Woodlot owner survey 2

2021 report

Climate Change Adaptation Project

ABSTRACT

This is the 2nd survey to assess understanding and capacity of woodlot owners to respond to and manage their woodlots in conditions generated by a changing climate.

NBFWO staff

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Introduction

The New Brunswick Federation of Woodlot Owners (NBFWO) distributed, through its seven marketing boards, email and face-to-face invitations to complete the second Woodlot Owner Climate Change Adaptation Capacity survey from March to June 2021. Respondents could complete the survey in English or French via Survey Monkey or paper. The invitations generated a convenience sample of 178 completed surveys.

The purpose of the first survey in 2019 was to assess understanding and capacity of woodlot owners to respond to and manage their woodlots in conditions generated by a changing climate. The second survey in 2021 was to update the data and compare how we are reaching our target audience and if there has been any change to the capacity of the woodlot owners. While most of the questions remained the same for the second survey, based on what was learned from the previous survey we updated some of the questions and added a few more to reflect different topics that came up in the comments (e.g. carbon storage and sequestration).   If the data collected on topics discussed in both surveys did not differ greatly from the first survey report, it will not be covered in depth here, but rather we will highlight some of the differences found between the two surveys.

The surveys are part of a three-year project, funded by Natural Resources Canada's Building Regional Adaption Capacity and Expertise (BRACE) program and the Government of New Brunswick's Environmental Trust Fund. The goal of the project is to increase the capacity of New Brunswick woodlots owners to adapt to climate change. The surveys provide data which NBFWO and its project partners can use to assess changes in understanding, capacity and management actions, over the project's three-year time horizon. Additionally in the future the survey results will also continue to guide the NBFWO in designing workshops, webinars, silviculture tools content, and approaches to updating silviculture management plans.

Demographics

Only 19% of survey respondents had participated in the first survey, however the demographics data obtained through both surveys was relatively similar. Survey respondents are still predominately male, albeit with an increase in overall age. More retired people chose to fill out the survey in 2021, 38% of respondents compared to 19% previously.   Income slightly skewed to wealthier respondents in both surveys; however a significant number of people chose not to answer that question.

How do you identify?	SURVEY 1 - 2019	SURVEY 2 - 2021
Male	78%	89%
Female	10%	19%
Other	0%	1%

Age	SURVEY 1 - 2019	SURVEY 2 - 2021
34 and under	16%	9%
35 – 44	22%	12%
45 – 54	22%	17%

| 55 – 64 | 21% | 29% |
| 65 and over | 17% | 33% |

Income	SURVEY 1 - 2019	SURVEY 2 - 2021
Less than $50,000	25%	25%
$50,000 - $100,000	32%	38%
Over $100,000	30%	20%
Prefer not to answer	11% *	17%

* 13% if you include people that skipped the question.

Woodlot Owner Goals

Woodlot owners also have a variety of goals for their land (Figure 1 & Figure 2). Seventy-six per cent want to use their woodlot for recreation, 67% want a woodlot that has biodiversity, and 56% want to "let nature be nature". Carbon sequestration and storage was not addressed in the first survey in 2019, but 44% of respondents indicated that it is a priority to them.
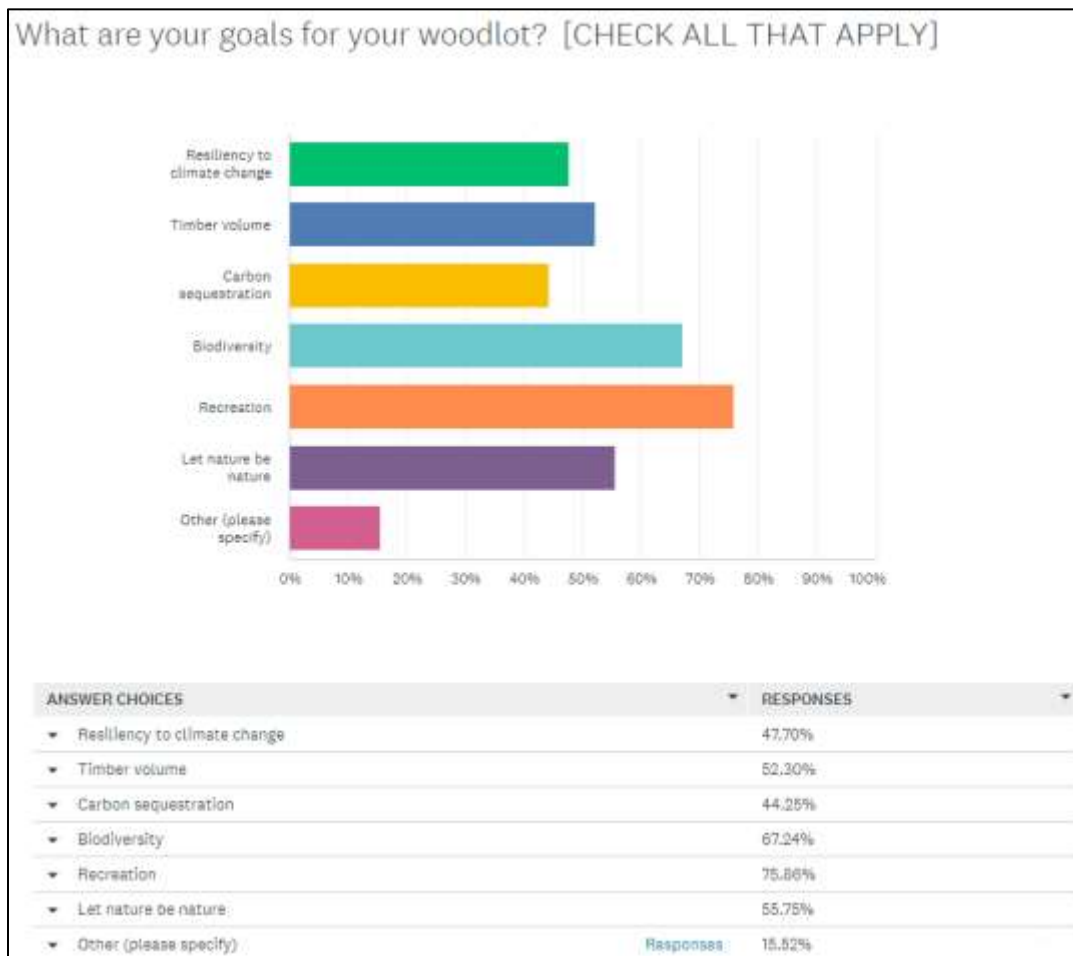

