

## **Small Communities and Public Participation in the Cumulative Environmental Impact Assessment Process: The Case of Little Bouctouche River, New Brunswick**

**Daniel Delong and Michael Fox**

### **Abstract**

This paper uses a case study of a small community effectively engaging with the environmental assessment process to examine the changing nature of this practice in Canada and the implications of these changes for New Brunswick. The case study considers the role of citizens and grassroots organizations in determining the future of a local bridge and causeway over the Little Bouctouche River in McKee's Mills (New Brunswick, Canada) and in expanding the discussion to include an assessment of the long-term health of the waterway. By relying on attendance at each of the locally organized public meetings dealing with the restoration project, an analysis of written statements and other documents posted on the citizen-based website, and interviews with key community organizers and government representatives, this study develops baseline criteria for effective public involvement within the larger, more formalized provincial environmental assessment processes. In specific terms, it ties public participation to the broader topic of cumulative impact assessment in the province within the changing context of federal-provincial assessment processes. This study finds that concerned individuals, who are passionate about an issue that galvanizes them into action, act as catalysts for the involvement of community groups in the environmental assessment process and, by doing so, they can affect in a significant way the implementation and outcomes of this type of review as well as management policies and processes. In the case of McKee's Mills, these individuals enlisted the aid of like-minded community members and concerned citizens, canvassed the local residents for their thoughts and perspectives, joined forces with other groups and organizations with similar concerns, as well as contacted government departments and local dignitaries. The community's identification of the need for a cumulative effects approach to the assessment has important implications for the way in which the government of New Brunswick might conduct successful environmental reviews. This research highlights the importance of grassroots organizations in protecting, preserving, and conserving communities in an ever-changing world.

### **Résumé**

Cet article se base sur une étude de cas d'une petite collectivité qui s'engage bien dans le processus d'évaluation environnementale en vue d'examiner la nature changeante d'une telle pratique au Canada ainsi que les répercussions de ces changements pour le Nouveau-Brunswick. L'étude de cas examine le rôle des citoyens et des organisations locales afin de décider de l'avenir d'un pont et d'une chaussée locaux sur la petite rivière Bouctouche à McKee's Mills, au Nouveau-Brunswick, au Canada, et de favoriser la

discussion afin de comprendre une évaluation de la santé à long terme de la voie d'eau. En se fiant au taux de participation à chacune des réunions publiques organisées localement qui portent sur le projet de restauration, à une analyse de déclarations écrites et d'autres documents affichés sur le site Web axé sur les citoyens et à des entretiens avec des organisateurs communautaires clés et des représentants gouvernementaux, cette étude élabore des critères de base pour une participation du public efficace dans les processus provinciaux d'évaluation environnementale les plus importants et les plus formels. Concrètement, cela lie la participation du public à la thématique plus large de l'évaluation des effets cumulatifs dans la province au sein du contexte changeant des processus d'évaluation fédéral-provinciaux. Selon cette étude, les personnes concernées, qui sont passionnées par une question qui les incite à passer à l'action, agissent en tant que catalyseurs pour la participation des groupes communautaires dans le processus d'évaluation environnementale et, ce faisant, elles peuvent influencer de manière importante la mise en œuvre et les résultats de ce genre d'examen ainsi que les politiques et processus de gestion. Quant à McKee's Mills, ces personnes ont demandé de l'aide à des membres de la collectivité partageant les mêmes opinions et à des citoyens intéressés, se sont adressées aux gens de la région afin d'obtenir leurs réflexions et leurs perspectives, ont uni leurs forces avec d'autres groupes et organismes ayant des préoccupations similaires. De plus, elles ont communiqué avec les ministères et les dignitaires locaux. L'identification qu'a faite la collectivité du besoin d'une démarche ayant des effets cumulatifs en ce qui concerne l'évaluation a des répercussions importantes sur la façon dont le gouvernement du Nouveau-Brunswick pourrait mener des examens environnementaux réussis. Cette étude souligne l'importance des organisations locales dans la protection, la préservation et la conservation des collectivités dans un monde en constante évolution.

## Introduction

Public participation in the environmental impact assessment process is certainly not new. In fact, for some constituents, the basic legitimacy of an environmental assessment process is put in doubt if it does *not* provide opportunities for meaningful public participation. Broadly defined, public participation refers to the involvement of individuals and groups (formal and informal) who are positively or negatively affected by a proposed intervention, subject to a decision-making process (André et al. 1). Public participation has become a legislated part of the environmental impact assessment (EIA) process across Canada, yet there is strong evidence that its formal, proponent-driven, mechanized, and largely formulaic approach has left those in rural areas and small towns without any real voice (Connelly; Noble 2012; Sinclair and Diduck). Furthermore, the recent introduction of a completely new *Canadian Environmental Assessment Act* in 2012 (CEAA 2012) has radically changed the way in which EIAs are conducted: the responsibility for these reviews has been largely transferred to the provinces; their scope has been narrowed to individual, site-specific projects and their proponents; and there is, on one hand, significant allowance for the delegation of authority and, on the other, a more restricted role for the public (Doelle 15). According to several recent reports on these national changes, the environmental assessment process actually seems to be moving away from effective citizen participation and sustainable development (Doelle and Tollefsen; Fidler and Noble).

