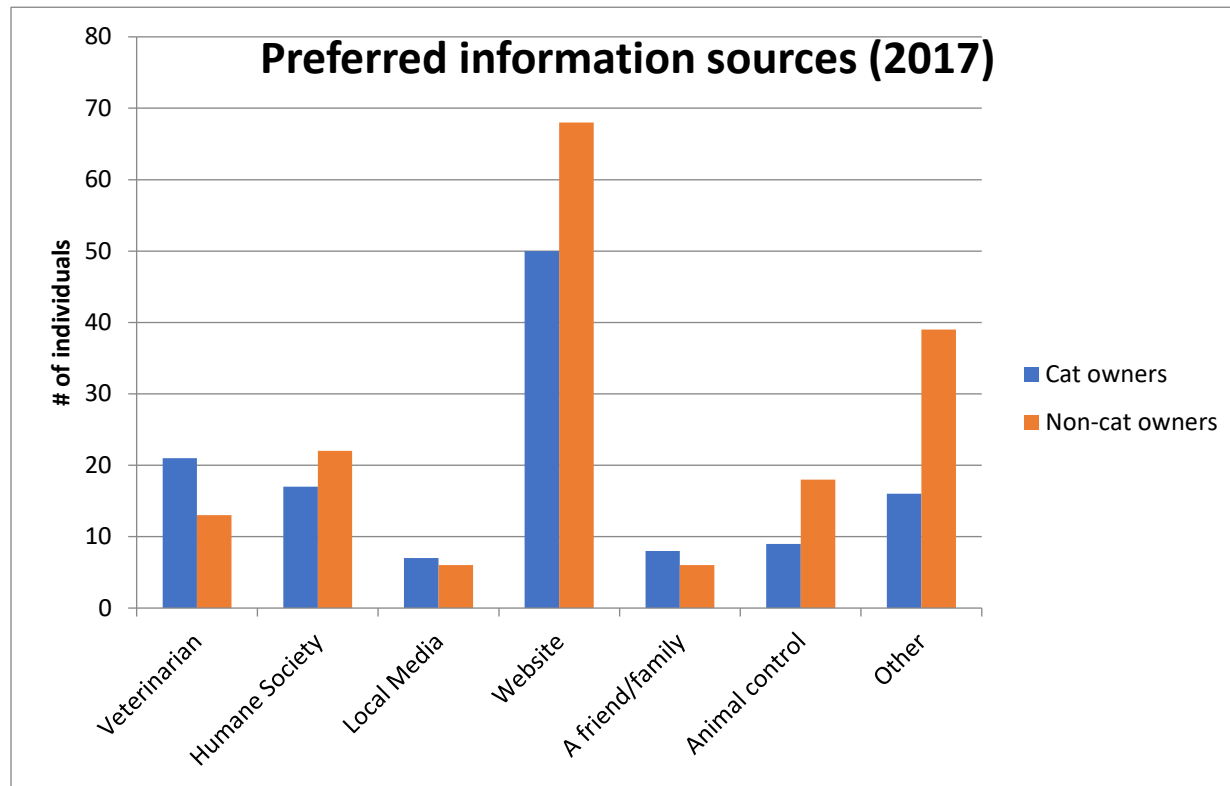


Figure 10. "Where would you first turn to for information about keeping cats and wild birds safe?" 2017 where N= 134 cat owners, N= 166 non-cat owners.

In 2019, websites again top the list for both cat and non-cat owners, with cat owners also viewing veterinarians and humane societies as top choices.