Figure 1. Woodlot owners' goals for their woodlots are varied.

Eighty-five per cent of respondents (Figure 2) say that it is very important to maintain a healthy forest, and also to provide wildlife and plant habitat, 83% say the same for water quality, and 82% to protect the forest for future generations. Eighty-eight per cent say it is very or somewhat important to protect forests from forest fires, 82% say the same for protecting forests from insect pests and diseases, and 90% say it is very or somewhat important for both being able to access meat, firewood, berries, traditional medicines, and other non-timber products, and to conserve forests to absorb carbon (which happens as plants and trees grow). Thirty-eight per cent say it is not at all important or somewhat not important to ensure that wood supply for the forest industry remains at current levels, and 19% say the same to create economic wealth and jobs.
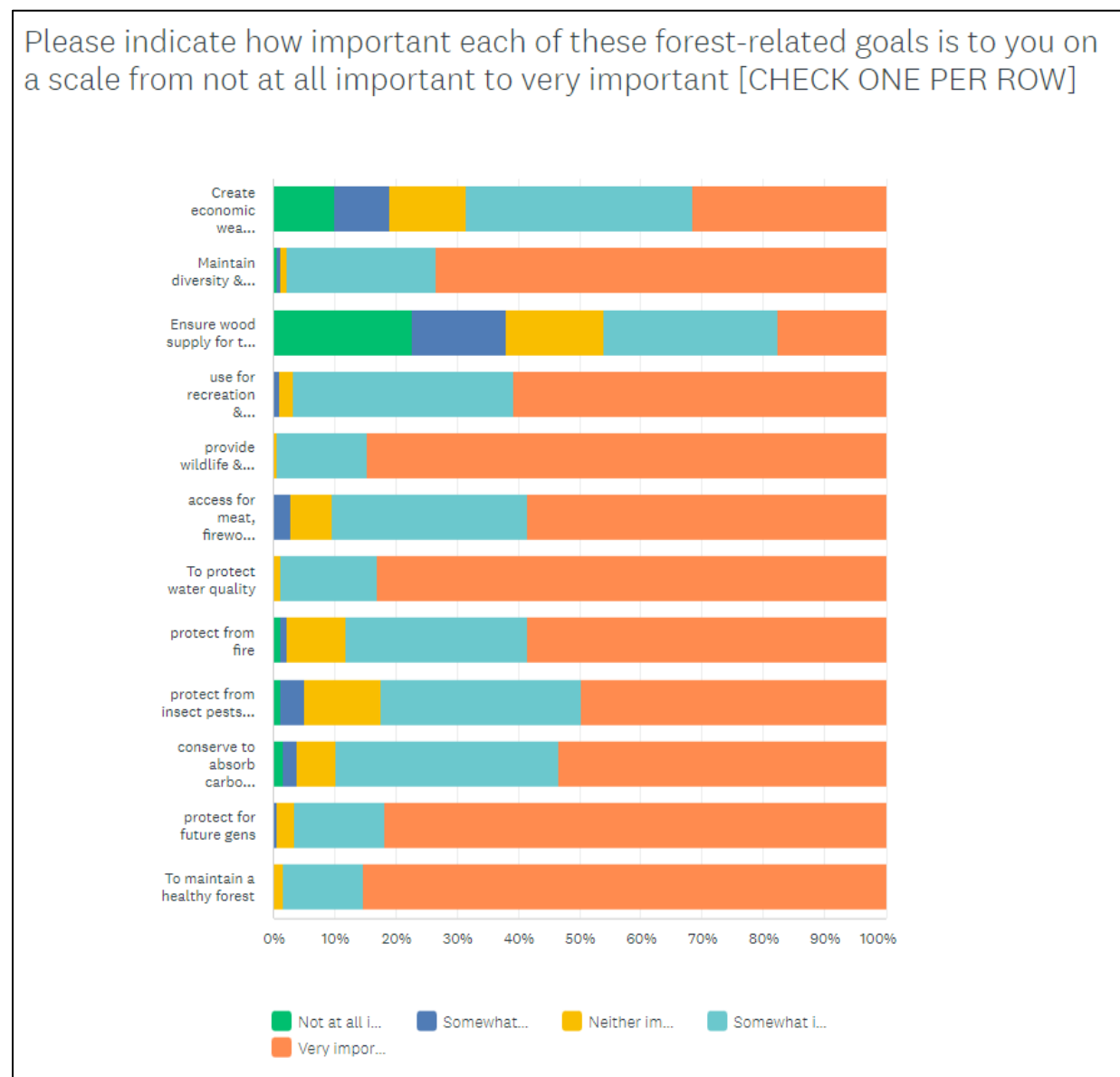