In New Brunswick, the Department of Environment and Local Government is responsible for administering the EIA process in collaboration with other regulatory agencies. Given the geographical presence of a large coastal area within New Brunswick, in the past a number of federal agencies, such as the Department of Fisheries and Oceans, Natural Resources Canada, and Agriculture Canada, have worked closely with the provincial authorities in the creation of EIAs and reports. The recent federal retreat from environmental assessment has reduced this level of collaboration, and this change comes at a time when the provincial government faces significant economic challenges and restraints. Today, there are fewer than ten environmental assessment project managers in the environmental assessment section of the Department of Environment and Local Government in New Brunswick. These recent changes, which have been characterized as “the end of federal environmental assessment as we know it” (Doelle 1), place enormous pressure on individual provinces and territories. To fill the significant gap created by the CEAA 2012 and to ensure that proper environmental reviews take place, the provinces have been required to enhance their own environmental assessment and related planning processes. Case studies in Saskatchewan (Noble 2012), Nova Scotia (Doelle and Sinclair), and Alberta (Quinn et al.), as well as related scholarship on this topic have identified ways in which these new provincial responsibilities have tapped into local knowledge through individual and small group activism. These studies have also shown how such organizations can have a powerful influence on the collection and provision of ecological systems data, longitudinal information at different scales, and informed public debate on the cumulative environmental impacts of multiple local projects and past decisions on infrastructure. Within this shifting context for effective environmental assessment processes at the federal and provincial levels lies the reality that a large number of individual, local projects often predate the EIA process, and that many projects do not account for the cumulative impact of small developments on the larger ecosystems in which they are located.

This article examines the current state of the environmental assessment process in New Brunswick through a case study of such a review concerning a bridge replacement project on the Little Bouctouche River in the community of McKee’s Mills. In particular, the study uses the example of a very small community in this coastal region of New Brunswick to explore the potential role of public participation in the provincial environmental assessment process. When the provincial government began the process of decommissioning the bridge and causeway structure on the river and implemented the determination review process to assess the impact of various scenarios for the future type of crossing at the mouth of the river, this community mobilized to identify its collectively valued ecological components (VECs). This preliminary work on the role of local community activism in the provincial environmental assessment process is an important contribution to the overall study of the role of public participation, cumulative environmental impacts, and possible legislative and policy tools, in light of the insubstantial evidence of other such grassroots approaches across the province.

### **The Little Bouctouche River and the McKee’s Mills Community**

Many local members within the McKee’s Mills area of Kent County have taken a keen and vocal interest in the health of the Little Bouctouche River. Fed by a few small streams around the village of Saint-Antoine, this waterway flows through the McKee’s Mills community before it empties into the greater Bouctouche Bay. The Little Bouctouche River and its watershed hold significant importance for local residents who value it as a spot for fishing, swimming, recreational boating, bird watching, and other sport or leisure activities. The Little Bouctouche River adds a peaceful backdrop to the tight-knit community that undoubtedly would not have thrived throughout its long history as it has if it were not

for the ecosystem of this natural channel of water. Many people within the area have begun to publically express their views on the importance of the waterway in light of a proposed plan by the New Brunswick Department of Transportation to replace one of the existing bridges crossing the Little Bouctouche River.

The bridge is part of Highway 134 and there are safety concerns surrounding its structural integrity, as it has not been updated since it was built in 1945. Recently, the bridge has been assigned a five-tonne weight limit, and its increasingly decrepit state has become a priority concern for the government and the community. It is important to note that the eighty-nine-metre multi-span wooden arch burr truss structure traversing the mouth of the Little Bouctouche River is one of three bridge and causeway crossings located within a 1.5-kilometre span. It has recently been announced that the busy Highway 11 will become a four-lane route within the next few years, a project that will include the construction of a new, double-lane bridge (Harty, n. pag.). The third river crossing is the Sheridan Road Bridge. The current environmental assessment process, proposed by the Ministry of Transportation and Infrastructure, considers three options for the future of this particular river crossing: removing, replacing, or altering the span of the bridge.

