



Canadian
Red Cross

Croix-Rouge
canadienne



PARTNERS FOR ACTION

Disaster and Emergency Preparedness Survey: Floods, Wildfires, and Earthquake Awareness and Preparedness Objectives

Report of Survey Findings
November 16, 2021



ENVIRONICS
RESEARCH

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INTRODUCTION



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OBJECTIVES

This survey was conducted by Environics for the Inclusive Resilience project in collaboration with Partners for Action and the Canadian Red Cross.

Commissioned by the Canadian Red Cross and funded by Public Safety Canada, the Inclusive Resilience project aims to increase the level of awareness among low-income Canadians, seniors (65+), women, newcomers to Canada, and Indigenous Peoples of local hazards including floods, wildfires and earthquakes, and knowledge of practical actions to prepare at household and community levels to reduce risks and cultivate a culture of resiliency at a community level.

The survey was designed to gauge Canadians' understanding of natural hazard risks (specifically flooding, earthquake, and wildfire), their own preparedness for these natural hazards, and their opinions around natural hazard preparedness communications and resources. The survey targeted selected populations across Canada in areas at risk of flooding, wildfires or earthquakes.

This report highlights key findings from the research.



METHODOLOGY (1 of 2)



Type: Telephone survey; random-digit dialing within select postal codes (see next page and Appendix A for details on regions).



Timing: Data was collected between July 14 – August 4, 2021.



Sample: The study attained a total sample of $n = 500$ Canadian adults from five communities (see next page), with $n = 400$ general population respondents, and an oversample of $n = 100$ respondents from specific groups of interest:

Final Sample	Total	Women	Seniors 65+	Low Income	Newcomer	Indigenous
Gen Pop (n)	400	249	154	134	2	21
Oversample (n)	100	61	7	42	1	47
Total (n)	500	310	161	176	3	68

Note: Columns do not add up to 400 and 100 respectively because some respondents fell into more than one group.

Definitions of sample groups are located in Appendix B. Note that the ability to include Newcomers (those in Canada for <5 years) in the sample was limited by the postal codes and geographies selected for the study (which underrepresent Newcomers compared to other communities) and because geographic targeting required landline-only dialing (rather than cellphone sample). Newcomers are included in the total sample but the sample size ($n = 3$) precludes analysis of them as a group.



METHODOLOGY (2 of 2)



Regions: Five regions were selected for the study. Regions were defined at the community level by postal code, and landline dialing was used to sample residents living within the defined regions. Soft quotas were applied to regions; demographic groups of interest (see previous page) were prioritized in the sample. Data was not weighted. A breakdown of communities is shown in Appendix A.



Risk Groups: Each region was divided into smaller communities; these communities were classified according to natural hazard risk (i.e. flood, earthquake, wildfire). Note that some communities fall into more than one risk group. A full list of communities and risk group categorization is attached to the end of this report in Appendix A.

Region	Total Sample
Ottawa, ON	76
Renfrew, ON	170
Thompson, MB	71
Richmond, BC	88
Newfoundland communities	95
Total (n)	500

Risk Group	Total Sample
Flood	477
Wildfire	281
Earthquake	164
Total (n)	500

A photograph of a green leaf in a glass of water next to a laptop. The leaf is in a clear glass filled with water, and the laptop is partially visible to the right. The background is a plain, light gray.

ABOUT THIS REPORT

This report presents key findings overall and by specific population. Specific population differences are only mentioned when determined to be significant through statistical testing.

Significant differences are indicated with up or down arrows, where results for a specific populations are noted to be significantly higher or lower than comparable groups. Note that comparisons are made against the total, not other specific populations.

Percentages are rounded to 1 percentage point; in some instances, labels for results of 3% or less are not shown. Consequently, results may not add up to 100%.

This report uses specific terminology to refer to certain specific populations and regions. Full definitions for this terminology can be found in Appendix B.

Data collection for this survey occurred during a time of high wildfire activity in western Canada, which may influence awareness and perceptions of wildfires among respondents.

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

- While Canadians generally show low levels of general concern about natural hazards impacting their home, they often have stronger perceptions of the risks specific to where they live. In particular, those living in earthquake-prone areas, and especially Richmond BC, showed heightened awareness and preparedness for emergencies. Communication that focuses on local risk and consequences of natural hazards, rather than general emergency planning, may be more effective at alerting people to risk. Few population differences are noted in awareness, and these differences tend to align with region based on where the population groups are concentrated.
- Emergency planning and risk protection appears to be a low priority for most. Few Canadians are able to recall spending any time on emergency planning in the past year, and most have not taken substantial action to prepare for an emergency or protect their homes. This is particularly true for low income Canadians.
- In addition to having low general awareness about natural hazards, Canadians rarely list specific barriers to emergency planning. This ties back to low concern about natural hazards and low perceptions of risk, requiring communication that informs and anticipates needs. As an example, low income Canadians are particularly unlikely to spend time on planning, and less likely than others to have first aid kits or a 3-day (72 hours) emergency supply, but few specifically mention money as a barrier to emergency planning.
- Self-efficacy and social support in emergency situations is an area of concern. Few Canadians are confident in their ability to handle an emergency situation, and just half say they have many people they can turn to for help. Building resilience by overcoming this vulnerability requires communication that encourages social collaboration, and clearly articulates specific actions and protocols so Canadians have a better sense of what to do, where to go, and how things work in an emergency.
- In line with their low general awareness about natural hazards, Canadians rarely seek out information about floods, wildfires, or earthquakes of their own accord. When they do seek information, they generally turn to general, top-of-mind Internet sources and government websites. Because these risks are going to increase in frequency and severity over time due to climate change, it is critical to ensure that comprehensive information is in place and easy to access when Canadians are ready to seek it.

EXECUTIVE SUMMARY

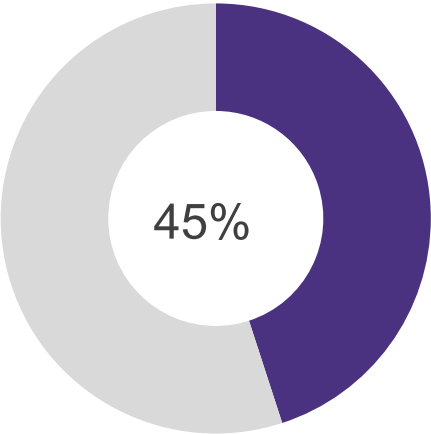
Fewer than half of Canadians surveyed express concern about natural hazards (45%); a similar proportion report spending time preparing for natural hazards over the past year (45%). Few have been directly affected by natural hazards in the past, most often floods (17%).

Q9. Thinking about your home, how concerned would you say you are about each of the following? (All respondents, n = 500)

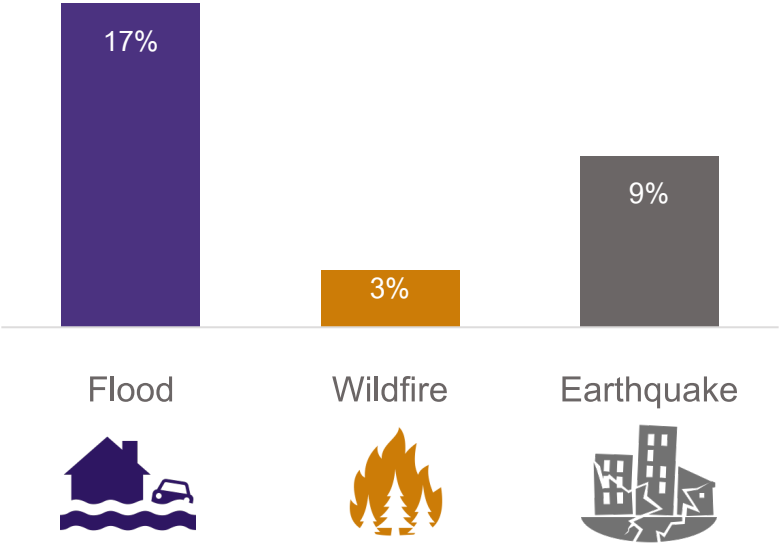
Q11. Has your home ever been affected by the following hazards? (All respondents, n = 500)

Q12. Over the past year, how many hours did you spend on preparing yourself and your household for natural hazard disasters like floods, wildfires, or earthquakes? (All respondents, n = 500)

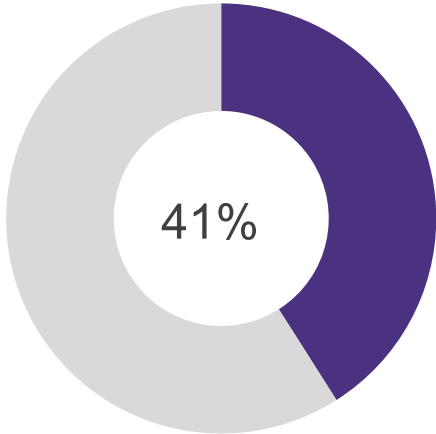
% Concerned about natural hazards



% Affected by natural hazards



% Spent time preparing for natural hazards in past year



AWARENESS OF NATURAL HAZARD RISKS



IMAGE CREDIT:
UNSPLASH



AWARENESS KEY FINDINGS

- Canadians' overall concern about natural hazards is limited, with just 45% very or somewhat concerned. Natural hazards rate higher as a concern compared to housing affordability (39%) or crime and security (35%). Levels of concern vary between communities, with Richmond expressing the highest concern about natural hazards (61%) while Thompson residents are particularly worried about crime (71%).
- Perhaps not surprisingly, perceptions of risk from specific natural hazards are higher among residents of those risk areas. For instance, those in the Wildfire Risk Group perceive their risk of wildfire to be higher than others, and those in the Earthquake Risk Group similarly perceive a higher risk of earthquakes.
- There is some regional variation in risk perceptions suggesting that individual perceptions of risk may be based on expected severity of the natural hazard, rather than the likelihood it will happen.
 - Earthquake risk perception is much higher among those in Richmond (77% high or moderate risk) compared to Ottawa (26%), though both are part of the Earthquake Risk Group and Ottawa residents are more likely to report being affected by an earthquake. While both regions experience earthquakes with some regularity, Richmond residents may expect that earthquakes, when they happen, will be stronger and more damaging compared to Ottawa.
 - In the case of Thompson, which is part of the Flood and Wildfire Risk Groups, respondents perceive the risk of wildfires (77%) to be substantially higher than the risk of flooding (17%) even though similar proportions report that their homes have been affected by flood (11%) and wildfire (17%).

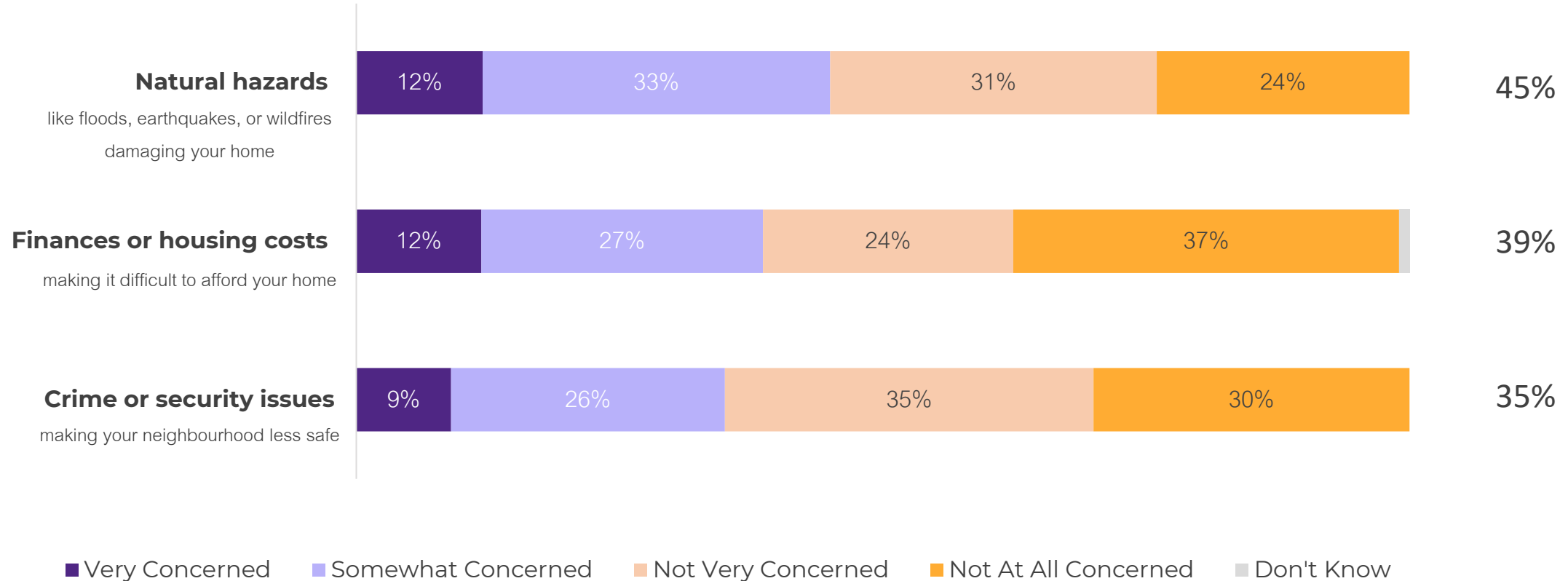
IMAGE CREDIT:
UNSPLASH

TOP CONCERNS

Fewer than half express concern about natural hazards (45%), although this proportion is higher than for other housing-related issues like finances/housing costs and neighbourhood crime/security.