Figure 2. *Additional goals woodlot owners have for their land.*

As mentioned above, carbon sequestration and storage was not addressed in the first survey, however when asked, 78% of respondents (Figure 3) indicated that they would be interested in managing their woodlot toward that goal. Additionally (Figure 4), only 10% of respondents were not interested in either joining with a larger collaborative of woodlot owners (40%), or in learning more about it (49%), to be eligible for carbon credits.
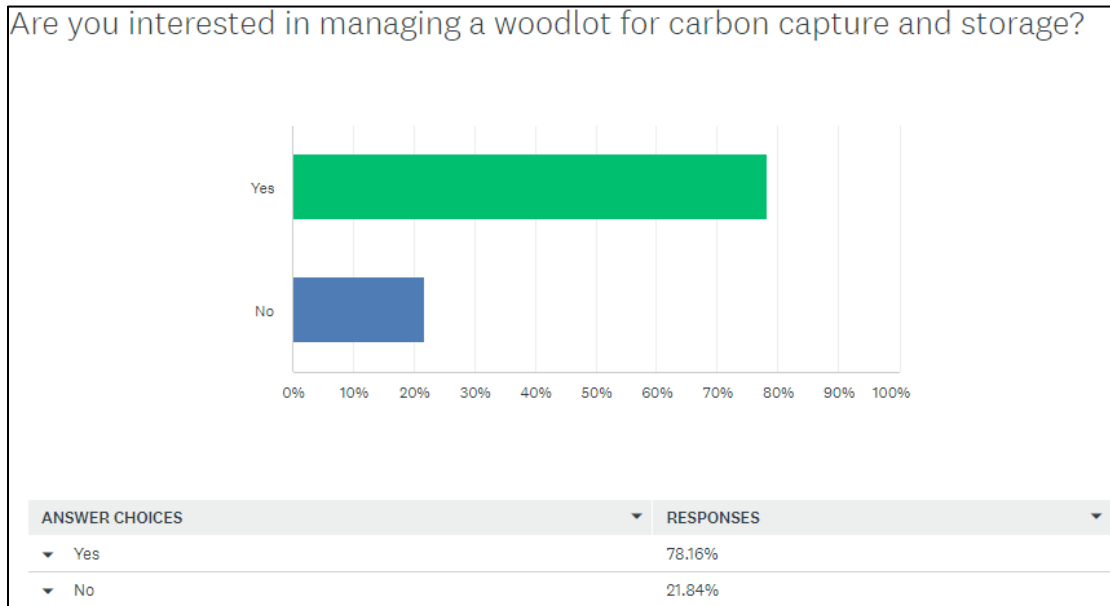

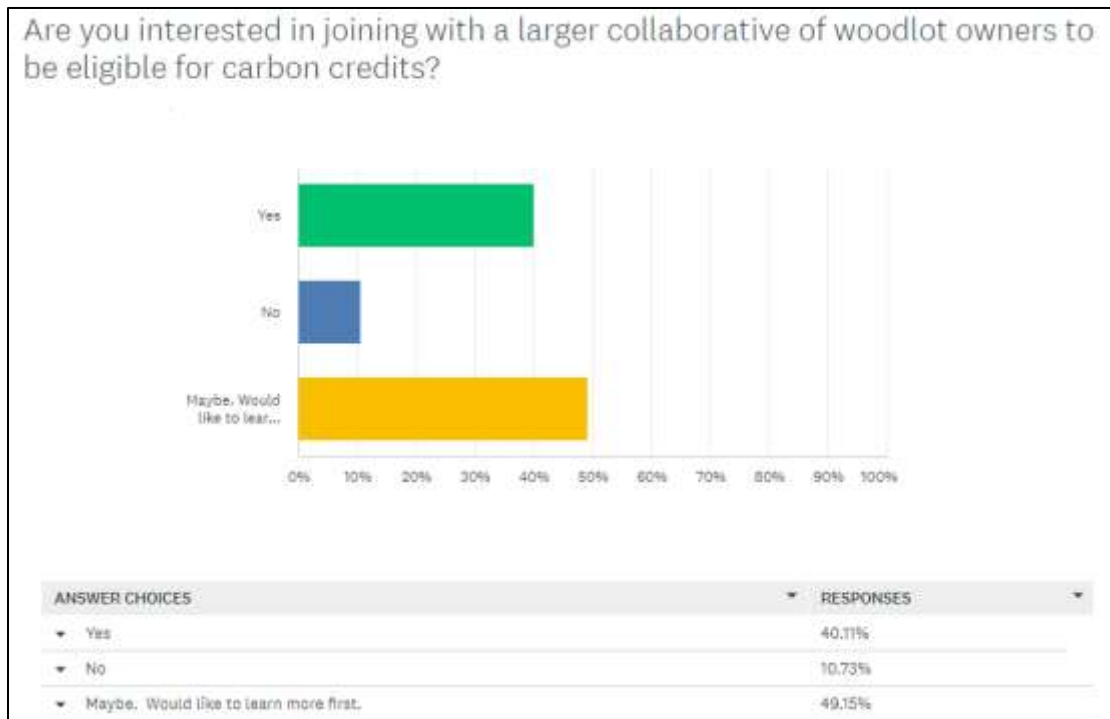*Figure 3*. *Carbon sequestration and storage is a new topic of interest to woodlot owners*

Figure 4. *There is interest in learning more about carbon credits.*

Climate change

A strong majority of woodlot owners are concerned about climate change (Figure 5). Just over 65% (68% in 2019) of respondents are very concerned or concerned; 17% (18% in 2019) are somewhat concerned, while 13% (10% in 2019) are not too concerned and 4% (both surveys) are not at all concerned.