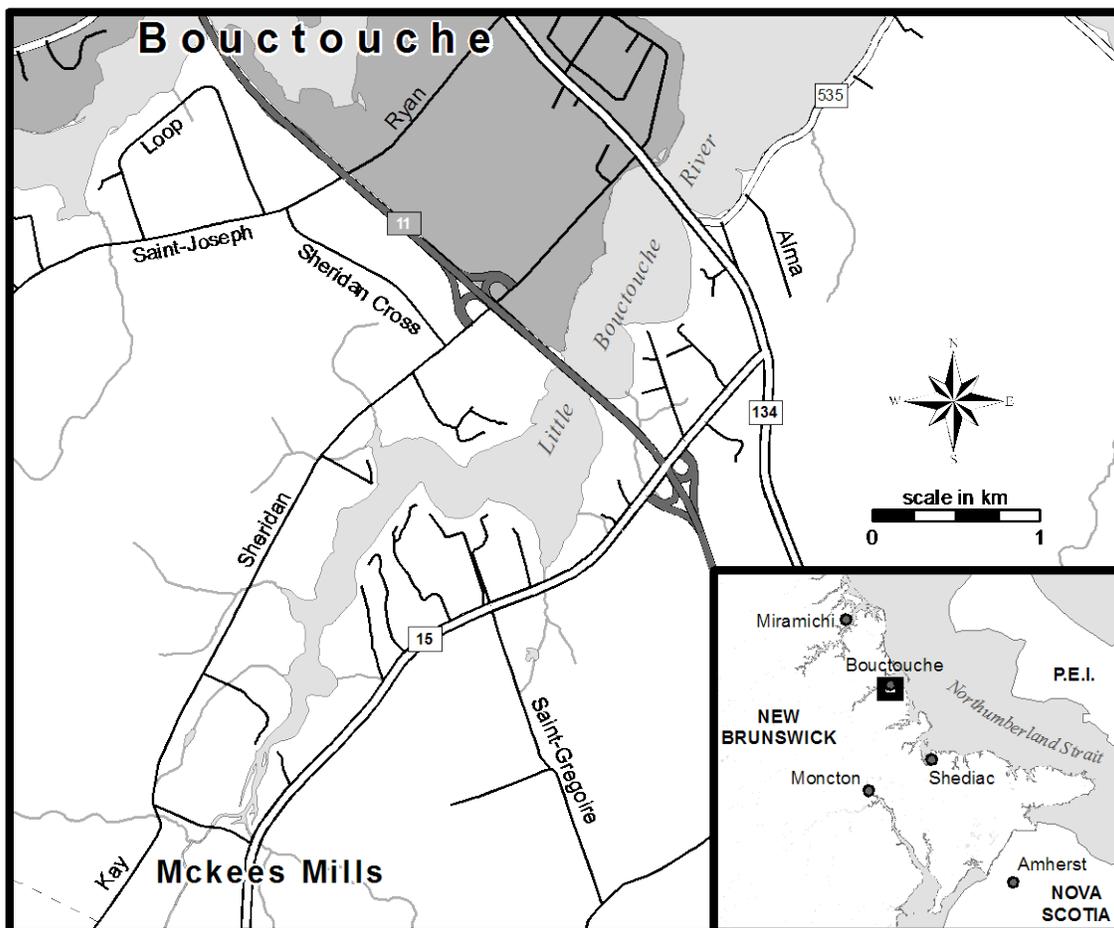


Figure 1. Case Study Location Map: The Little Bouctouche River Caption: James Bornemann, 2015.

Residents believe that the need to deal with the failing aged bridge has created an opportunity for cumulative environmental impact analysis and dialogue among those concerned, with the local community association leading the discussion. Perhaps the most commonly used definition of the cumulative impact assessment concept is the one issued by the U.S. Council on Environmental Quality in 1997 (8), which characterizes cumulative effects as follows:

- the total effect, including direct and indirect, on a given resource, ecosystem, or human community of all actions taken;
- effects that may result from the accumulation of similar effects or the synergistic interaction of different effects;
- effects that may last for many years beyond the life of the action that caused them;
- effects that must be analyzed in terms of the specific resource, ecosystem, or human community affected and not from the perspective of the specific action that may cause them; and
- effects that must be approached from the perspective of carrying capacity, thresholds, and total sustainable effects levels.

While adopting a cumulative effects approach, local community groups have over the years accessed various studies, aerial photographs, and eyewitness accounts indicating that the Bouctouche River has been a victim of heavy siltation, which has led to extremely shallow waters, a decrease in the size of the channel, and the loss of a significant part of the waterway's eelgrass. The latter factor is considered a strong indicator of river ecosystem health. Many local residents and key figures blame these too-rapid-to-be-natural changes on the current Highway 134 bridge, believing that it is restricting flow and thus does not allow the waterway to flush all of the silt properly, which results in an infill of sedimentation in the channel and the rest of the river system.

Another significant issue is the two sewage lagoons of the small community of Saint-Antoine, which are located on some of the minor feeder streams that flow into the upper part of the Little Bouctouche River. Local residents suspect that the primary and secondary lagoons are the cause of an above-average concentration of *E. coli* in the lower parts of the river, which has been verified by past scientific studies focused on the watershed (LeBlanc and Melanson). The primary lagoon has recently been upgraded, so future testing will be required to determine if this has impacted the *E. coli* levels; clearly, concerns over the secondary lagoon are prevalent and some of the local environmental groups consider its overflow to be a significant factor in the poor health of the Little Bouctouche River. These residents, who question the long-term well-being of the waterway at this location, in light of these various human impacts and development decisions, also see the need for a wider, more comprehensive analysis of the entire river ecosystem, should the government be moving to change the bridge structure on Highway 134.

These particular circumstances provide us with the opportunity to examine the attempts made by a local group of concerned citizens, who have long-term familiarity with the river ecosystem and infrastructure on the Little Bouctouche River, to integrate their concerns and knowledge into the more formal provincial environmental assessment process. We used a qualitative, case study research design (Maxwell; Yin).

## Methods

In addition to attending the various public meetings discussed below, the authors conducted a literature review of the Canadian and New Brunswick environmental assessment processes and the changing role of environmental assessment legislation in Canada. We met with representatives from the New Brunswick Department of Environment and Local Government on two occasions (August 2012 and August 2013) to verify the data collected during the public meetings and to monitor the progress of the Little Bouctouche River bridge proposal.