Q9. Thinking about your home, how concerned would you say you are about each of the following? (All respondents, n = 500)

% Concerned



TOP CONCERNS AND HAZARD RISK GROUP

Natural hazards are the top concern (compared to housing affordability and crime) for those in Richmond (61%) and Ottawa (49%); concern in Thompson (48%) is also high, but dwarfed by crime at 70%. Those in the Earthquake Risk Group are most concerned about natural hazards (55%).

Q9. Thinking about your home, how concerned would you say you are about each of the following? (All respondents, n = 500)

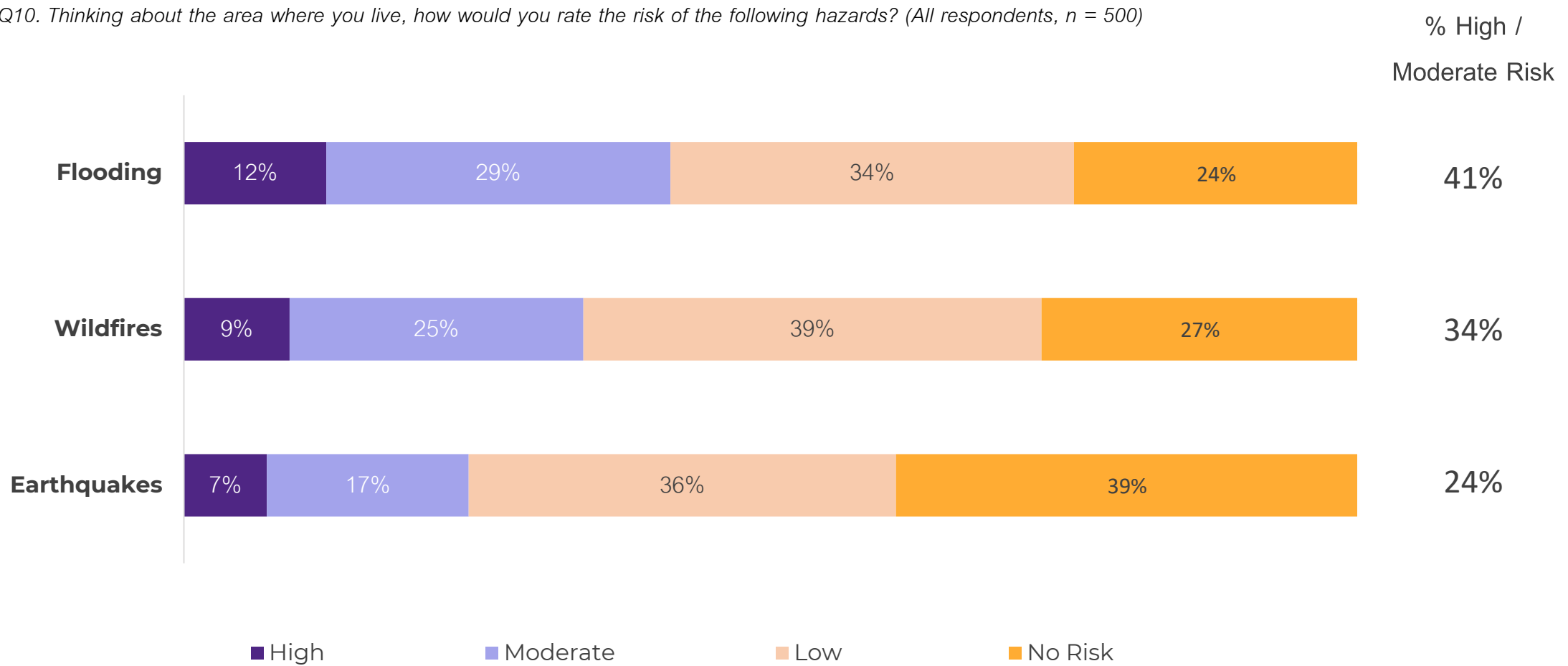
Region	% Very or somewhat concerned		
	Natural Hazards	Finances / Housing Costs	Crime / Security
Ottawa, ON	49%	34%	43%
Renfrew, ON	40%	41%	17%↓
Thompson, MB	48%	44%	70%↑
Richmond, BC	61%↑	39%	41%
Newfoundland communities	34%↓	35%	31%

Risk Group	% Very or somewhat concerned		
	Natural Hazards	Finances / Housing Costs	Crime / Security
Flood	46%	38%	33%
Wildfire	44%	40%	31%
Earthquake	55%↑	37%	42%↑

↑ ↓ Significantly higher or lower

PERCEIVED RISK OF NATURAL HAZARDS

In general, only a minority of Canadians perceive a high to moderate risk from natural hazards. The perceived risk is highest for flooding, with four in ten (41%) rating this hazard a high or moderate risk where they live, followed by wildfires (34%), and earthquakes (24%).



PERCEIVED RISK BY RISK GROUP

Those in the Earthquake Risk Group are much more likely to perceive the risk of earthquake to be high or moderate compared to other respondents; this effect is also noted in the Wildfire Risk Group. Because most respondents are part of the Flood Risk Group, no difference can be noted between this group and all respondents.

Q10. Thinking about the area where you live, how would you rate the risk of the following hazards? (All respondents, n = 500)



Flood

(Flood Risk Group n = 477)

41%

(All respondents 41%)



Wildfire

(Wildfire Risk Group n = 281)

48%

(All respondents 34%)



Earthquake

(Earthquake Risk Group n = 164)

54%

(All respondents 24%)

This page shows the proportion of residents in each Risk Group who perceive that risk to be high or moderate.

PERCEIVED RISK BY REGION

Perception of risk varies by region and is not always strictly aligned with the risks in each area. For example, there is a notable gap in risk perception between flooding and wildfires for Thompson, and between flooding and earthquakes for Ottawa and Richmond.

Q10. Thinking about the area where you live, how would you rate the risk of the following hazards? (All respondents, n = 500)

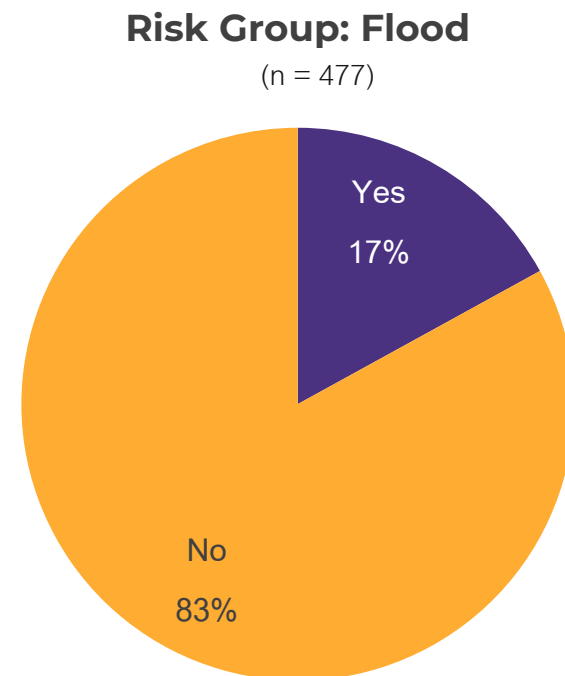
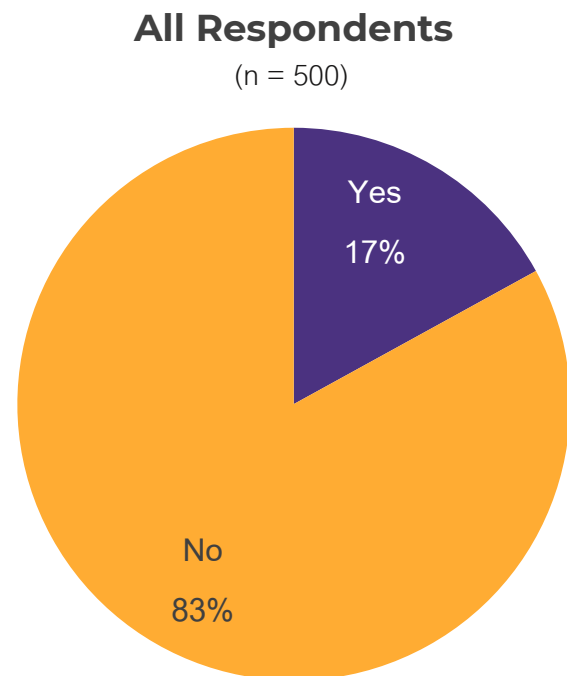
Region	% High / Moderate Risk		
	Flooding	Wildfires	Earthquakes
Ottawa, ON	57% ↑	33%	26%
Renfrew, ON	41%	35%	15%
Thompson, MB	17% ↓	77% ↑	6% ↓
Richmond, BC	57% ↑	13% ↓	77% ↑
Newfoundland communities	34%	20% ↓	0%

↑ ↓ Significantly higher or lower

PREVIOUSLY AFFECTED BY FLOODS

Nearly one in five (17%) of those in the Flood Risk Group say their home has been affected by a flood in the past. Those in Ottawa (28%) and Renfrew (21%) are most likely to report being affected by a flood. Because most respondents are part of the Flood Risk Group, no difference can be noted between this group and all respondents.

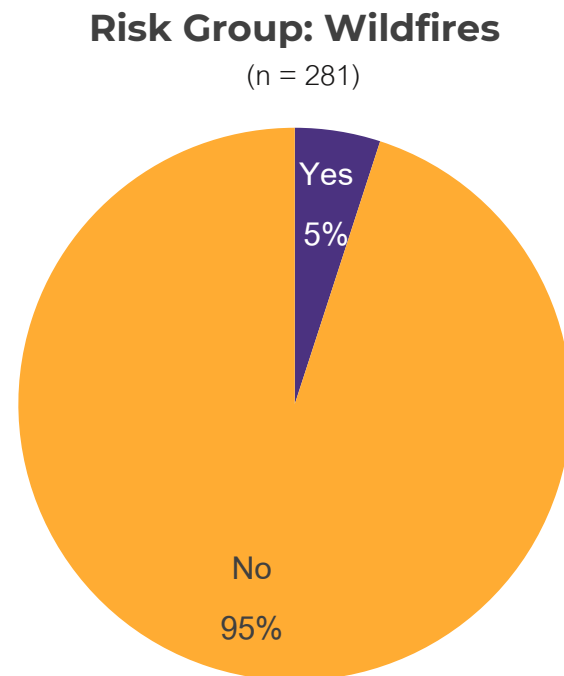
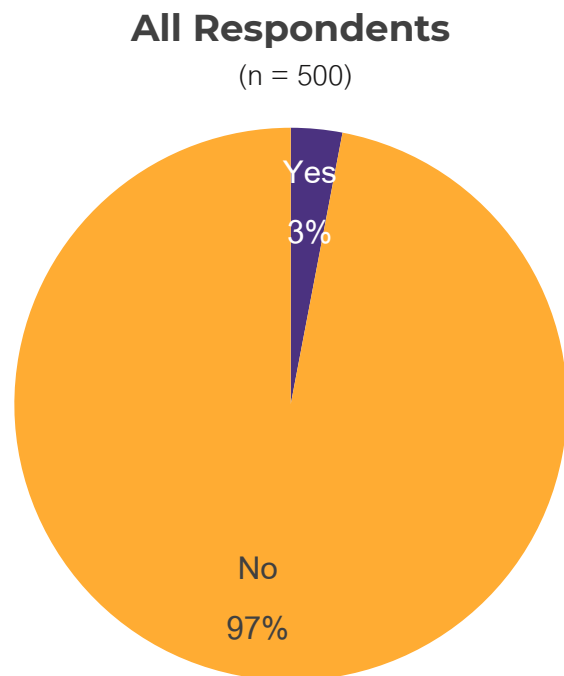
Q11. Has your home ever been affected by the following hazards? (All respondents, $n = 500$)



PREVIOUSLY AFFECTED BY WILDFIRE

Just 3% of all respondents, and 5% of those in the Wildfire Risk Group, say their home has been affected by a wildfire. In Thompson, this is substantially higher at 17%.