How concerned are you about climate change? [CHECK ONE]

ANSWER CHOICES	RESPONSES
Not concerned at all	4.49%
Not too concerned	13.48%
Somewhat concerned	17.42%
Concerned	32.58%
Very concerned	32.02%
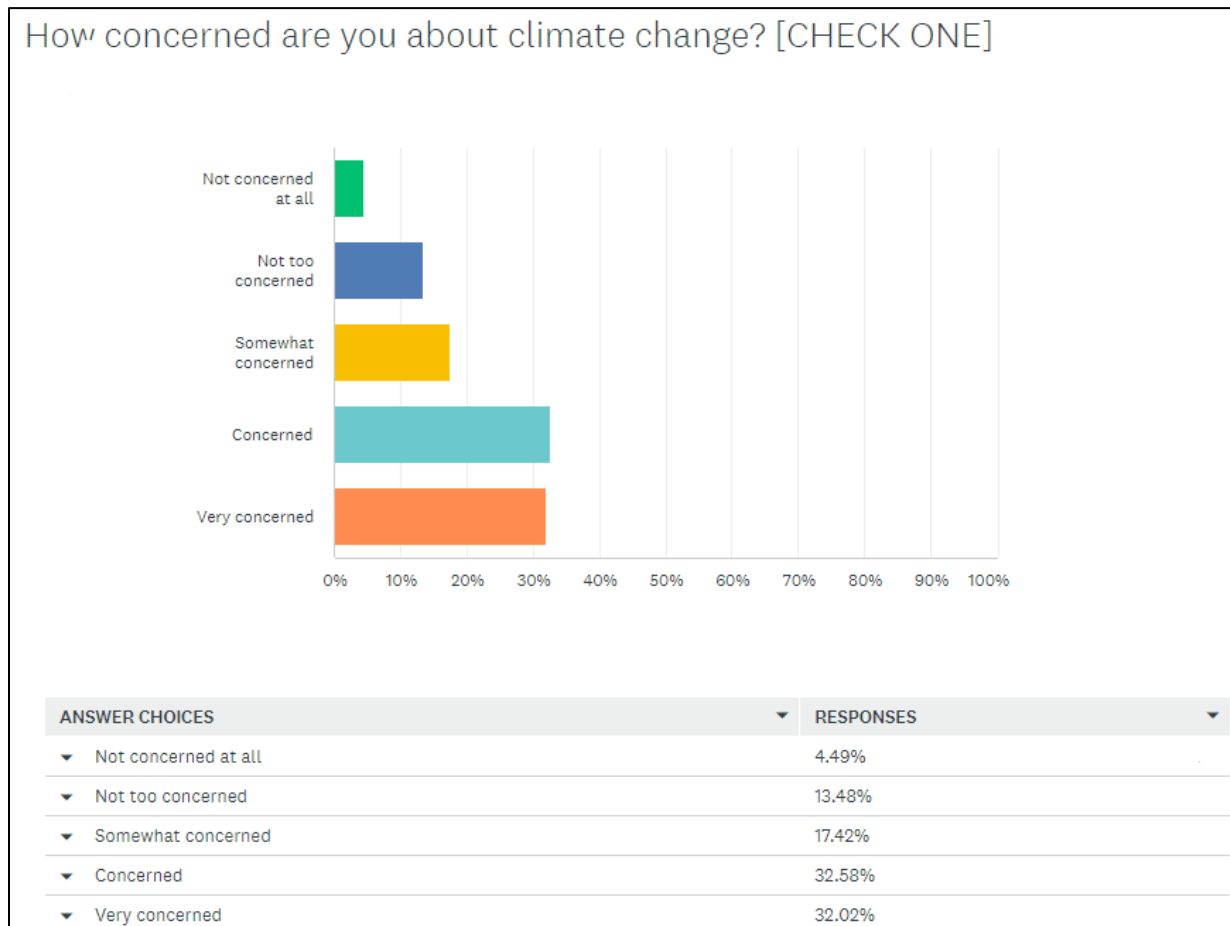
Figure 5. Woodlot owners are concerned about climate change.