Between August 2011 and September 2012, the Broken River Association of McKee's Mills invited the authors to attend a series of four community meetings organized to present local knowledge to government representatives involved in the provincial environmental assessment process. The initial meeting took place in the McKee's Mills Community Hall on 19 August 2011 and approximately forty-five individuals were in attendance. The second meeting was held on 24 October 2011 and was attended by forty-five to fifty people, as well as the minister of transportation and several members of the Department of Environment and Local Government. The third meeting, which occurred on 28 November 2011, brought back the minister of transportation and members of the environmental assessment team for both the Department of Transportation and the Department of Environment and Local Government. During the following year, on 11 October 2012, a final meeting was held in the McKee's Mills Community Hall, with sixty-three local residents in attendance, as well as the minister of transportation and several members of his staff. Two of these four meetings were particularly significant in that the proponent of the bridge project (the New Brunswick Department of Transportation), the provincial government environmental assessment officers, and members of the local community were all present and thus able to engage in the public consultation process.

Qualitative data was captured through extensive note-taking during each of these public sessions, in which individual residents not only outlined their long-term experiences with the river ecosystem but also expressed their desire that government proponents and review agencies consider the cumulative environmental impacts of the existing infrastructure on the Little Bouctouche River. We carefully documented suggestions for any future structures that might be developed, asked questions of those in attendance at all four of these meetings, and collected specific data from a document review of the group's website <[www.brokenriver.ca](http://www.brokenriver.ca)>. All of the participants' names were recorded in the minutes of each meeting and posted on the publically accessible website; it was noted that the researchers, who were formally introduced, were observing the meeting and would also be reviewing the notes as posted by the citizen group on their website. All of those in attendance were aware that their names would be attached to the attendance lists and made public on the group's website. Our analysis of this qualitative data included a review of the frequency and duration of specific concerns being raised by residents and the issues that the group members chose to highlight on their website reports of the meetings.

## History of Public Engagement in McKee's Mills

The situation revolving around the Little Bouctouche River and the Highway 134 bridge and causeway was not the first problem that prompted citizens of the McKee's Mills community to collectively address an issue threatening the local environment. In 2006–07, a group of residents who owned property along the Little Bouctouche River came together to jointly purchase a seventy-seven-acre parcel of forested land surrounding their properties and access roads to them to protect it from

lumbering and any other type of development. The land in question bordered a dirt road next to Camp Wildwood on the west, Sheridan Road on the north, Highway 11 on the east, and the Little Bouctouche River on the south. The original owner, who lived in the United States and often summered on the property, was negotiating to have it designated as a nature preserve to avoid the risk that third-party developers interested in lumbering the property gained control of it. The owner passed away during the negotiations, however, and the land was put up for sale. The lawyer who had been working on the case realized the extent to which the local property owners cherished the land, and he gave them first option to purchase at fair market value. Twelve property owners, including the local Christian Camp (Camp Wildwood), formed a group called the Little River Land Preservation Association, which they incorporated in 2007. The group jointly purchased the property and formally agreed that it must be left in its natural state and could not be developed or changed in any drastic way; only routine maintenance is to be allowed. The deal took approximately one year to be concluded, from conception to completion. According to one local property owner, this process has kept the twelve property owners connected over the years and it has helped in preserving the land, protecting the river, and helping in dealing with local issues as they arise. The local engagement within this small sector of the overall McKee's Mills community was one of the antecedents to the public participation in addressing the declining health of the Little Bouctouche River and the impact of the Highway 134 crossing (DeLong, n. pag.).

During the meetings of the Little River Land Preservation Association Inc., the state of the river was a regular topic of discussion, as many constituents were noticing the severe decline in the waterway's health and linked it to the increasingly decrepit condition of the Highway 134 bridge and causeway that crossed the mouth of the Little Bouctouche River. These discussions motivated a few members of the group to contact the government, but initially there was little progress on the issue. During the group's annual meeting in June 2011, members decided to formally organize a committee to address the specific issues surrounding the degradation of the health of the Little Bouctouche River: it was named the Broken River Association. Mr. Stephen DeLong was elected as the chair of the committee and its members soon sought out other key actors who were concerned about the environmental health of the overall river system, such as Dr. John E. (Ted) MacNintch.

One of the characteristics of the Broken River Association has been a strong base of volunteers, including a range of members with advanced scientific expertise, social science knowledge, as well as local mobilization skills. For example, Dr. MacNintch graduated from Purdue University with an MSc and a PhD in medical biochemistry, and later went to Bowman Gray Medical School in Winston-Salem to do postdoctoral work in medical biochemistry. He has worked in a chemistry lab as an analytical chemist for the Nova Scotia Research Foundation (located in Halifax) and for Bristol-Myers in Syracuse, New York, before moving to Wallingford, Connecticut, as director of scientific information. Having grown up on the Little Bouctouche River, Dr. MacNintch frequently returned to McKee's Mills and had noticed that the river "seemed to be noticeably shallower" <[www.brokenriver.ca](http://www.brokenriver.ca)>.