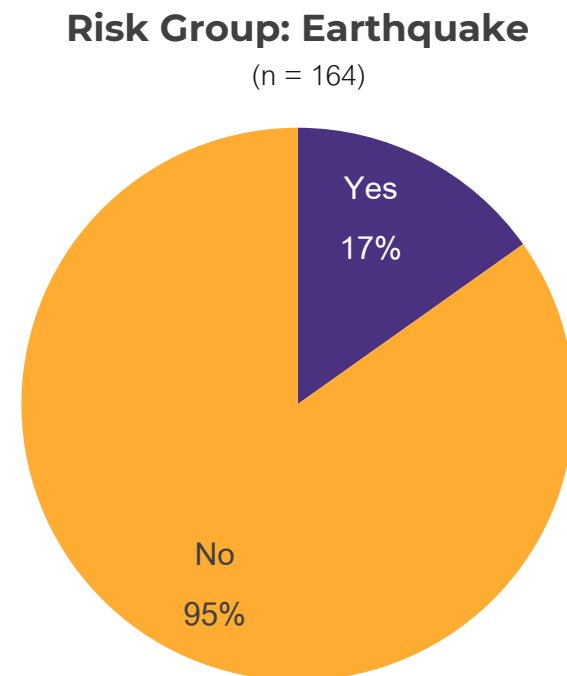
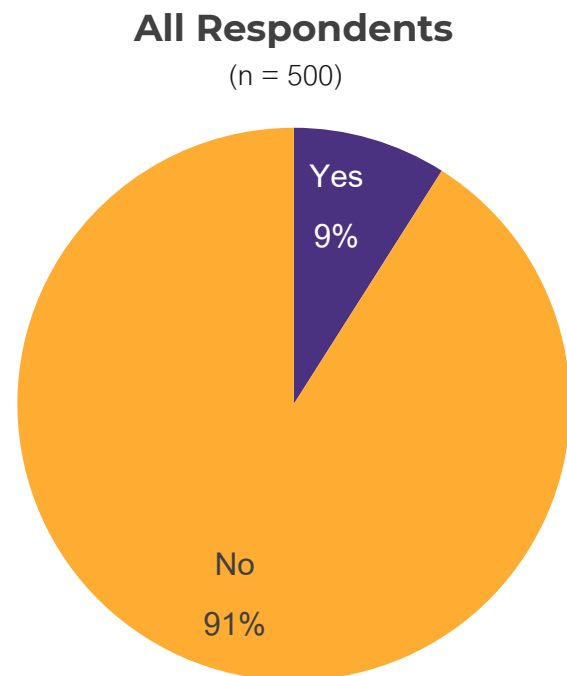
Q11. Has your home ever been affected by the following hazards? (All respondents, n = 500)



PREVIOUSLY AFFECTED BY EARTHQUAKE

Nearly one in five (17%) respondents in the Earthquake Risk Group say their home has been affected by an earthquake, compared to just one in ten Canadians overall (9%). This is highest among those living in Ottawa (20%).

Q11. Has your home ever been affected by the following hazards? (All respondents, $n = 500$)



PREVIOUSLY AFFECTED BY NATURAL HAZARD

Despite regions being chosen for the survey because they have recently been impacted by or are at risk for natural hazards, relatively few in those regions have been personally affected.

Q11. Has your home ever been affected by the following hazards? (All respondents, n = 500)

Region	% Yes (Home Affected by Hazard)		
	Flooding	Wildfires	Earthquakes
Ottawa, ON	28%↑	1%	20%↑
Renfrew, ON	21%↑	1%	11%
Thompson, MB	11%	17%↑	0%
Richmond, BC	6%↓	1%	15%
Newfoundland communities	16%	1%	0%

AWARENESS SUMMARY BY TARGET GROUPS

Key groups are generally similar in their overall concern about natural hazards and perception of risk; differences seen between groups (ranging from 39% to 48%) can be largely attributed to community than to demographic group, i.e. seniors are more likely to be in the Earthquake Risk Group (specifically Ottawa or Richmond) than are Indigenous or low income respondents.

Target Group		All respondents (n = 500)	Women (n = 310)	Seniors 65+ (n = 161)	Indigenous (n = 71)	Low Income (n = 169)
Q9. % Somewhat / very concerned about natural hazards		45%	48%	46%	39%	43%
Q10. % Perceived high / moderate risk	Flooding	41%	43%	37%	44%	38%
	Wildfires	34%	35%	31%	37%↑	33%
	Earthquakes	24%	24%	29%	6% ↓	18%↓
Q11. % Home affected	Flooding	17%	16%	15%	18%	15%
	Wildfires	3%	3%	4%	6%	1% ↓
	Earthquakes	9%	11%	12%	3% ↓	9%

↑ ↓ Significantly higher or lower compared to total

PREPAREDNESS



IMAGE CREDIT:
UNSPLASH



IMAGE CREDIT:
UNSPLASH

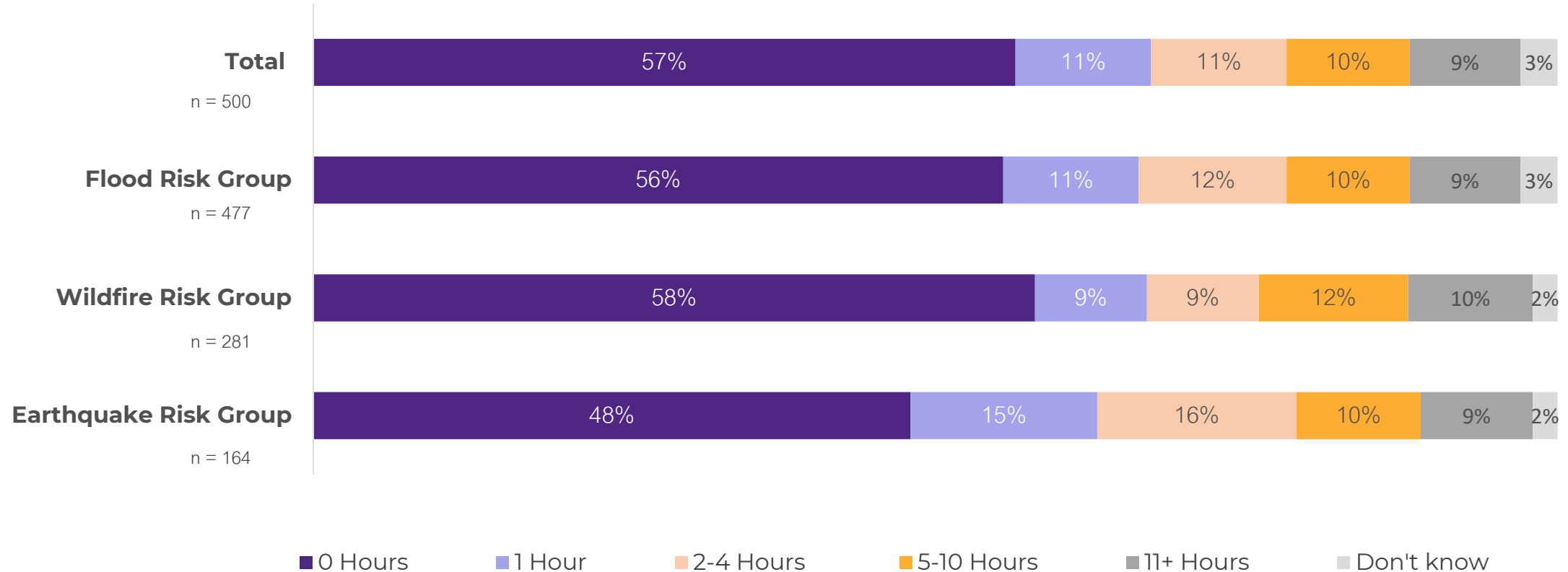
PREPAREDNESS KEY FINDINGS

- **Most residents (57%) say they have spent no time at all preparing for an emergency in the past year.** Regardless of their estimated time spent, the survey prompted respondents to indicate which actions they have taken to prepare for emergencies.
 - A majority say that they have put together a first aid kit (70%) and a list of emergency contact numbers (57%). These are fairly low barrier actions that people may have undertaken for reasons other than emergency preparedness (e.g. basic household safety, recreation, child care arrangements, etc.).
 - By comparison, few Canadians report having made specific emergency-related preparations. Less than half say they have an emergency supply kit, and only one in three report creating an emergency exit / evacuation plan, designating a meeting place, or storing important documents outside the home.
- **Target Groups are generally as likely to make emergency preparations, with a few exceptions.** Notably, low income respondents spend less time on preparing, perhaps due to work and personal obligations. They are also less likely to have first aid kits or a 3-day supply kit, suggesting that the cash expenditure required for these preparations may also be a barrier, though money is rarely mentioned as a specific barrier to preparation.
- **In general, those in the Earthquake Risk Group are more likely to report risk-specific mitigation efforts than those in the Flood or Wildfire Risk Groups.** This group is also more likely to spend time preparing for emergencies in general, and more likely to indicate that they have assembled a 3-day supply kit.

TIME SPENT PREPARING FOR NATURAL HAZARDS

Most respondents (57%) report spending no time (i.e. 0 hours) preparing their household for natural disasters over the past year. The proportion who have spent 1 or more hours preparing is slightly higher among the earthquake risk group.

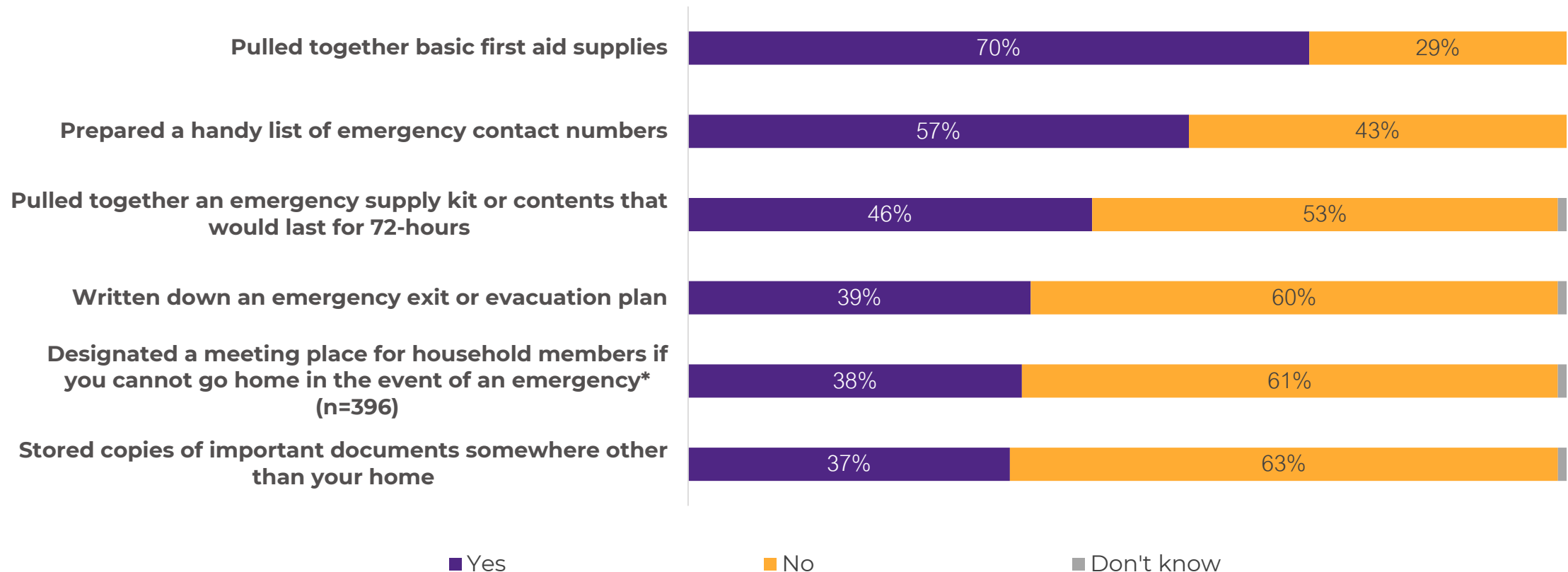
Q12. Over the past year, how many hours did you spend on preparing yourself and your household for natural hazard disasters like floods, wildfires, or earthquakes?