An even stronger majority of woodlot owners who completed the survey believe climate change is already affecting New Brunswick forests (Figure 6) 71% (75% 2019), with 11% (12% 2019) disagreeing, and 19% (13% 2019) not sure. When asked whether climate change will affect New Brunswick forests in the future, 79% (82% 2019)say yes, while seven per cent say no (both surveys), and 14% (10% 2019)are not sure.
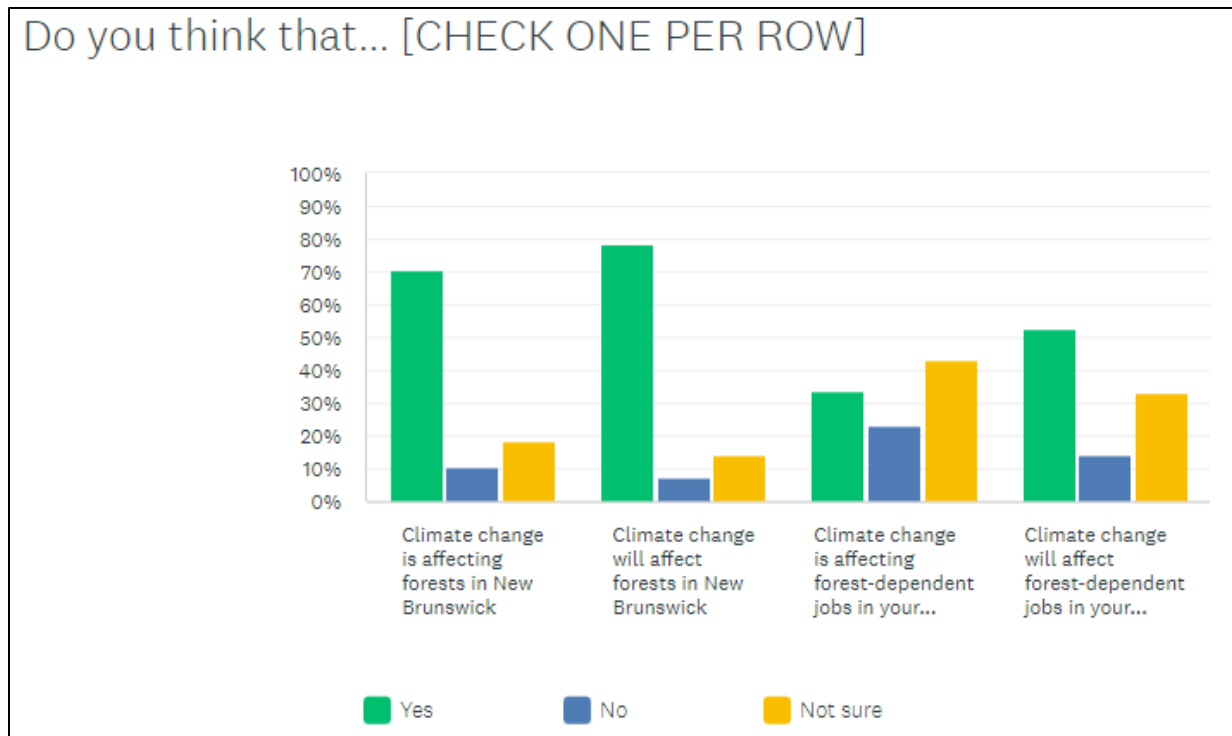
Figure 6. *Owners' thoughts on climate change affecting NB forests and jobs.*

Survey respondents are less certain about climate change effects on forest-dependent jobs, with 34% (39% 2019)believing job-related impacts are happening now, 43% (35% 2019)not sure, and 23% (25% 2019)saying climate change is not currently affecting forest-dependent jobs. There is more confidence that climate change will affect forest-dependent jobs in the future. Almost 53% (64% 2019) of respondents say climate change will affect forest-dependent jobs in the future, while 33% (25% 2019) are not sure, and 14% (10% 2019) say climate change will not affect forest-dependent jobs in the future.

When asked about their opinions about changes to the number of extreme weather events in their communities over the past 10 years, almost two-thirds (63%) cite 'wind, causing damage tree blow down or property damage', followed by heat waves (56%). Figure 7 (next page) also shows that nearly an equal number of woodlot owners believe there has been increase (22%) and decrease (25%) in rainfall.
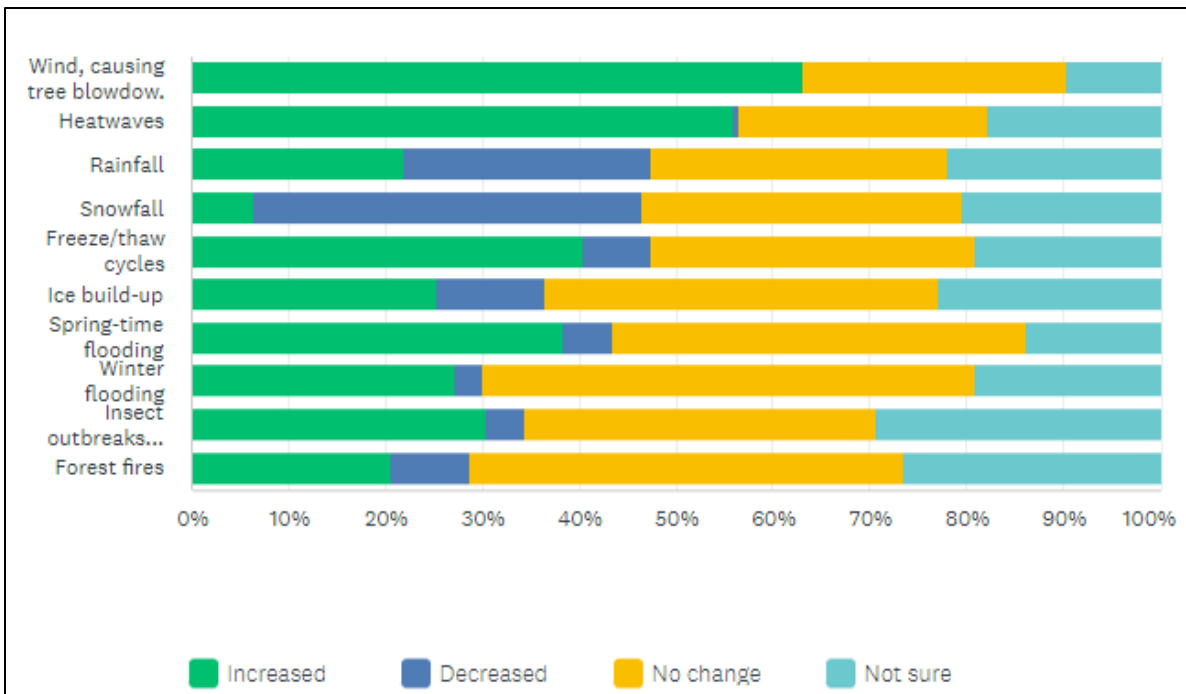
Figure 7. *Wind, causing tree blow-down and property damage most cited change.*