Upon further research, Dr. MacNintch discovered that eelgrass is a strong indicator of the health of a river. Subsequently, he and Mr. Jim Davis, another individual who spent part of his childhood on the river, created the aforementioned website to communicate and explain the issues surrounding the Little Bouctouche River, and they included links to published sources on the importance of eelgrass. Shortly thereafter, they came into contact with Mr. DeLong and the Little River Land Preservation Association's subcommittee concerned with the health of the Little Bouctouche River. Dr. MacNintch proved to be an valuable member of the association, bringing a level of academic expertise and scientific knowledge to the community's engagement with environmental issues in this region of New Brunswick.

Clearly, a great part of the success of this community movement is due to the involvement of well-educated individuals that have an expert understanding of the science, in addition to a strong personal connection to living on the river, and many years of experience observing the nefarious changes in the ecosystem of the waterway.

These grassroots groups came together and hosted a public engagement meeting at the McKee's Mills community centre on 19 August 2011 to make the larger population aware of the state of the river. In addition to anecdotal information, they presented a contextualized summary of the scientific data collected in various studies to identify what they believed to be the primary factors responsible for the ill health of the river. The first meeting was well attended and the group made important contacts with other local organizations and like-minded community members. This initial contact led to the official foundation of the Broken River Association, as noted above. This meeting also marked the beginning of the community members' active role in addressing their significant level of concern about the future of the river ecosystem and their hope for the return of a healthy and vibrant relationship between organisms and their environment in this natural context. This scenario demonstrates that a community is the lifeblood of a region: the fact that a group of individuals were able to come together to form this type of collective organization shows both the health of the McKee's Mills local population and the power that it can exert on societal and governmental decision-making.

### **Community Involvement in the Bridge Project**

Across the country, community members in smaller jurisdictions are usually not included in the early phases of the environmental assessment and planning process. In New Brunswick, participation from the community is not required legally in the initial stages of planning, so residents are often unaware that there is at stake an issue that potentially concerns them. The amount of communication and the types of public engagement are left largely to the discretion of the proponent, and this has proven to be a major barrier to widespread community participation (Sinclair and Diduck 67). In the McKee's Mills case, the four public meetings organized by the Broken River Association were well attended; its executive members reported that community participants who actively engaged with the group and in the overall environmental assessment process had been very successful in identifying their concerns and expressing their views. The meetings sparked a much-needed debate about the ecosystem health of the Little Bouctouche River, with an intentional focus on the cumulative impacts of point and non-point factors: how much transportation infrastructure, such as bridges, is appropriate; what is the exact impact that a causeway can have on a river system; and what is the best option for replacing the existing Highway 134 bridge. Despite the relative success of the community engagement, the debate has not been smooth, as local voices offered differing opinions and exhibited divergent values. The opinion often heard is that there is no significant change in the river ecosystem and that the replacement of the bridge would be the cheapest and most efficient option for the government of New Brunswick (Burt and Macguire, n. pag.).

Furthermore, although the meetings were well attended, the majority of the McKee's Mills community was not present for various reasons (such as only living in the area seasonally, other commitments, lack of awareness of the meetings being held, etc.). As community involvement was a primary aim of the Broken River Association, the need to involve the rest of the McKee's Mills community and the larger New Brunswick public was imperative to the success of the group's overall project, which was to inform the environmental assessment process of the new bridge in a way that

would benefit everyone concerned. To reach those people potentially affected by the development, the group used a robust set of communication tools that addressed the specific EIA issues related to the bridge project, while also defining a set of cumulative impacts along the river system.

The first step in this awareness process was the creation of an Internet-based homepage for the Broken River Association. As in other public engagement processes, the use of social media and Web-based information on the Little Bouctouche River system has proven to be an efficient and cost-effective method of communicating with the public. The website and associated Facebook page provides a detailed set of issues and resources for information, including the following:

- an overview of the strategy to develop a cumulative assessment of the health of the river by connecting issues and responsible government authorities in the Department of Transportation, the Department of Environment and Local Government, the Department of Health, and various federal departments, such as Fisheries and Oceans as well as Transportation;
- links to scientific publications relevant to the Bouctouche watershed;
- the proponent's submission to the Department of Environment and Local Government;
- an analysis of scientific reports used in the environmental assessment document;
- communications with government representatives, including their responses;
- a page devoted to updates that indicates the timelines and changing conditions of the environmental assessment process; and
- the results of a survey of local residents about the state of the river and their opinions on the environmental assessment process and possible future options.

In addition, the Broken River Association also added a relatively new set of mixed methods outreach to overcome the traditional barriers to public participation in environmental assessment in New Brunswick, such as open houses, a resident survey, direct communications and information briefings with the Department of Environment and Local Government (the environment assessment unit) and the Department of Transportation and Infrastructure, as well as meetings with the minister and engineers responsible for the bridge project.