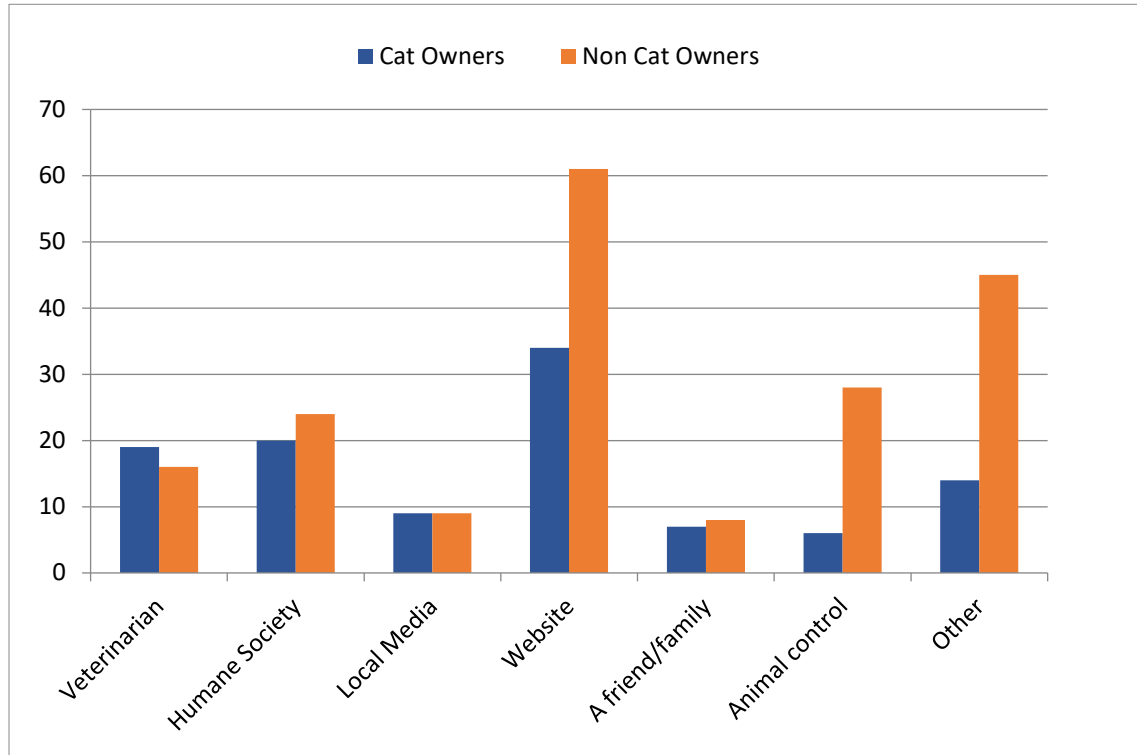


Figure 10. “Where would you first turn to for information about keeping cats and wild birds safe?” In 2019 where N= 109 cat owners, N= 191 non-cat owners.

In both survey results, the preference for an internet source for information above animal care professionals has important implications for stewardship outreach.

Telephone Interview Results

In 2017, a total of seven respondents from six municipalities participated in telephone interviews. The respondents included two elected officials, representatives from three animal welfare organizations, and municipal and animal control staff. One animal welfare representative and a government official were from the same city.

One question assessed current cat bylaws in the municipality. Five questions sought qualitative opinions on the perceived success and level of public compliance with bylaws, and the motivation and barriers to establishing bylaws. The last question explored a list of stewardship practices the

municipality might consider adopting. The survey questions may be found in Appendix B. Table 1 (below) summarizes current cat bylaws and stewardship practices that municipal officials and animal welfare organizations in six municipalities have adopted or would consider adopting.

Three municipalities out of the six sampled have cat no-roam bylaws. One municipality does not enforce the bylaw, one allows roaming of sterilized and microchip-identified cats. Therefore, only one community in the survey enforces a bylaw that protects birds and other wildlife from unsupervised cats.



Cat predation threatens many species at risk in BC, such as some populations of the Western Bluebird.

Table 1: Attitudes to Cat Bylaws and Stewardship Practices

Community (population)	NW BC (4500)	Vanc. Island (9000)	Vanc. Island (84,000)	NE BC (12,000)	NW BC (8000)	Vanc. Island (110,000)
Existing “no roam” cat bylaw	X	✓ (not enforced)	X	✓	✓ (Fertile cats only)	X
Would consider mandatory cat licensing	✓	X	X	✓	X	-
Would consider trap-euthanasia program	X	X	X	X	Last resort	-
Would consider mandatory spay-neuter bylaw	X	X	✓	✓ In place	✓ In place	-
Would consider trap- neuter-release program	✓	X	✓ in place	X	✓	-
Would consider trap-neuter-adopt program	✓	X	✓ in place	✓	✓	-
Would consider low-cost spay-neuter program	X	X	✓	✓ In place	✓	-
Would consider education campaign	✓	✓	✓	✓ In place	✓ In place	-
Appropriate to allow cats to roam (1 appropriate to 4 inappropriate)	2	3	3	3	3	-

In response to the question about which options are preferred to limit cat predation, all those interviewed would consider or have already adopted the “soft options” that do not require bylaw enforcement such as pet-ownership education and trap-neuter-adopt programs. Representatives from only two communities would consider licensing cats. Five respondents stated that it was somewhat appropriate for cats to be allowed to roam (see Appendix B).

Stated barriers to establishing bylaws were costs, the difficulty of enforcement, and the lack of awareness among the public and government about the impact of roaming cats. An animal welfare advocate asserted that it is first necessary for a municipal government to acknowledge that there is an issue for a bylaw to pass. Others mentioned that residents’ compliance and understanding were important for both passing and maintaining a bylaw.