These quotes provide a flavour of woodlot owner experiences and concerns:

> *"The South Tay River, I have 4.5 kms of river frontage and I have had more damage in the last decade compared to the previous 37 years."*

> *"Verglas dans les plantations."*

> *"Blown down marketable timber forcing clean up and further harvest of at risk trees."*

> *"The neighbour clear cut and now my trails are flooding and the trees are all falling over. The dry summers are super hard on the trees, followed by heavy rain and wind they are being knocked down much more. Especially the fir."*

> *"Wind uprooted trees, drought is killing new regeneration, and ice storms are breaking new branches and newer trees."*

> *"Drought last summer kept closing the woods due to fire risks."*

> *"Mortalité de semis (plantation), chablis, dommage au réseau routier."*

> *"Didn't feel comfortable in the woods last summer because it was extremely dry! I've harvested more windfalls for fire wood in the last few years."*

Windstorms have had the greatest influence on how woodlot owners manage their woodlot 57% (up from 48% 2019), (Figure 8), followed by ice storms for 35% (same for 2019), and drought for 30%.

Figure 8. Windstorms have had the greatest influence on how woodlot owners manage.

Climate Change Knowledge

Only 60% (down from 68% 2019) of survey respondents understand that the processes leading to global warming involve carbon-based gases trapping heat at the Earth's surface. Twenty-eight per cent (up from 22% 2019) incorrectly identify the process as letting more of the sun's heat into the Earth's atmosphere through a thinner ozone layer, and 26% (up from only 6% in 2019) are not sure. Seventeen per cent of respondents identify chemical reactions using up the air's oxygen and pesticides changing the chemical makeup of the air.

When asked what happens to precipitation as global temperature rises, 27% (down from 46% 2019) correctly say average precipitation increases, while 33% (25% 2019) say it decreases (this can be true in some locations, but globally average precipitation is increasing).   Thirty-five per cent are unsure.

It is a possibility that this decrease in knowledge of how global warming and climate change process occur could be attributed to the increase in the average age of the respondents between the two surveys.

Managing for Climate Change

Critical to this climate change adaptation capacity-building project is understanding woodlot-owner readiness to adjust management, operating or silviculture plans. Figure 9 summarizes results for this question. Twenty-eight per cent of survey respondents say they consider climate change when preparing or updating their private woodlot management or operating plan/or silviculture plan (up from 21% in 2019), 32% say they have not (same for both surveys). Eleven per cent are thinking about it, but are not sure how to proceed (down from 16% 2019), while 6% would do it if there was guidance on how to do it (down from 10% 2019). Another 10 per cent say they would do it if provincial silviculture funding supported it (same both surveys).
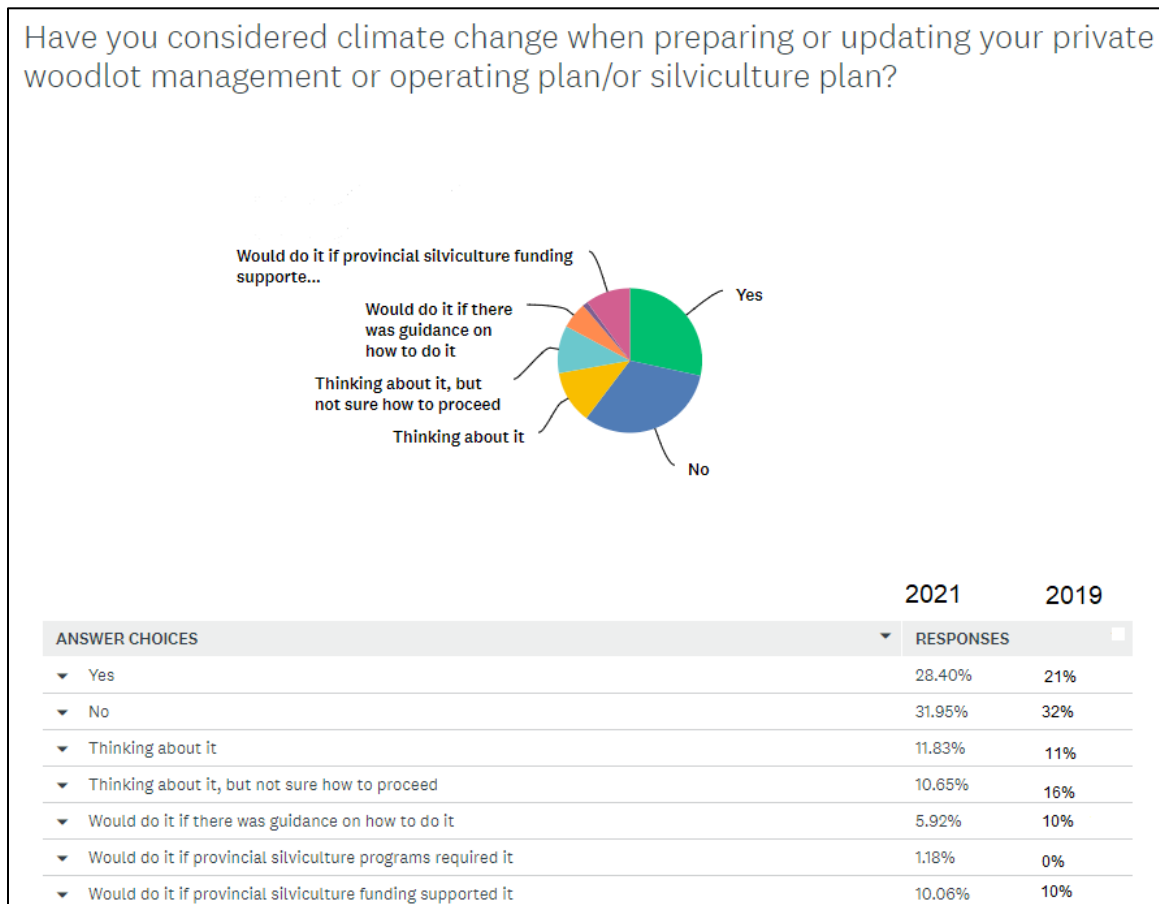