As part of the work of the association, a summer 2012 project was dedicated to the design and delivery of a twenty-six-question qualitative survey relevant to the health of the Little Bouctouche River, which randomly and anonymously polled sixty-one citizens from McKee's Mills and other nearby communities. Questions ranged from the public's opinion about the health of the Little Bouctouche River and the perceived effects of the bridge crossings on the river ecosystem, to how important to the overall community each one of them was at its existing location, and what the government should do in light of the waning lifespan of the structures. One of the most engaging and controversial questions in the survey asked what residents thought should be the long-term goal of the government in response to the deteriorating Highway 134 bridge and causeway crossing the Little Bouctouche River, which is the essence of the EIA. Respondents were given the following options: (a) replacing the bridge with a span similar to the current one; (b) completely removing the bridge and causeway without replacing the structures; or (c) replacing the bridge and causeway with a new, full shore-to-shore bridge. For the majority of the people polled (56 percent), the best choice was to replace the bridge with a comprehensive shore-to-shore bridge that would accommodate both environmental and

transportation concerns. If a full shore-to-shore bridge were unfeasible, then the second-best option would be to replace the bridge as it is (and 33 percent of respondents were in favour of this option). The final concept, which would be to remove the bridge and causeway completely and to not replace the structures, was the least-favoured option, gaining only 11 percent of support from those surveyed. The survey, while being highly localized and qualitative in nature, gave further options for public engagement and demonstrated that residents were indeed in tune and responsive to the environmental concerns raised by groups such as the Broken River Association; however, the desire for a transportation route in the existing location was still an overriding concern among the citizens. Another question in the survey asked residents whether travelling to Highway 11 or the Sheridan Road bridge would be an option, and 70 percent agreed that it would not be an inconvenience to do so if the Highway 134 bridge and causeway were to be removed and not replaced. It should also be stated that 52 percent of the respondents had not noticed any significant changes in the Little Bouctouche River throughout the years they lived there. Therefore, responses may have been different if more residents had been aware of the environmental changes that groups such as the Broken River have been publicizing. The detailed results of this resident survey can be accessed on the Broken River website.

Another survey question asked whether local residents believed that the complete removal, without replacement, of the Highway 134 bridge and causeway would have a negative effect on the local economy, tourists visiting the Bouctouche area, and the local service industry, with the majority of those surveyed responding in the negative to all three options. However, 56 percent did believe that local businesses as well as the tourists visiting the area would feel inconvenienced if they had to rely on the other two bridges in the absence of the Highway 134 crossing. With that in mind, many respondents also stated that people would eventually adapt to changes and that, if the bridge and causeway were to be removed and not replaced, this would not have a major negative effect on the local economy or tourism as a whole. Near the end of the survey, respondents were asked whether they were aware that the Saint-Antoine sewage lagoons occasionally overflowed into the Little Bouctouche River; 67 percent of them indicated that they were completely unaware of the issue. When asked whether they believed that raw sewage leaking into a river had a positive or negative effect on its ecosystem as a whole, 100 percent of the respondents claimed that it would have a harmful impact and were surprised that more rapid action was not taking place to remedy the issue in their region if it were true. The responses to the survey questions illustrate the general views and feelings of the McKee's Mills community in regard to the cumulative impacts surrounding the health of the Little Bouctouche River and the bridge and causeway systems crossing it. Overall, the Broken River Association reports that the survey was well received by local residents, who were pleased to have had the opportunity to voice their opinions. This once again demonstrates the importance of community engagement and public participation when resolving issues associated with the cumulative impacts on the river system.

The Broken River Association has striven to connect with as many people, groups, and communities as possible in order to rally support for its cause. These efforts made it clear that community engagement is the key to any major public change and that it is the citizens of a region who define what is at stake. Consequently, community reaction to these types of situations is critically important because only as a collective can a populace hope to address large issues facing its respective neighbourhood and environment. This public participation process was developed over several years and the Broken River Association has become one of the notable forces of change in the current environmental assessment process in this region of New Brunswick. The minister of transportation's attendance at several of the open-house meetings and public discussions was certainly a notable difference to most other similar types of consultation across the region. Regular communication with the

Department of Environment and Local Government, particularly with the minister's office, must be noted as a critical element of this approach to the environmental assessment process.

### **The Government's Involvement in the Bridge Project**

In any study involving a river system, an inter-coastal waterway, and a provincially owned transportation route, the different levels of government are all intricately involved, especially the municipal and provincial ones. In the case of McKee's Mills, both the Department of Environment and Local Government and the Department of Transportation and Infrastructure have been deeply engaged in the unfolding situation surrounding the Little Bouctouche River, its different bridge crossings, and the related impacts. In this case, the Department of Transportation is actually the proponent of the bridge project, while the environmental impact assessment section of the Department of Environment and Local Government conducts the EIA and approvals processes. Although, as mentioned above, the region also falls under the jurisdiction of Fisheries and Oceans Canada, recent government changes to the environmental assessment process appear to have assigned responsibility for these types of projects to the provincial government. Provincial officials report that they are still grappling with these recent changes, which were implemented with little consultation from federal officials even though they will have significant implications for staffing and regulatory changes over the next several years (Burt and Macguire, n. pag.).

The Broken River group was extremely effective in its lobbying efforts, as reflected in the attendance at the majority of its meetings by the local MLA and Minister of Transportation, the Honourable Claude Williams. Therefore, the community had the opportunity to discuss the project and the overall health of the river ecosystem directly with him and other officials from the Department of Transportation. The association and members of the general public also addressed directly with him the issues and options involving the road networks that cross the Little Bouctouche River, as well as the procedures that the department intends to follow when assessing this site for new types of transportation-related infrastructure. Despite initial successes in communication with the minister and his in-person interaction with the community at meetings, more recent attempts by the Broken River group to follow up on the EIA have not been as fruitful. Further information on this situation may be found on the association's website.