In the communities with cat bylaws and cat

management practices, interview respondents noted that local animal welfare organizations were instrumental in lobbying for their adoption. Three respondents mentioned complaints from residents about roaming cats being important factors. Concerns about birds and other wildlife were only mentioned by one respondent.

Where there are no bylaws, respondents stated that new bylaws might be met with a mixed public response, but where bylaws are in place, there was a high-level of public acceptance. The respondent for the only local government with a comprehensive no-roam bylaw reported overall benefits such as residents voluntarily bringing in cats to be sterilized, the increase in return rates of rescued cats with mandatory identification programs, and a drop in cat complaints.

Key Findings

The following is a summary of findings for each project objective based on the two surveys and the 2017 interviews.

OBJECTIVE 1: Assess the knowledge and attitudes of British Columbians on allowing cats to roam.

In this representative survey of British Columbians that was taken in 2017 and again in 2019, between 36-45% of the 300 respondents have cats as pets. In 2017, over half of cat owners allowed their cats outdoors while 48% kept them strictly indoors or with supervised outdoor access. In 2019, the figure was 55% kept their cats indoors or with supervised outdoor access.

Attitudes to allowing cats to roam

In 2017, approximately two-thirds (67%) of cat owners thought it was appropriate or somewhat appropriate for cats to be outside without being supervised while 48% of owners kept their cats indoors. In 2019, the survey results indicate that over half of cat-owners (55%) feel it is appropriate or somewhat appropriate to allow cats to be outside unsupervised. In 2019, non-cat owners support for unsupervised outdoor access was 36%. Overall, based on the results from these surveys, there is less support than previously for the practice of allowing cats outside unsupervised by both cat owners and non-cat owners. The age of respondents did not significantly affect attitudes on this question.

Initially, the high number of people of all ages in British Columbia that stated that it is acceptable for cats to be outside unsupervised was surprising since many cat welfare organizations now stipulate that cats offered for adoption must be indoor cats. Based on the results of the second survey, the message that unsupervised outdoor access for owned cats seems to be getting through with less people finding this practice acceptable.

Cat owners allow their pets outside because of the pet's perceived needs and preferences. The most common reasons given for letting cats outside are that it is natural, provides needed exercise, and cats prefer it. To change this attitude, it will be necessary to present evidence that domestic cats can lead happy lives indoors and in supervised settings outdoors (similar to small dogs). Keeping cats indoors or supervised out of doors can involve greater effort for pet owners therefore low-cost solutions for creating safe, stimulating indoor and outdoor environments will need to be promoted.

In both surveys, a significant percentage of pet owners were aware of the impact of roaming cats on wildlife. However, this percentage did not change

Over the course of the project, there was a 15 % change in the number of respondents who kept their cats indoors or under supervision with more respondents keeping cats indoors by the end of the project.

Over the course of the project, there was a 18% change in the number of respondents who thought it was appropriate/ somewhat appropriate for cats to be outside unsupervised with the trend towards less support for unsupervised outdoor access for owned cats.

significantly over the two years between surveys. About the same percentage of people with cats who keep them indoors or strictly supervised, agree or somewhat agree that cats are a significant cause of wildlife and bird mortality. It should be noted however, that these results show a higher percentage on this question than seen in a recent study by McDonald (2015) where only 32% of cat owners viewed cats as being harmful to wildlife. The similar percentage of cat owners who acknowledge that cats cause wildlife mortality and cat owners who keep their cats indoors may indicate that education may have influenced their choice to control their pet's access to the outdoors.

Among non-cat owners, opinion is divided between agreeing/somewhat agreeing and disagreeing that cats have a substantial impact on wildlife. In both surveys, almost one-third of all respondents were neutral on this topic indicating a significant group who are not well informed on the issue of cats preying on birds. There was not much change in opinions by survey respondents on this topic between 2017 and 2019.

Further public education campaigns may help address the lack of awareness British Columbians have on the impact of cat predation on bird mortality. The majority of survey respondents would prefer to get information about cat/bird safety from web sites, with veterinarians and humane societies as the next best choices for survey respondents – offering robust opportunities to connect with this target audience.

OBJECTIVE 2: Rank potential solutions based on how favorably they are perceived.

Even though few municipalities have passed or enforce no-roam bylaws, many cat owners surveyed do keep their cats indoors, suggesting that education and awareness rather than fear of penalties may have influenced cat management practices.

Amongst cat owners who allow their cats to be outside unsupervised, there is low support (Figure 9) for any measure that would restrict a cat's ability to roam. Even education campaigns are not favoured by this group.