Have you considered climate change when preparing or updating your private woodlot management or operating plan/or silviculture plan?

ANSWER CHOICES	2021 RESPONSES	2019
Yes	28.40%	21%
No	31.95%	32%
Thinking about it	11.83%	11%
Thinking about it, but not sure how to proceed	10.65%	16%
Would do it if there was guidance on how to do it	5.92%	10%
Would do it if provincial silviculture programs required it	1.18%	0%
Would do it if provincial silviculture funding supported it	10.06%	10%

Figure 9*. Proportion of woodlot owners considering climate change in woodlot management plans.*

These results are encouraging, suggesting almost 40% of respondents are open to incorporating climate change into woodlot management efforts (approximately the same as 2019), with the kind of support being developed as part of this NBFWO project. It is also likely that the 28% (up from 21% 2019) who say they already incorporate climate change into their woodlot management will also find the resources and support helpful to their efforts. This suggests an engagement audience of over 60 per cent of woodlot owners.

When asked what they would do to manage for climate change, 71% (up from 64% 2019) say that it is important or very important to manage to diversify age class and 70% (62% 2019) say the same about increasing selective logging. Two-thirds (66%) believe it is important or very important increase riparian buffers (up from 40% 2019), 60% to increase canopy cover, and 69% to manage for fire resistance.

Critical to increasing capacity of woodlot owners to adapt to climate change is reaching them. Sixteen per cent of respondents had attended a NBFWO climate adaptation project event between the beginning of the project in 2019 and when they responded to the survey (this included webinars and workshops).   A potential barrier to attending in-person events would be the COVID-19 pandemic. An interesting observation to note is that attendance at NBFWO virtual webinars increased with each event, however, that does not seem to be reflected in the number of woodlot owners that responded to the 2021 survey.

Awareness of Forest Health Issues in New Brunswick

Fifty-nine per cent (up from almost half in 2019) of the woodlot owners say they are very aware of current conversations about herbicide use in forestry; 44% (45% 2019) say the same about tree species and forest composition changes due to forest management, and 45% (40% 2019) are very aware of degradation of forest habitat (Figure 10).

Woodlot owners are least aware of Hemlock Woolly Adelgid (16% very aware), a relatively new issue in New Brunswick, with 28% not at all aware, 17% not very aware. This is a slight improvement from the 2019 survey where 32% selected not at all aware and 23% not very aware. With respect to carbon-induced changes to demand for forest products, 11% are not at all aware (same as 2019), but there was improvement from 31% not very aware in 2019 down to 11%. Fifty-nine per cent of woodlot owners (56% 2019) are somewhat aware or aware of ice damage to hardwood tree species. Fifty-two per cent (down from 59% 2019) say the same about changes in or level of forest fire risks; and 55 per cent (same as 2019) are somewhat aware or aware of changes over time in the number or reach of invasive tree species.
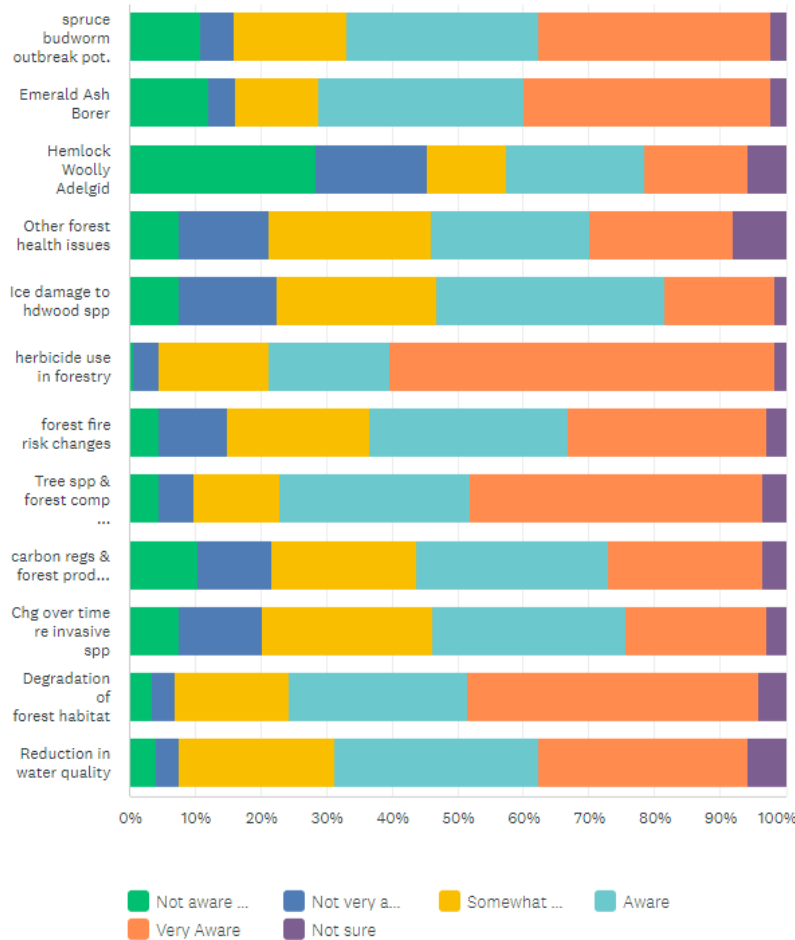
Figure 10. *Awareness of NB forest issues.*

