

Community Values for Forests and Wetlands in the Context of Climate Change: New Brunswick Citizens' Views on Natural Assets, Natural Infrastructure, and Green Infrastructure

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EXECUTIVE SUMMARY

Many communities around New Brunswick are experiencing the negative effects of climate change and climate-related hazards. A possible solution to these issues is the incorporation of more nature and nature-based solutions (NBS). With more nature, this includes more climate-resilient forests that sequester carbon and mitigate flooding, as well as better protection of wetlands that also store carbon and play an important role in flood management. NBS are recognized for their effectiveness in mitigating these impacts and are increasingly prevalent in decision-making processes related to local climate resilience. Based in New Brunswick, Canada, this study incorporates both public participants and experts working as engineers, planners, and environmental non-governmental organizations (ENGOS). The two research objectives are:

- 1) Document the range of values and perceptions of forests and wetlands among the participants and determine how they rank ecological functions contributing to climate resiliency; and
- 2) Gather an understanding of participants' familiarity with the vocabulary of natural assets, natural infrastructure, and green infrastructure, and gauge which term best resonates with them.

Each interview included questions surrounding both forest and wetland ecosystems, however the final research reports are prepared as individual reports to fulfill the master's degree requirements (links to the full document provided below).

In our survey, several questions were selected to determine participant knowledge and values surrounding forests. Participants in this study all use and have experience with forested ecosystems in a variety of ways that align with their attitudes, accessibility, and familiarity with forests. Most participants needed a few extra moments to come up with their definition of what a forest is before providing their answer, but many positive forest attributes were identified. Participants across all groups expressed their top priorities as mainly environmental values and the various goods and services forests provide to humans and nature, such as oxygen production, carbon capture, and the improvement of

water quality. A second theme noted within the survey responses for forests was the lower priority participants gave to economic forest values.

During the wetlands section of the interviews, participants' responses to certain questions provided an indication of their knowledge and understanding of wetland significance, as well as their values and perceptions of these ecosystems. Based on the analysis of interviews, it appears that most participants are familiar with wetlands around them, but some difficulties arise when determining their benefits to humans. In terms of participants' values and perception, responses suggested that almost all participants recognized wetlands to be valuable, and some participants were unable to provide reasoning. In many cases, individuals have had more experiences with forests than wetlands in their lives. Given that many participants included their personal experiences with wetland ecosystems, this may explain the differences in responses from the forest section.

Additionally, natural asset, natural infrastructure, and green infrastructure are three technical terminologies evaluated in this project. In general, public participants were less familiar with the terms compared to the expert participants. The majority of participants favoured the use of the term "natural asset" for public engagement, while "green infrastructure" was the second choice. Further, approximately half of the expert participants felt that the different sectors do not share a common understanding of the terms, while others were either unsure or felt there was some form of a common understanding. Overall, the responses suggest that most of the expert participants felt that more work needs to be done in defining and understanding these terms, especially across diverse sectors.

Through this study involving a small sample of New Brunswick citizens and experts, our results suggested that almost all of the public participants appreciate forests and wetlands, and would like to see more of these ecosystems. However, among their responses, functions related to climate resilience were not often emphasized, or valuing and understanding these ecosystems for being natural solutions to climate change in general. We hope that once there is more awareness on these aspects, and standardization of the terminology examined in this study, the general public will be more familiar and comfortable with using this vocabulary as well. Ultimately, this shift could also normalize and increase the use of this vocabulary within society and across different sectors.