ACTIONS TAKEN TO PREPARE FOR EMERGENCY

The most commonly reported actions to prepare for an emergency include assembling basic first aid supplies and preparing a list of emergency contact numbers. Fewer than half have pulled together emergency supplies to last 3 days, written down an emergency plan, designated a meeting place, or stored copies of documents outside the home.

Q13. Have you or anyone in your household taken the following actions to be prepared for an emergency? (All respondents, n = 500)



*This question was not asked of those with just one person in the household.

ACTIONS TAKEN BY RISK GROUPS

Those in the Earthquake Risk Group are more likely than average to put together supplies to last 3 days. Otherwise, likelihood of taking emergency preparation actions is similar across Risk Groups.

Target Group		All respondents (n = 500)	Flood Risk (n = 477)	Wildfire Risk (n = 281)	Earthquake Risk (n = 164)
Q13. Taken emergency preparation actions	First aid supplies	70%	71%	76%	71%
	Emergency numbers	57%	57%	58%	57%
	3-day supply kit	46%	46%	44%	55% ↑
	Emergency plan	39%	39%	42%	40%
	Meeting place	38%	39%	39%	38%
	Document copies	37%	37%	35%	41%

ACTIONS TAKEN BY REGION

Those in Richmond (part of the Earthquake Risk Group) are more likely than average to put together supplies to last 3 days. Residents of Newfoundland communities are less likely to report putting together first aid supplies. Otherwise, likelihood of taking emergency preparation actions is similar across regions.

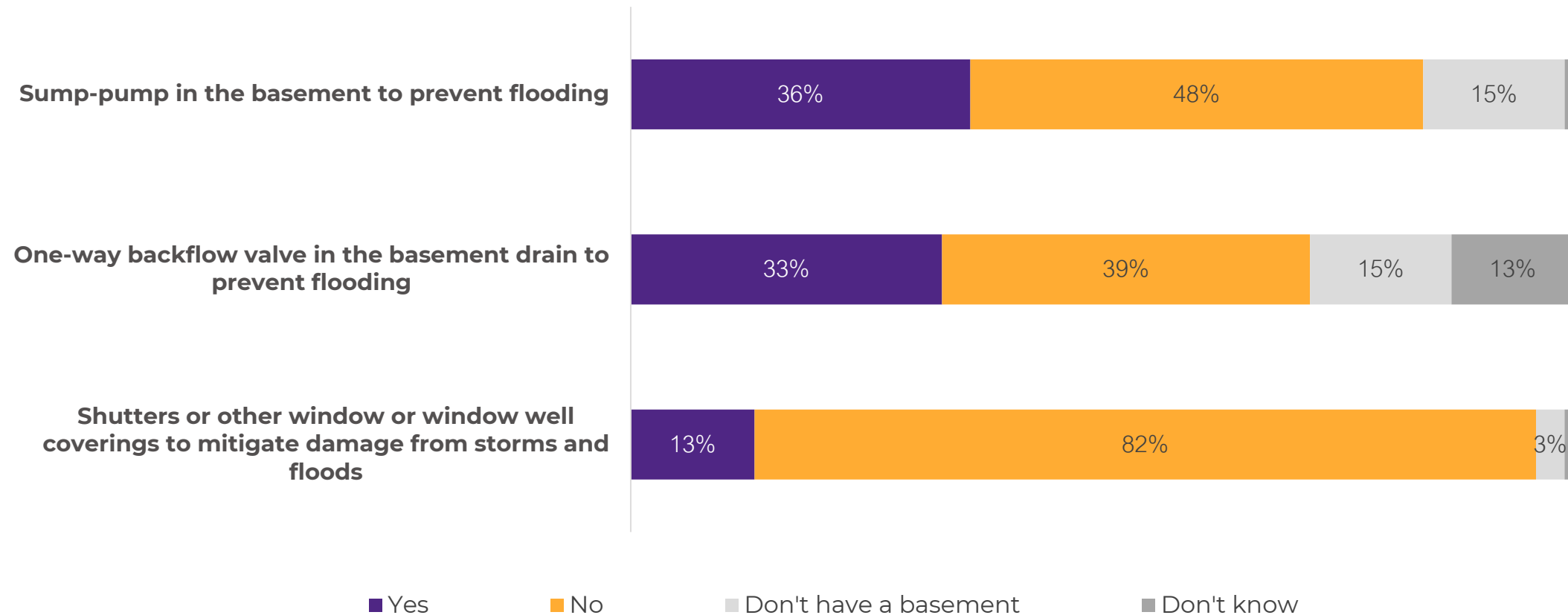
Target Group		All respondents (n = 500)	Ottawa	Renfrew	Thompson	Richmond	Newfoundland communities
Q13. Taken emergency preparation actions	First aid supplies	70%	70%	75%	76%	72%	57%↓
	Emergency numbers	57%	61%	54%	63%	53%	59%
	72hr supply kit	46%	45%	45%	35%	64%↑	40%
	Emergency plan	39%	41%	43%	38%	39%	33%
	Meeting place	38%	42%	37%	39%	35%	42%
	Document copies	37%	39%	35%	28%	42%	40%

↑ ↓ Significantly higher or lower compared to total

ACTIONS TAKEN TO PROTECT FROM FLOODS

Within the Flood Risk Group, just one in three report having a sump-pump (36%) or a one-way backflow valve (36%). Only 13% have shutters or other window coverings to mitigate flood damage.

Q14. Does your home have the following flood prevention devices? (Subgroup: Flood Risk Sample n = 477)

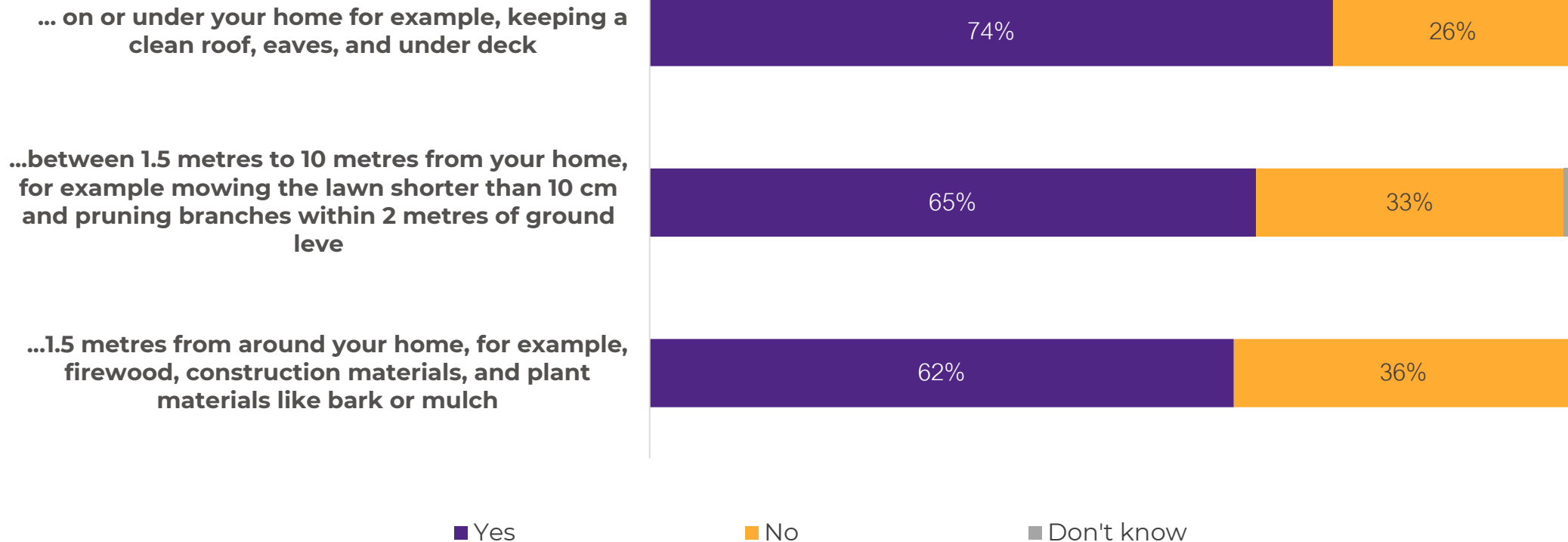


ACTIONS TAKEN TO PROTECT FROM WILDFIRES

Those in the Wildfire Risk Group are more likely to report protective actions, compared to the other two Risk Groups. Ottawa (i.e. Constance Bay) are less likely than other wildfire risk communities (Renfrew, Thompson) to report taking these actions. One explanation may be heightened awareness due to high wildfire activity this year, or simply that these actions are part of routine property maintenance for those living in rural areas.

Q15. Have you done each of the following to protect your home from wildfires? (Subgroup: Wildfire Risk Sample n = 281)

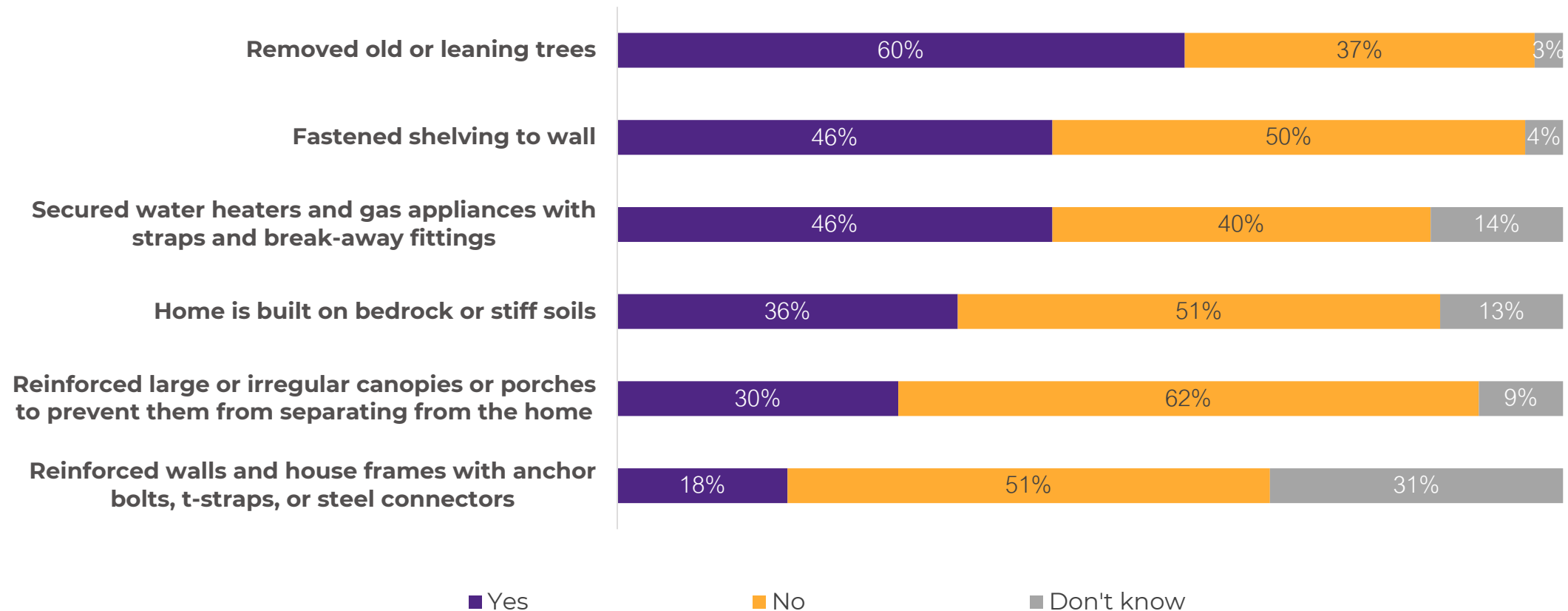
Removed materials that can easily ignite....