During some of the early community meetings with the government representatives, members of the environmental assessment section stated that more tests needed to be done and indicated that the Department of Transportation was in the process of monitoring water levels and temperature in the Little Bouctouche River to have a better idea of the current state of its ecosystem. Many citizens expressed concern that government studies have not been sufficiently thorough and that more detailed information was required before a final decision on the bridge could be made. Given that the bridge is in dire need of replacement, there was also fear that the government is acting too slowly on the issue, especially in the eyes of the Broken River Association, whose members believe that if changes are not made quickly enough, the river may be irreparably damaged. It should be noted that the original registration document for the bridge proposal was prepared in April 2008 and the environmental assessment section of the Department of Environment and Local Government has not yet completed the determination review process nor submitted a recommendation to the minister. Beyond involving the Department of Transportation, representatives of the Broken River Association and engaged community members have been able to establish a two-way dialogue with the project management team from the environmental

assessment section of the New Brunswick Department of Environment and Local Government. Project managers have been in attendance at meetings hosted by the Broken River Association and they have provided, to the group and other concerned residents involved in the process, important information on the overall EIA process and the role of cumulative impact assessment, as well as related documentation and official reports. Particularly helpful were the direct public education sessions on the procedures required for moving forward with these types of projects and detailed instruction on the criteria used in an EIA study. This type of assistance, which involved EIA officials working directly with an established community group, allowed for an uncharacteristically open and accessible process.

Some citizens who attended the Broken River meetings were surprised at the smaller-than-expected scope of government EIA research and that the study is only legally required to consider a stretch of three hundred metres on each side of the bridge site. Furthermore, the study surrounding the Highway 134 bridge and causeway does not take into account the Highway 11 crossing, and the government is not required to consider the cumulative impact that the bridge is having in combination with the other crossings on the Little Bouctouche River. In this regard, the EIA study acts more as a project-planning tool than as a comprehensive environmental assessment study that considers the many point and non-point sources of impact. As stated above, commencing in 2015, the Department of Transportation will twin Highway 11 to make it a four-lane highway and thus add yet another span across the Little Bouctouche River, which will result in four bridges crossing the waterway within an approximately 3.5-kilometre span. Once again, the EIA surrounding the construction of this second Highway 11 crossing will be required to include only an analysis of three hundred metres on each side of the proposed construction site; it will thus not take into account the cumulative effects of all the bridges and other infrastructure on the overall river system.

Comprehensive EIA reviews beyond the scope of the basic small-scale studies required before starting projects that involve river systems and naturally vulnerable environments are usually initiated through public demand and ordered by the minister, which has not been the case for the Little Bouctouche proposal. With persistence and professionalism, the Broken River Association has initiated significant learning opportunities related to public engagement and the scope of environmental assessment in the rapidly changing EIA process within Canada and New Brunswick. Members of the association, working with provincial officials, have created a series of opportunities for both the public and the decision-makers to identify the valued aspects of the river ecosystem, to access and analyze related scientific and technical knowledge on the immediate environment, as well as to learn about the impacted community and the interests of its citizens, while empowering these constituents to engage in collective political action.

In relation to the overall environmental review process, a high level of anxiety over the lack of a cumulative impact assessment—or comprehensive level of study of these factors—was expressed at the Broken River Association's various meetings. While voicing concern that the scope of the EIA is not sufficient, local residents demanded a more in-depth investigation of the effects that the multiple crossings were having on the overall health of the Little Bouctouche River and a study of the waterway's general condition. In their view, this information was required in advance of any decision on the bridge and causeway structures. The most serious concerns from the community, then, were those that reflected the Broken River Association's belief that the study is so limited in scope that it brings into question just how relevant and effective this type of investigation is and whether sufficiently informed decisions can be made with the information that such a study would contain within its current parameters. This is the key factor in the importance of this case study: that local citizen participation and

engagement have been directly linked to the overall benefits of a cumulative effects approach to EIA in New Brunswick.

As part of our analysis of this case study, we interviewed Jonathan Burt and David Macguire, representatives of the environmental assessment section of the Department of Environment and Local Government (Burt and Macguire). Throughout the interview, a picture slowly began to form as to how little influence EIA studies in New Brunswick actually have in the face of proposed development plans; it also became clear that these studies are limited in many ways in relation to how much research is legally required to satisfy the qualifications needed to move forward with development projects. It is a reality that many causeway systems have been installed over the last one hundred years throughout the east coast of New Brunswick, and consequently other impacted rivers are suffering from similar cumulative effects, not only the Little Bouctouche River. Despite the fact that bridges with causeway crossings are rarely constructed anymore, due to the detrimental effects that they have had on many tidal river systems, it is also the case that they are rarely ever removed, primarily for financial reasons (Burt and Macguire).

In spite of the delays, the lack of cumulative impact scientific data, and the disagreements between government representatives and members of the Broken River Association, the provincial and municipal governments have been fairly responsive and positively involved in the community action process. They helped guide citizens on the best routes to take in order to have their concerns recognized, and collaborated with the Broken River Association to identify the issues that the community sought to see addressed in the EIA process. Overall, the interactions between the two groups have been positive and constructive, making the process less of a dispute and more of a cooperative, two-way engagement on how to come to a decision that will benefit everyone equally. It is clear, however, that early and ongoing participation are unique to this case, as the review and determination process have been in progress since 2008 and have yet to be concluded. This is the way in which public engagement is envisioned in Canada, but there is no doubt that highlighting the lack of cumulative effects legislation and consideration in New Brunswick is a unique and additional benefit of the Broken River Association's contribution to the process.