Values, beliefs, and Interaction with the Land

Several survey questions measured forest values, as well as activities that respondents engage in their own or provincial forests. New Brunswick woodlot owners answering the survey feel strongly (98%) that it is important to maintain the forests for future generations (80% strongly agree, 18% agree). Ninety-five per cent believe that forests let us feel close to nature (63% strongly agree, 32% agree), that forests give us a sense of peace and well-being (73% strongly agree, 22% agree) and that it is important that forests exist in my province (77% strongly agree, 18% agree). Eighty-four per cent believe that forests rejuvenate the human spirit (43% strongly agree, 41% agree).

We asked woodlot owners to indicate the types of forests in New Brunswick they spend time in during a typical year. Responses show strong levels of interaction with provincial forests. The numbers in brackets below are from the 2019 survey for comparison.

- 96% (88% 2019) visit their own forested lands;
- 63% (67%) visit other crown lands;
- 56% (62%) spend time during the year in provincial parks or protected areas;
- 40% (47%) spend time in land owned by forest companies;
- 37% (42%) spend time in forests within city limits;
- 40% (37%) visit Kouchibouguac or Fundy National Parks; and
- 19% (31%) visit forests but are not sure who owns them.

Those respondents who indicated "other" say they spend time on friends and family's land, Nature Trust properties, and other nature preserve areas.

New Brunswick woodlot owners also enjoy outdoor recreational activities, with,

- 90% (88% 2019) walking and hiking in provincial forests during a typical year;
- 62% (69%) visiting a camp or a cottage;
- 51% (63%) canoeing/kayaking/boating;
- 59% (64%) skiing or snowshoeing;
- 53% (58%) fishing;
- 50% (59%) camping;
- 54% (57%) hunting and trapping;
- 56% (49%) four-wheeling/ATV'ing;
- 39% (49%) picnicking;
- 38% (37%) bird watching;
- 26% (31%) in biking; and
- 25% (28%) snowmobiling.

Other activities noted by woodlot owners, include cutting wood, foraging, dog sledding, horseback riding, and off-roading with their Jeep.

When asked which forest products woodlot owners use in a household during a typical year (bought, are given or harvest), they say they use:

- 89% Firewood (87%);
- 81% Food products (78%, e.g., mushrooms, berries, or fiddleheads);
- 70% Maple products (75%, e.g., syrup, candy);
- 63% Christmas trees, fir tips or pine boughs (69%);
- 60% Fish (64%);
- 73% Saw logs or other wood products (63%);
- 55% Catch/eat small game (e.g., rabbits, partridge, 51%);
- 53% Big game (e.g., moose, deer, bear, 52%);

- 41% Collect material for handicraft products (44%);
- 31% Collect medicinal items (e.g. Chaga, ground hemlock, 38%); and
- 7% Furbearers (mink, beaver, 11%).

Woodlot owners also say they collect blueberries and use tissue and toilet paper from forest products.

Almost a third (31%)of woodlot owners (33% in 2019) answering the survey own 100 to less than 250 acres (40 to 101 hectares), while 23% (25% 2019) own between 50 to less than 100 acres (20 to 40 hectares). Fourteen per cent (12% 2019) own between 10 and less than 50 acres (4 to 20 hectares), while 27% (22% 2019) own 250 or acres (101 or more hectares).

Forty-four per cent are familiar with land conservation easements, 33% say no, and 23% are not sure. These are very similar to the numbers from the 2019 survey (44% yes, 35% no, 21% not sure). When asked if they would be interested in protecting their land with a conservation easement if allowed to harvest wood yet protect the woodlot for future generations, the results were again very similar to the 2019 survey; 40% said yes, 18% said no, and 42% not sure, compared to 38% yes, 15% no, and 43% are not sure.

Conclusion

The purpose of the surveys was to assess understanding and capacity of woodlot owners to respond to and manage their woodlots in conditions generated by a changing climate. The 2019 survey respondents helped establish a baseline against which project partners could assess changes in understanding, capacity and management actions, over the project's three-year time horizon. This second survey allowed for an updated view of woodlot owner capacity and provided insight into how much the project has impacted the results. While the data is not generalizable to all woodlot owners in New Brunswick, the results do suggest opportunities for NBFWO to further explore after the project end date. Overall, values and beliefs results suggest important avenues for communicating climate-change impact risks and adaptation opportunities. Values and beliefs motivate and guide action, but within practical realities of day-to-day economics and management needs. Woodlot owners answering this survey are concerned about the effects of changing weather conditions on their woodlots, especially due to ice and wind damage, they see their woodlots as multipurpose assets and are open to learning more about how to adapt to climate change; including options for changing silviculture management approaches if support is available. Providing timely information to fill knowledge gaps, tied to current concerns and priorities of woodlot owners, is essential to continuing to enhance uptake of climate change adaptation training and woodlot management planning and implementation.