ACTIONS TAKEN TO PROTECT FROM EARTHQUAKES

Respondents in the Earthquake Risk Group most often report removing old or leaning trees (60%) to mitigate earthquake damage risks. Almost half say they have fastened shelving to walls (46%) or secured gas appliances with straps and break-away fittings (46%). Other actions are reported by smaller proportions. Homes on bedrock and reinforced walls are more common in Ottawa, while those in Richmond are more likely to secure gas appliances.

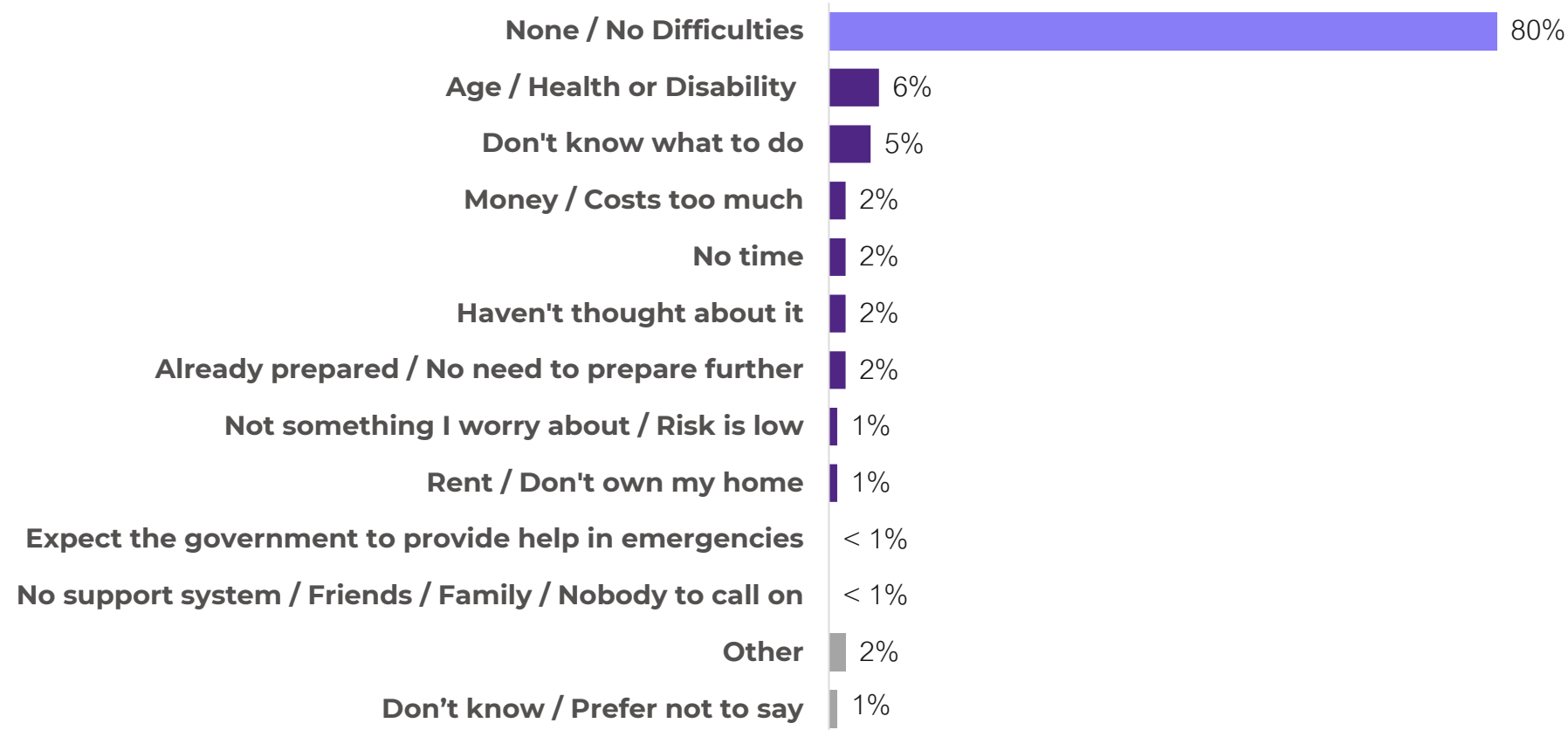
Q16. Have you done each of the following to protect your home from wildfires? (Subgroup: Earthquake Risk Sample n = 164)



CHALLENGES WITH EMERGENCY PREPAREDNESS

Most Canadians could not identify any specific challenges that make it difficult for them to prepare for emergency situations. Barriers related to age, health, or disability are mentioned by 6%, while awareness is a barrier for 5%.

Q17. Is there anything that makes it difficult for you to prepare for emergency situations? (All respondents, n = 500)



PREPAREDNESS SUMMARY BY TARGET GROUPS

Emergency preparation is fairly consistent across groups, however, low income residents are more likely to report that they have spent no time preparing for an emergency, and are also less likely to put together a first aid kit or 3 days of supplies. This suggests that time and money outlay are barriers to emergency preparation, even if respondents do not indicate this when asked directly about barriers.

Target Group		All respondents (n = 500)	Women (n = 310)	Seniors 65+ (n = 161)	Indigenous (n = 71)	Low Income (n = 169)
Q12. Hours spent preparing	0 hours spent	57%	58%	58%	61%	65%↑
	Any hours spent	41%	40%	39%	37%	33%
Q13. Taken emergency preparation actions	First aid supplies	70%	71%	62%↓	70%	62%↓
	Emergency numbers	57%	58%	62%	62%	56%
	3-day supply kit	46%	45%	44%	44%	40%↓
	Emergency plan	39%	39%	39%	44%	36%
	Meeting place	38%	41%	31%↓	50%	36%
	Document copies	37%	35%	44%↑	39%	34%

↑ ↓ Significantly higher or lower compared to total

SELF-EFFICACY AND SOCIAL NETWORKS



SELF-EFFICACY AND SOCIAL NETWORKS KEY FINDINGS

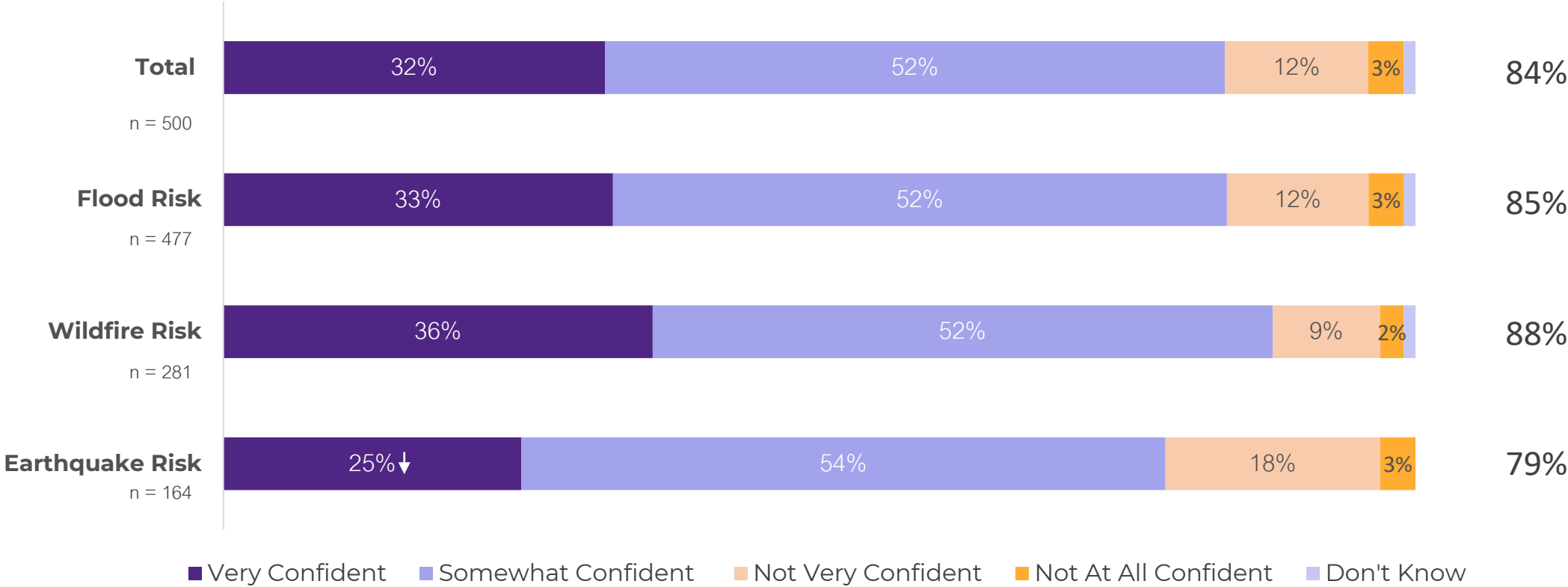
- One in three (32%) indicate they are very confident in their ability to handle an emergency situation, and half (50%) say they have many people they can turn to for help. Those in the Earthquake Risk Group are less likely to say they are very confident (25%) and less likely to have many people they can turn to (40%). Demographics also influence variations in self-efficacy and social networks.
 - While confidence in their ability to handle an emergency situation is lower among women (80%), they are more likely to report that they have many people they can turn to in an emergency (55%). This suggests that women have more access to others they can turn to, which may mitigate their lower perceived efficacy to handle an emergency.
 - Seniors report average levels of confidence in their ability to handle an emergency (83%), but they are less likely than other groups to say they have many people they can turn to for help (46%). This could make them more vulnerable in emergencies if they are unexpectedly unable to handle these situations independently.
 - Indigenous respondents report strong confidence in their ability to handle an emergency (86%) and are most likely to say they have many people they can turn to for help (68%), which may reflect the strong social bonds that exist in Indigenous communities.

IMAGE CREDIT:
UNSPLASH

EMERGENCY SITUATION CONFIDENCE

Just one in three are very confident that they could handle an emergency situations; for those in the Earthquake Risk Group, this falls to one in four.

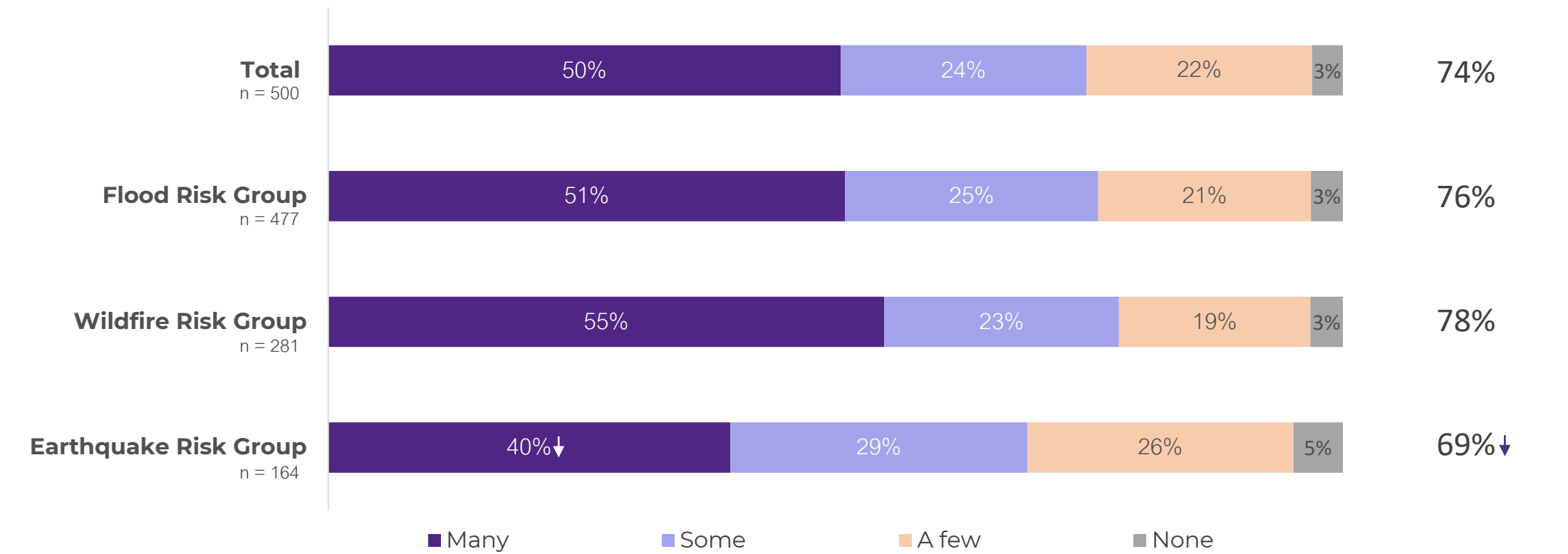
Q19. How confident are you that you could handle an emergency situation like an earthquake, a wildfire, or a flood? (All respondents, n = 500) % Confident



SOCIAL SUPPORT NETWORKS

Half of respondents say they have *many* people to turn to for help in an emergency (50%); this is lower among those in the Earthquake Risk Group (40%). One possible explanation for this, specifically in the context of an earthquake, is that these respondents anticipate that their connections will also be impacted and in need of help.