Education alone may not have a significant impact on attitudes or behaviour of cat owners who allow their cats to roam. In both surveys, cat owners who let their cats roam do support spaying and neutering cats, suggesting that a bylaw restricting fertile cats from roaming may have more support than a strictly no-roam bylaw. Such a bylaw would reduce feral cat populations but not solve cat nuisance complaints or predation by roaming pet cats.

In both surveys, almost one-third of all respondents were neutral on whether cats were a significant cause of wildlife and bird mortality indicating a significant group who are not well informed on the issue of cats preying on birds.

Education alone may not have a significant impact on attitudes or behaviour of cat owners who allow their cats to roam.

OBJECTIVE 3: Document existing cat bylaws in a sample of communities

In 2017, of the seven interviews with municipal and animal welfare representatives only one local government enforced a no-roam bylaw for all cats. It is not surprising therefore that those surveyed showed little support for this management option.

OBJECTIVE 4: Assess whether there is interest among animal welfare organizations and municipalities to act to limit cat predation of birds.

Local governments are worried about the staff costs and resources needed for cat bylaws. Municipal staff and elected officials anticipate greater costs and a mixed public response to cat bylaw enforcement. Soft options that do not require enforcement, such as pet ownership education programs and trap-neuter-adopt programs, are preferred.

It is important to note that the two communities with no-roam or sterilization/identification bylaws report favorable outcomes and positive public responses to the bylaws. A public education campaign was part of the roll-out of the bylaw.

Conclusion

The study results indicate that there was a trend over the course of the project where less cat owners think it is appropriate or somewhat appropriate to allow cats outdoors unsupervised. At the same time, according to this study, increasing numbers of British Columbian cat owners are keeping their cats indoors or supervised when outdoors. This is good news for the welfare of cats, birds and wildlife.

The practice of keeping pet cats indoors and supervising outdoor access has been adopted despite very few communities requiring it. The finding suggests that responsible pet ownership education has changed attitudes and future investment in pet owner education is worthwhile.

Education should emphasize the benefits of keeping cats indoors to both cats and wildlife. However, since over 40% of pet owners allow cats to roam, stricter laws and penalties by local governments may be required along with education.

Owners who think cats prefer or require the outdoors, may benefit from education focused on the benefits of stimulating indoor environments and how to create outdoor access for their cats using enclosures such as catios. Education efforts should provide less emphasis on the threats to cats allowed outdoors such as disease transmission or



interacting with wildlife as these were not seen as key concerns to pet owners. Combined, these efforts may be helpful to instigate behaviour change in many of these pet owners.

Although the telephone interview of municipal representatives was small, respondents identified cost, human resources and public attitudes as barriers to adopting cat bylaws. An important objective of an education campaign would be to publicize the positive results experienced by communities that have adopted cat management practices. Something to note is that Dawson Creek, with only 12,000 residents, has found the resources to enforce a strict no-roam bylaw.

Figure 11 summarizes the educational topics, attitudes changes and management practices needed to mitigate human-related bird deaths caused by domestic cats.

Pet owners, municipal officials and animal welfare staff are important audiences for future education programs to be undertaken by SCBC.