Q24. How many people could you turn to among your relatives, social group, neighbourhood, or broader community if you needed help during an emergency? % Many / Some



↑ ↓ Significantly higher or lower compared to total

SELF EFFICACY & SOCIAL SUPPORT NETWORKS BY TARGET GROUPS

Self-efficacy beliefs/social support perceptions are more widely influenced by demographic group than by region or Risk Group. While women report lower confidence about handling an emergency, they are more likely to report that they have *many* people to turn to. Indigenous respondents are confident in their ability to handle an emergency (86%) and two-thirds (68%) say they have many people they can turn to for help.

Target Group		All respondents (n = 500)	Women (n = 310)	Seniors 65+ (n = 161)	Indigenous (n = 71)	Low Income (n = 169)
Q19. How confident are you that you could handle an emergency situation?	% Very Confident	32%	25%↓	27%	34%	29%
	% Very / Somewhat Confident	84%	80%↓	83%	86%	79%
Q24. How many people could you turn to ... if you needed help during an emergency?	% Many	50%	55%↑	46%↓	68%↑	49%
	% Some	24%	24%	31%↑	15%↓	24%
	% Many / Some	74%	79%	77%	73%	73%

INFORMATION AND MESSAGING



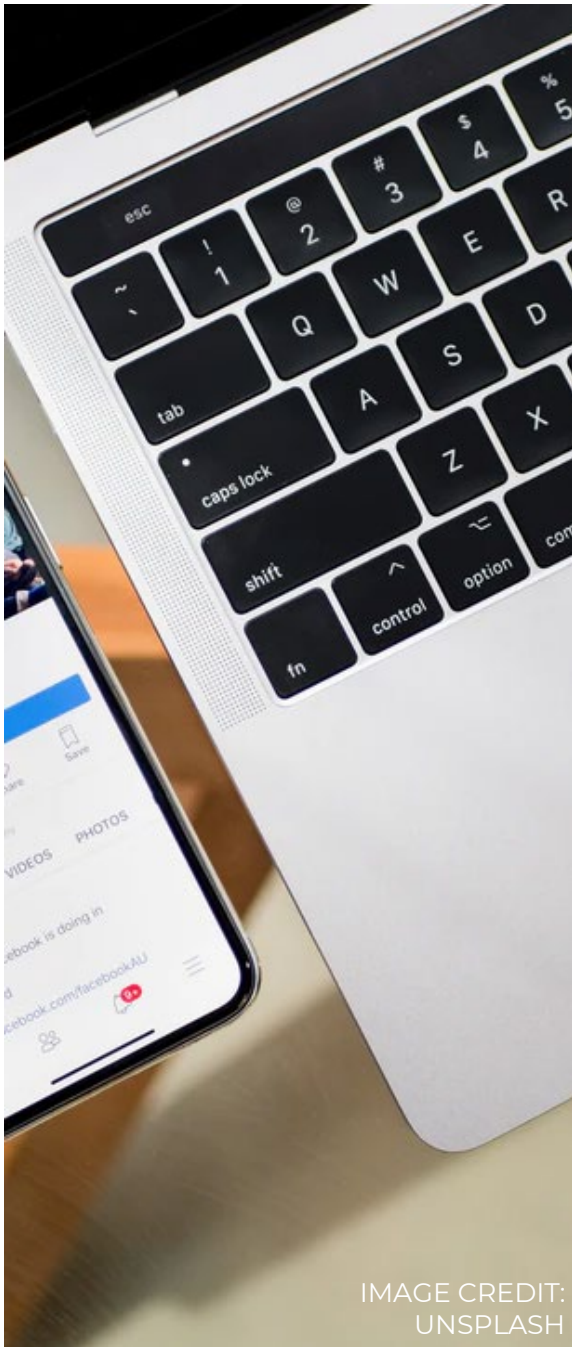


IMAGE CREDIT:
UNSPLASH

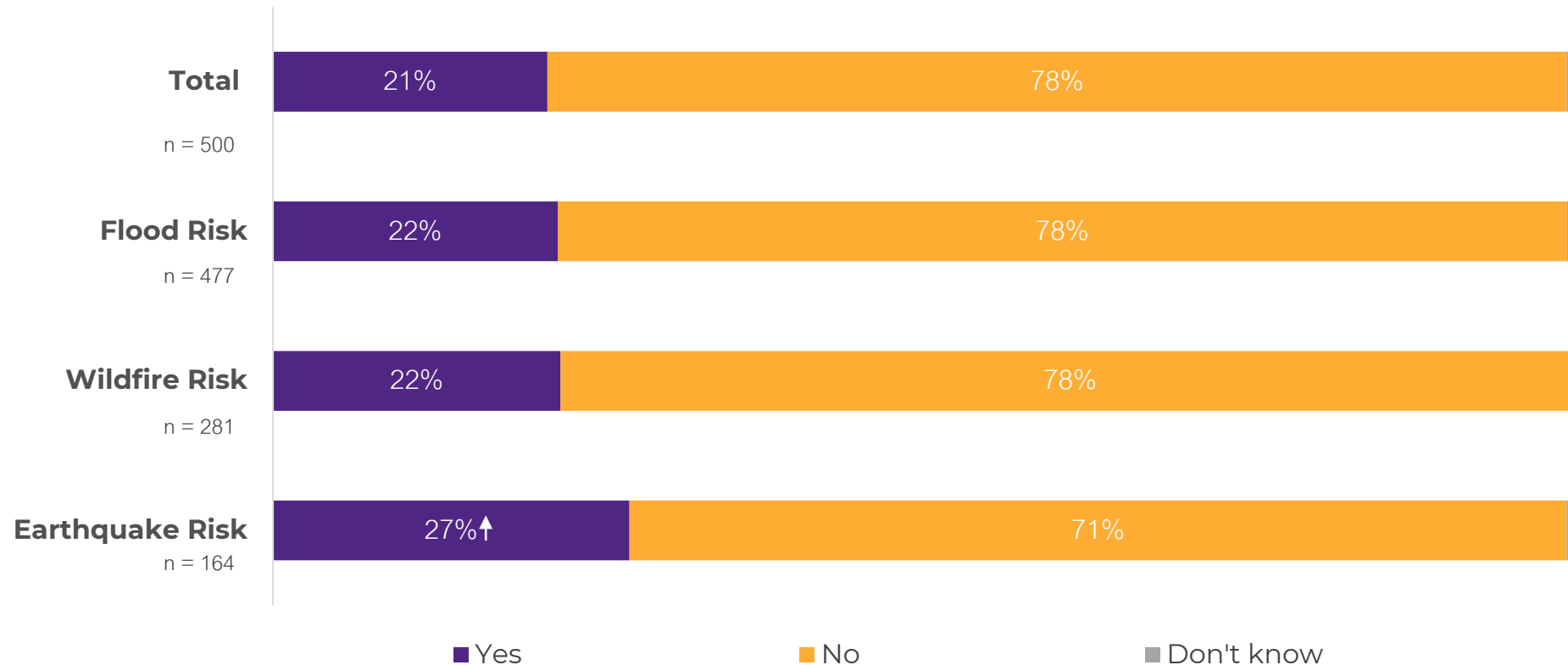
INFORMATION AND MESSAGING KEY FINDINGS

- Few Canadians have looked for information about natural hazards in the past year. Those in the Earthquake Risk Group are somewhat more likely to seek information, and low income Canadians are notably less likely to look for information.
 - Those who do seek information about natural hazards tend to rely on general Internet sources and government websites.

SEEKING INFORMATION ABOUT NATURAL HAZARDS

One in five respondents say they have looked for information about natural hazards over the past year; this is somewhat higher among those in the Earthquake Risk Group.

Q21. In the past year, have you looked for information about floods, wildfires, and/or earthquakes in your area? (All respondents, n = 500)



↑ ↓ Significantly higher or lower compared to total

SEEKING INFORMATION BY TARGET GROUPS

Low income respondents are less likely to seek information about natural hazards.

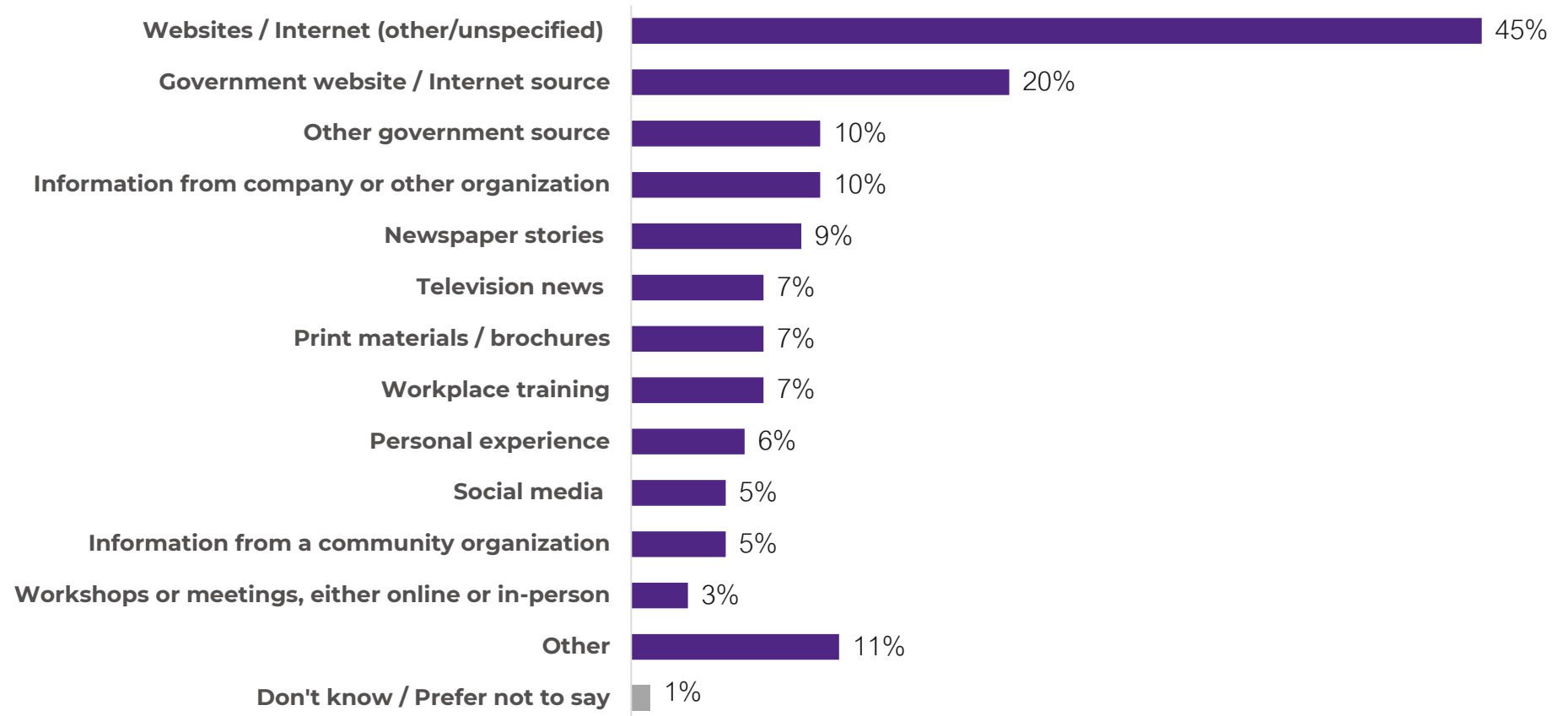
Q21. In the past year, have you looked for information about floods, wildfires, and/or earthquakes in your area? (All respondents, n = 500)

Target Group	All respondents (n = 500)	Women (n = 310)	Seniors 65+ (n = 161)	Indigenous (n = 71)	Low Income (n = 169)
Q21. % Looked for information about natural hazards	21%	21%	17%	21%	11%↓

SEEKING INFORMATION ABOUT NATURAL HAZARDS

Among the one in five who seek information about natural hazards, the most common sources are the Internet or government websites.