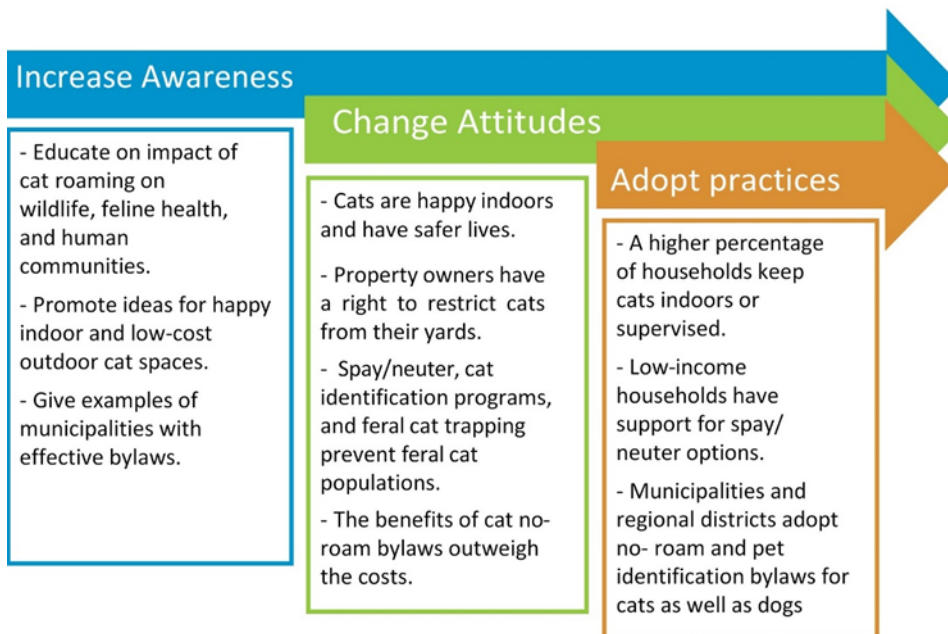


Figure 11. Knowledge and attitudes necessary to encourage practices that mitigate cat predation on birds and wildlife.

Resources

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Web Resources

Stewardship Centre for BC: www.stewardshipcentrebc.ca/cats-and-birds

Nature Canada's Cats and Birds: www.catsandbirds.ca

Appendix A: Google Survey Questions

1. I am 19 years of age or older and consent to participating in this research project. *

- Yes
- No
- I prefer not to say

2. How many cats, if any, does your household have as pets?

- 1 Cat
- 2 Cats
- 3 Cats
- 4 Cats
- 5+ Cats
- My household does not have cats

3. How many of those cats spend time outside unsupervised?

- All my cat(s) are kept strictly indoors
- 1 Cat
- 2 Cats
- 3 Cats
- 4 Cats+
- 5 Cats
- My household doesn't have any cats

4. Which of the following do you currently do? Check all that apply.

- Keep cat(s) from roaming unsupervised
- Keep cats from birdfeeders
- Use outdoor enclosures/fencing
- Spay and neuter cats
- Use Catbibs or Birdsbesafe collars
- Cat licensing
- None of the above

5. How appropriate is it for cat owners to allow their cats to be outside unsupervised?

- Appropriate
- Somewhat appropriate
- Somewhat inappropriate
- Inappropriate
- Unsure

6. What do you think is the biggest threat to unsupervised cats in your community?

- Being hit by a vehicle
- Getting a disease
- Fighting with other cats
- Interacting with wildlife
- Other

7. Please indicate your level of agreement with the following statement: Cats are estimated to be one of the most significant causes of wildlife and bird deaths in Canada.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

8. Where would you first turn to for information about keeping cats and wild birds safe?

- Veterinarian
- Humane Society
- Local Media
- Website
- A friend/family
- Animal control
- Other

9. If you let your cat(s) outdoors, what are your reasons? (check all that apply)

- S/he meows to go out
- It's natural for him/her to be outside
- S/he gets bored or destructive indoors
- S/he has poor litter box habits
- S/he needs the exercise
- Someone in our home is allergic
- None of the above

10. Thinking about ways to reduce cat impacts on birds and wildlife and to improve cat health and safety, which of the following practices would you support or adopt?

- Keep cat(s) from roaming unsupervised
- Education of pet owners by animal welfare
- Use outdoor enclosures/fencing
- Spay and neuter cats
- No free roam municipal bylaw for cats/dogs

- Cat licensing
- None of the above

* For ethical reasons, respondents who responded “No” or “I prefer not to say” were prevented from answering the rest of the questions using Google Survey’s screening option.

Appendix B: Phone Interview Questions

Interview Questions

1. Currently, are there any bylaws on cats (if any), and are they being enforced? How? What are the consequences for violating the bylaw(s)?
2. How is the success of the bylaw(s) being measured – if at all? What are the parameters used to assess this success (e.g. drop in cat complaints, increase in returned lost cats, reduced number of cats in shelters, decrease in feral cat population)?
3. What is the general level of compliance for these bylaw(s)?
4. What was the motivation/ driving-force behind creating the bylaw(s) (e.g. public complaints, expert recommendation, educational campaign)? Who pushed for the bylaw(s) to be adopted (e.g. individual, animal-welfare group, veterinarians)?
5. Did you face any barriers or resistance when adopting the bylaw(s)? If so, from whom?
6. What kind of an effect have the cat bylaw(s) had – if any? Has it resulted in a noticeable drop in cat-related complaints? What has been the public response been like to these bylaw(s)?
7. Which of the following stewardship-practices would the city consider adopting? [If no to any, ask for their reasons why].
 - No free-roaming municipal bylaw
 - Mandatory cat licensing municipal bylaw
 - Trap-Euthanasia program
 - Mandatory Spay-neuter municipal bylaw
 - Trap, Neuter, Release Program
 - Trap, Neuter, Adopt program
 - Low-cost spay-neuter program
 - Public Education Campaign