Q22. Where did you go to find this information? (Those who have looked for information, n = 105)



DEMOGRAPHICS



DEMOGRAPHICS

AGE



GENDER



INDIGENOUS IDENTITY



IMMIGRATION



RISK GROUP



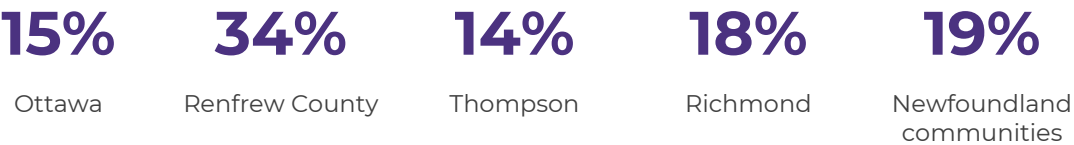
HOME OWNERSHIP



INCOME



LOCATION



HOUSEHOLD SIZE



SPECIFIC POPULATIONS BY REGION

The following table shows the proportion of specific population groups within each region in the sample.

Population Group	All respondents	Ottawa, ON	Renfrew, ON	Thompson, MB	Richmond, BC	Newfoundland communities
		Flood, Earthquake, Wildfire ¹	Flood, Wildfire	Flood, Wildfire	Flood, Earthquake	Flood
Women (n = 310)	62%	72%	65%	61%	50%	61%
Seniors 65+ (n = 161)	32%	37%↑	29%	21%↓	42%↑	33%
Indigenous (n = 71)	14%	8%	8%	20%↑	1%↓	38%↑
Low Income (n = 169)	33%	24%	39%↑	21%	21%	54%↑

¹One Ottawa community, Constance Bay, is considered a wildfire risk zone.

↑ ↓ Significantly higher or lower compared to total

SAMPLE DISTRIBUTION BY REGION

The following table shows the total sample of specific population groups within each region in the sample.

Region	All respondents (n = 500)	Women (n = 310)	Seniors 65+ (n = 161)	Indigenous (n = 71)	Low Income (n = 169)
Ottawa, ON	76	55	28	6	18
Renfrew, ON	170	110	50	14	67
Thompson, MB	71	43	15	14	15
Richmond, BC	88	44	37	1	18
Newfoundland communities	95	58	31	36	51

APPENDICES



IMAGE CREDIT:
UNSPLASH

APPENDIX A: RISK GROUPS

Region	Community	Risk Group		
		Flood	Wildfire	Earthquake
Ottawa, ON	Britannia Bay	✓		✓
	Constance Bay	✓	✓	✓
	Vanier North			✓
	Vanier South			✓
	Crystal Bay	✓		✓
	Belltown-Bayshore	✓		✓
Renfrew County, ON	Horton	✓	✓	
	Laurentian Valley	✓	✓	
	Pembroke	✓		
	Petawawa	✓	✓	
	Whitewater Region	✓	✓	
Thompson, MB		✓	✓	
Richmond, BC		✓		✓
NFLD	Stephenville (include Kippens suburb)	✓		
	Port au Port	✓		
	Flat Bay	✓		
	St. George's Ward	✓		

APPENDIX B: GLOSSARY / DEFINITIONS

Risk Group: Each community is assigned to one or more Risk Groups (Flood, Wildfire, Earthquake) based on local hazard risk. Certain questions were only asked to specific Risk Groups. See Appendix A for Risk Group categorization.

Natural Hazard: For the purposes of this report (and the survey on which it is based), a natural hazard specifically refers to flooding, wildfire, or earthquakes.

Flood: For the purposes of this report (and the survey on which it is based) *flood* specifically refers to flooding caused by extreme weather or seasonal conditions, such as overland flooding or sewage backup from storms.

Wildfire: An uncontrolled fire in an area of combustible vegetation (including forest fires); it can occur in rural and urban areas.

Earthquake: An earthquake is the shaking and vibration of the Earth's crust due to plate tectonics.

New Canadian: Any respondent who was not born in Canada. This term is used instead of *Newcomer* due to the small sample size of respondents who are recent arrivals.

Newcomer: Originally defined as a respondent not born in Canada, and in Canada for less than five years. Few completes were attained for this group, precluding further analysis in this report.

Seniors: Respondents who are 65 or older.

Women: Respondents who self-identified as women in the survey interview.

Low Income: Respondents are categorized as low income if they (1) live alone with an income of less than \$40K, or if they (2) live in a household of two or more people with a household income of less than \$70K.

Indigenous: Respondents who self-identified as First Nations, Inuk/Inuit, or Metis in the survey interview.

APPENDIX C: SURVEY QUESTIONNAIRE (English)

Awareness of Natural Hazard Risks

9. Thinking about your home, how concerned would you say you are about each of the following?

READ AND RANDOMIZE

- a) Natural hazards like floods, earthquakes, or wildfires damaging your home
- b) Crime or security issues making your neighbourhood less safe
- c) Finances or housing costs making it difficult to afford your home

Would you say you are...

- | | |
|-----------------------|------------------------------------|
| 01 Very concerned | 04 Not at all concerned |
| 02 Somewhat concerned | 99 DO NOT READ Don't know / refuse |
| 03 Not very concerned | |

10. Thinking about the area where you live, how would you rate the risk of the following hazards?

- a) Flooding caused by extreme weather or seasonal conditions, such as overland flooding or sewage backup from storms.
- b) Wildfires
- c) Earthquakes

- | | |
|-------------|---|
| 01 High | 04 No risk |
| 02 Moderate | 99 DO NOT READ Don't know / prefer not to say |
| 03 Low | |

11. Has your home ever been affected by the following hazards?

- a) Flooding, again thinking about extreme weather flooding events, not burst pipes.
- b) Wildfires
- c) Earthquakes

- | | |
|--------|---|
| 01 Yes | 99 DO NOT READ Don't know / prefer not to say |
| 02 No | |

APPENDIX C: SURVEY QUESTIONNAIRE (English)

Preparedness: Protective and Precautionary Behaviours

12. Over the past year, how many hours did you spend on preparing yourself and your household for natural hazard disasters like floods, wildfires, or earthquakes?

IF NEEDED TO PROMPT: A rough estimate of hours is fine.

ENTER Number of hours

99 **DO NOT READ** Don't know / prefer not to say

13. **ASK ALL EXCEPT WHERE NOTED** Have you or anyone in your household taken the following actions to be prepared for an emergency?

- | | |
|--|---|
| a) Written down an emergency exit or evacuation plan | d) Pulled together basic first aid supplies |
| b) ASK IF Q7 > 1 Designated a meeting place for household members if you cannot go home in the event of an emergency | e) Pulled together an emergency supply kit or contents that would last for 72-hours |
| c) Prepared a handy list of emergency contact numbers | f) Stored copies of important documents somewhere other than your home |

01 Yes

02 No

99 **DO NOT READ** Don't know / prefer not to say

14. **ASK FLOOD RISK SAMPLE** Does your home have the following flood prevention devices?

- a) A sump-pump in the basement to prevent flooding
- b) A one-way backflow valve in the basement drain to prevent flooding
- c) Shutters or other window or window well coverings to mitigate damage from storms and floods

01 Yes

02 No

APPENDIX C: SURVEY QUESTIONNAIRE (English)

15. **ASK WILDFIRE RISK SAMPLE** Have you done each of the following to protect your home from wildfires? **ASK IN ORDER, DO NOT RANDOMIZE**

- a) Removed materials that can easily ignite on or under your home for example, keeping a clean roof, eaves, and under deck
- b) Removed materials that can easily ignite 1.5 metres from around your home, for example, firewood, construction materials, and plant materials like bark or mulch
- c) Removed materials that can easily ignite between 1.5 metres to 10 metres from your home, for example mowing the lawn shorter than 10 cm and pruning branches within 2 metres of ground level

01 Yes

02 No

99 **DO NOT READ** Don't know / prefer not to say

16. **ASK EARTHQUAKE RISK SAMPLE** Does your home have the following earthquake safety measures in place?

- a) Removed old or leaning trees
- b) Reinforced large or irregular canopies or porches to prevent them from separating from the home
- c) Fastened shelving to wall
- d) Home is built on bedrock or stiff soils
- e) Secured water heaters and gas appliances with straps and break-away fittings
- f) Reinforced walls and house frames with anchor bolts, t-straps, or steel connectors

01 Yes

02 No

99 **DO NOT READ** Don't know / prefer not to say

17. Is there anything that makes it difficult for you to prepare for emergency situations? **DO NOT READ: RECORD ALL THAT APPLY**

- 01 Money / costs too much
- 02 Storage space / not enough room in the house
- 03 No support system / friends / family / nobody to call on
- 04 Haven't thought about it
- 05 Not something I worry about/risk is low
- 06 Already prepared / no need to prepare further
- 07 No time

- 08 Don't know what to do
- 09 Rent/don't own my home
- 10 Expect the government to provide help in emergencies
- 11 Expect the government to provide financial support
- 97 Other (**SPECIFY**) _____
- 98 None/no difficulties
- 99 **DO NOT READ** Don't know / prefer not to say

APPENDIX C: SURVEY QUESTIONNAIRE (English)

Self-Efficacy

19. How confident are you that you could handle an emergency situation like an earthquake, a wildfire, or a flood?

- 01 Very confident
- 02 Somewhat confident
- 03 Not very confident
- 04 Not at all confident
- 99 **DO NOT READ** Don't know / prefer not to say

Information and Messaging

21. In the past year, have you looked for information about preparedness for floods, wildfires, and/or earthquakes in your area?

- 01 Yes
- 02 No
- 99 **DO NOT READ** Don't know / prefer not to say

22. **IF Q24 = 01** Where did you go to find this information?

SELECT ALL FROM PRE-CODED LIST, DO NOT READ

- | | |
|--|---|
| 01 Newspaper stories | 12 Social media |
| 02 Newspaper ads | 13 Workshops or meetings, either online or in-person |
| 03 Television news | 14 Communicating with a person one-on-one, either by phone, online or in-person |
| 04 Television ads | 15 Schools |
| 05 Radio news | 16 Email subscriptions |
| 06 Radio ads/media | 17 Mail |
| 07 Government website / Government Internet source | 18 Outdoor advertisements like billboards and signs |
| 08 Websites/ Internet (other/unspecified) | 98 Other (SPECIFY) _____ |
| 09 Other government source | 99 DO NOT READ Don't know / prefer not to say |
| 10 Print materials, pamphlets, fact sheets/brochures | |
| 11 Books | |

APPENDIX C: SURVEY QUESTIONNAIRE (English)

Social Networks and Relationships

24. How many people could you turn to among your relatives, social group, neighbourhood, or broader community if you needed help during an emergency? Help can include emotional support, physical injury, financial assistance, to bring you supplies, bring you medication, or provide an alternative place to stay in case of a natural hazard disaster, etc.

- 01 Many
- 02 Some

- 03 A few
- 04 None
- 99 **DO NOT READ** Don't know / prefer not to say

Demographics

The following are a few questions about you and your household, for statistical purposes only. Please be assured all of your answers will remain completely confidential.

27. Do you own or rent your primary residence?

- 01 Own
- 02 Rent

- 03 Other **(CODE AS OTHER IF THEY SAY THEY LIVE WITH RELATIVES, RESIDENCE PAID FOR BY WORK, NO FIXED ADDRESS, ETC.)**
- 99 **DO NOT READ** Don't know / prefer not to say

28. **ASK ALL** Prior to buying or renting your home, did you consider the risk of natural hazards like flood, wildfires, or earthquakes? **[INCLUDE WITH AWARENESS QUESTIONS IN ANALYSIS PLAN]**

- 01 Yes
- 02 No
- 99 **DO NOT READ** Don't know / prefer not to say

APPENDIX C: SURVEY QUESTIONNAIRE (English)

33. In which language would you prefer that information about emergency preparedness for floods, wildfire, earthquakes was communicated to you?

DO NOT READ LIST

01 English

02 French

97 Other (SPECIFY BUT DO NOT CODE)

99 DO NOT READ Don't know / prefer not to say

34. This completes the survey. In case my supervisor would like to verify that I conducted this interview, may I please have your first name?

First Name: _____

99 DO NOT READ Refused / Prefer not to say

35. RECORD POSTAL CODE / COMMUNITY

APPENDIX D: SURVEY QUESTIONNAIRE (French)

Sensibilisation aux risques de catastrophes naturelles

9. Pensez à votre domicile; dans quelle mesure chacune des possibilités suivantes vous préoccupe-t-elle?

LIRE DANS UN ORDRE ALÉATOIRE

- a) Une catastrophe naturelle (p. ex., inondations, tremblements de terre ou feux de forêt) endommage votre domicile
- b) Le crime ou des problèmes de sécurité rendent votre quartier moins sûr
- c) Des difficultés financières ou les coûts d'habitation limitent votre capacité à payer votre logement

Diriez-vous que cela...

- 01 – Vous préoccupe énormément
- 02 – Vous préoccupe plus ou moins
- 03 – Vous préoccupe très peu

- 04 – Ne vous préoccupe pas du tout
- 99 – NE PAS LIRE Je ne sais pas/je refuse de répondre

10. Pensez à la région où vous demeurez; comment décririez-vous le niveau de risque de chacune des catastrophes suivantes?

- a) Inondations causées par des phénomènes météorologiques ou des conditions saisonnières extrêmes (p. ex., débordements d'eau ou déversements d'égouts à la suite de tempêtes)
- b) Feux de forêt
- c) Tremblements de terre

- 01 – Risque élevé
- 02 – Risque modéré
- 03 – Risque faible

- 04 – Risque nul
- 99 – NE PAS LIRE Je ne sais pas/je préfère ne pas répondre

11. Votre domicile a-t-il déjà été touché par les catastrophes suivantes?

- a) Inondations – encore une fois, dans le cadre de précipitations extrêmes, et non de bris d'aqueduc
- b) Feux de forêt
- c) Tremblements de terre

- 01 – Oui
- 02 – Non
- 99 – NE PAS LIRE Je ne sais pas/je préfère ne pas répondre

APPENDIX D: SURVEY QUESTIONNAIRE (French)

Degré de préparation : Mesures de protection et de sécurité

12. Au cours de la dernière année, combien d'heures avez-vous consacrées à préparer votre ménage et à vous préparer à la survenue de catastrophes naturelles (p. ex., inondations, feux de forêt ou tremblements de terre)?

PISTE DE RELANCE, SI NÉCESSAIRE : Vous pouvez donner un nombre d'heures approximatif.

INSCRIRE Nombre d'heures

99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

13. **POSER À TOUS, SAUF SI INDICATION CONTRAIRE** Est-ce qu'une personne de votre ménage ou vous-même avez pris les précautions suivantes pour vous préparer à une urgence?

- a) Mettre par écrit un plan d'évacuation d'urgence
- b) **POSER SI Q7 > 1** Convenir d'un point de rassemblement pour les membres de votre ménage au cas où vous ne puissiez pas accéder à votre domicile lors d'une urgence
- c) Préparer une liste aide-mémoire des numéros à composer en cas d'urgence
- d) Assembler une trousse de premiers soins rudimentaire
- e) Assembler des fournitures ou des articles d'urgence pouvant subvenir à vos besoins pendant 72 heures
- f) Ranger des copies de vos documents importants ailleurs qu'à votre domicile

01 – Oui

02 – Non

99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

14. **POSER À L'ÉCHANTILLON RISQUE D'INONDATION** Votre domicile est-il muni de ces dispositifs de protection contre les inondations?

- a) Une pompe de vidange au sous-sol
- b) Un clapet de non-retour dans le drain au sous-sol
- c) Des volets, des puits de fenêtre et des couvre-puits pour limiter les dommages découlant des tempêtes et des inondations

01 – Oui

02 – Non

97 – **NE PAS LIRE** Je n'ai pas de sous-sol

99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

APPENDIX D: SURVEY QUESTIONNAIRE (French)

15. **POSER À L'ÉCHANTILLON RISQUE DE FEUX DE FORÊT** Avez-vous pris les mesures suivantes pour protéger votre domicile contre les feux de forêt?

LIRE DANS L'ORDRE INDIQUÉ; NE PAS RÉPARTIR ALÉATOIREMENT

- a) Retirer les matériaux sur ou sous votre domicile qui peuvent facilement prendre en feu (p. ex., dégager votre toit, votre avant-toit et le dessous de votre patio ou balcon)
- b) Retirer les matériaux pouvant facilement prendre feu dans un rayon de 1,5 mètre autour de votre domicile (p. ex., bois de chauffage, matériaux de construction et débris végétaux comme l'écorce ou le paillis)
- c) Retirer les matériaux pouvant facilement prendre feu dans un rayon de 1,5 à 10 mètres autour de votre domicile (p. ex., tondre le gazon à une hauteur de moins de 10 cm et couper les branches à moins de 2 mètres du sol)

01 – Oui

02 – Non

99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

16. **POSER À L'ÉCHANTILLON RISQUE DE TREMBLEMENTS DE TERRE** Avez-vous mis en place les mesures de sécurité suivantes en cas de tremblement de terre à votre domicile?

- | | |
|---|---|
| a) Retirer les arbres vieux ou tombants | e) Fixer les chauffe-eau et appareils au gaz à l'aide de courroies et d'ancres |
| b) Renforcer les auvents ou les porches larges ou irréguliers pour éviter qu'ils se détachent de votre domicile | f) Renforcer les murs et la charpente de votre domicile à l'aide de boulons d'ancrage, de sangles en T ou d'équerres en acier |
| c) Fixer les étagères au mur | |
| d) Vérifier que votre domicile est construit sur une assise rocheuse ou un sol rigide | |

01 – Oui

02 – Non

99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

APPENDIX D: SURVEY QUESTIONNAIRE (French)

17. Y a-t-il quoi que ce soit qui nuit à vos efforts de préparation aux situations d'urgence?

NE PAS LIRE : INSCRIRE TOUTES LES RÉPONSES QUI S'APPLIQUENT

- 01 – Argent/coûts trop élevés
- 02 – Espace de rangement/manque d'espace dans le domicile
- 03 – Pas de réseau de soutien/d'amis/de famille/personne à contacter
- 04 – N'y ai pas pensé
- 05 – N'est pas une chose dont je me préoccupe/risque faible
- 06 – Déjà bien préparé(e)/pas besoin d'en faire plus
- 07 – Pas le temps

- 08 – Ne sait pas quoi faire
- 09 – Locataire/pas propriétaire du domicile
- 10 – Compte sur le gouvernement pour obtenir de l'aide en cas d'urgence
- 11 – Compte sur le gouvernement pour obtenir du soutien financier
- 97 – Autre (**VEUILLEZ PRÉCISER**) _____
- 98 – Rien/aucun obstacle
- 99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

Capacité/autonomie

19. Dans quelle mesure avez-vous confiance en votre capacité d'affronter une situation d'urgence comme un tremblement de terre, un feu de forêt ou une inondation?

- 01 – Grandement confiance
- 02 – Plutôt confiance
- 03 – Pas très confiance
- 04 – Pas du tout confiance
- 99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

APPENDIX D: SURVEY QUESTIONNAIRE (French)

Information et messages

21. Au cours de la dernière année, avez-vous recherché de l'information sur la préparation aux inondations, aux feux de forêt ou aux tremblements de terre dans votre région?

- 01 – Oui
- 02 – Non
- 99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

22. **SI Q24 =01** Où avez-vous obtenu ces informations?

SÉLECTIONNER TOUTES LES RÉPONSES À PARTIR DE LA LISTE PRÉDÉFINIE; NE PAS LIRE

- | | |
|--|---|
| 01 – Publications dans les journaux | 12 – Médias sociaux |
| 02 – Publicités dans les journaux | 13 – Ateliers ou rencontres en ligne ou en personne |
| 03 – Nouvelles à la télévision | 14 – Communication individuelle avec quelqu'un par téléphone, en ligne ou en personne |
| 04 – Publicités à la télévision | 15 – Écoles |
| 05 – Nouvelles à la radio | 16 – Abonnement aux courriels |
| 06 – Publicités à la radio/radiodiffusions | 17 – Poste |
| 07 – Sites Web/ressources en ligne du gouvernement | 18 – Publicités à l'extérieur (p. ex., panneaux d'affichage ou affiches) |
| 08 – Sites Web/ressources en ligne (autres/non précisé) | 98 – Autre (VEUILLEZ PRÉCISER) _____ |
| 09 – Autre ressource du gouvernement | 99 – NE PAS LIRE Je ne sais pas/je préfère ne pas répondre |
| 10 – Documents imprimés, dépliants, feuillets ou brochures | |
| 11 – Livres | |

Réseaux sociaux et relations

24. Dans votre famille, entourage, quartier ou collectivité, vers combien de personnes pourriez-vous vous tourner lors d'une situation d'urgence? Ce peut être pour obtenir du soutien émotionnel, des soins médicaux, un soutien financier, la livraison de fournitures ou de médicaments, un hébergement en cas de catastrophe naturelle, etc.

- 01 – Un grand nombre
- 02 – Un certain nombre
- 03 – Un petit nombre
- 04 – Aucune personne
- 99 – **NE PAS LIRE** Je ne sais pas/je préfère ne pas répondre

APPENDIX D: SURVEY QUESTIONNAIRE (French)

Données démographiques

Les questions suivantes portent sur votre ménage et vous-même, et vous sont posées à des fins statistiques uniquement. Sachez que toutes vos réponses demeureront entièrement confidentielles.

27. Êtes-vous propriétaire ou locataire de votre résidence principale?

- 01 – Propriétaire
- 02 – Locataire

- 03 – Autre [CODER COMME AUTRE SI RÉSIDE CHEZ DES PROCHES, LOGEMENT FOURNI PAR L'EMPLOYEUR, PAS D'ADRESSE FIXE, ETC.]
- 99 – NE PAS LIRE Je ne sais pas/je préfère ne pas répondre

28. POSER À TOUS Avant d'acheter ou de louer votre domicile, avez-vous pris en considération le risque de catastrophes naturelles (p. ex., inondations, feux de forêt ou tremblements de terre)? [DANS LE PLAN D'ANALYSE, AJOUTER AUX QUESTIONS SUR LA SENSIBILISATION]

- 01 – Oui
- 02 – Non
- 99 – NE PAS LIRE Je ne sais pas/je préfère ne pas répondre

33. Dans quelle langue préféreriez-vous recevoir de l'information sur la préparation aux urgences comme les inondations, les feux de forêt ou les tremblements de terre?

NE PAS LIRE LA LISTE

- 01 – Anglais
- 02 – Français

- 97 – Autre [INSCRIRE, MAIS NE PAS CODER]
- 99 – NE PAS LIRE Je ne sais pas/je préfère ne pas répondre

34. Voilà qui met fin au sondage. Au cas où mon/ma supérieur(e) voudrait vérifier que j'ai bien effectué cet entretien, puis-je avoir votre prénom?

Prénom : _____

99 – NE PAS LIRE Refus/je préfère ne pas répondre

35. INSCRIRE LE CODE POSTAL/NOM DE LA COMMUNAUTÉ

THANK YOU

ENVIRONICS
RESEARCH