## **The Future of the Little Bouctouche River**

The case of the Little Bouctouche River is far from concluded and progress continues as the government performs more research and further analysis of the situation, while the Broken River Association and other interest groups carry on monitoring the development of the overall project and work toward spreading the word on the cumulative health of the river and the decision on the bridge structure attached to Highway 134. Since its first meeting, the Broken River organization has continued to expand and strengthen its support, hosting a number of well-attended public meetings and sharing its concerns by maintaining a website, distributing brochures, sending out flyers, going door-to-door to reach the community, meeting with the minister and other government officials, directly engaging and educating the local residents and stakeholders, issuing announcements in the local newspaper, conducting surveys and scientific research, and filing access to information requests on government reports. The Broken River Association, regarded as the group responsible for bringing the government and the community together to re-evaluate the Little Bouctouche River and the Highway 134 bridge and causeway, has progressed significantly over the past eight years, moving from a small, loosely organized group of local landowners, to a cohesive, structured, and mobilized group that has a clear mandate, designated members for specific tasks, an active website, and plans for a comprehensive approach to

environmental planning in the region. The fact that there is a highly educated, professional, and coordinated group voicing a collective opinion gives significantly more weight to the community's overall role in the environmental assessment process.

The Broken River Association has also made contact and has been working with other local environmental groups (such as the South-Eastern Anglers, the Kent Watershed Coalition, and the Conservation Council of New Brunswick), as well as with various university researchers, social scientists, and representatives of the provincial political parties. These groups have offered invaluable information and advice to the Broken River Association and have helped its members become as deeply engaged in the EIA process as they are today. A collaborative approach is important for other groups trying to accomplish similar goals, who should aim to make as many connections as they can, because working as a collective and joint organization is key to succeeding in any community-wide endeavour. This is also a significant factor in the community-based approach to cumulative impact analysis and the environmental assessment process, as seen in other jurisdictions across Canada (Usher; Sinclair and Diduck).

Over time, members of the Broken River Association have managed to work with the Department of Transportation and Infrastructure in its assessment process and are involved in its handling of deteriorating bridges and causeway systems along the east coast of New Brunswick, acting as community-based stakeholders with expertise and organizational skills. As such, the group can now serve as a role model for other communities struggling with similar issues. Most recently, the government has announced that it will be conducting some hydraulic tests on the Little Bouctouche River in an attempt to understand better the state of the waterway and, ultimately, to help determine what course of action would be most reasonable to take given the overall situation. Furthermore, due to the long delays in the timing of the EIA, the Department of Environment and Local Government has recently ruled that the proponent, the Department of Transportation, must hold another series of public consultations before a final determination in the project can be made (Harty, n. pag.). The Broken River Association has stated that it will continue to monitor and document the status of the river in the future, regardless of the government's decisions concerning the Highway 134 bridge and causeway. The group is determined to remain vigilant and to do whatever it can to fulfill its primary goal, which is to see the Little Bouctouche River returned to a natural and healthy state of being.

What happens next is uncertain. Nonetheless, as a result of the establishment of the Broken River Association and increased levels of interest from McKee's Mills residents in the health of the Little Bouctouche River and the Highway 134 bridge crossing it, the role of public engagement and collective preoccupation with cumulative impact assessment has been cemented. The general conclusion is that action must be taken, as the Highway 134 bridge crossing the Little Bouctouche River is in dire need of replacement, but the decision as to how to proceed remains to be made. This decision could influence the future of the river in new and different ways while impacting the environmental state of the overall ecosystem. Of the three proposed options (to replace the bridge as it is; to remove the bridge and causeway completely without replacing them; or to replace the structure with a full, shore-to-shore bridge), the final choice is unarguably the most popular among the residents of the community. This would open up the mouth of the river and consequently, as maintained by the Broken River Association, the new structure will allow the Little Bouctouche River to flush properly, returning it to a healthier state.

Given the delicate state in which the provincial economy is at the moment, there is certainly the realization that this project will move much further down on the priority list of the Department of Transportation. As a direct result, the idea of removing the bridge and causeway without rebuilding a

replacement structure has emerged as a distinct possibility and would be a more affordable option for both the short and long terms. The public engagement process over the past seven years has certainly provided this option as a real alternative to a costly bridge replacement at this time. The real question now is: what happens if the bridge is simply replaced or if nothing is done at all? Will the river continue to silt in until it becomes a saltwater marsh, or are there other factors at play that have yet to be discovered? It is clear that only through a cumulative environmental assessment process will the future health of this river system be truly addressed. It thus seemed not only important but also timely to document the establishment and professional development of the Broken River Association, a strong proponent of this process, over this period.

If other waterways, such as the Black River, located farther up the coast from the Little Bouctouche River, or the Petitcodiac River, flowing between Riverview and Moncton, are also used as examples, causeways can be seen as detrimental to the health of a river ecosystem. Due to the less environmental and sustainable ways of thinking embraced by our predecessors, most rivers along the east coast of New Brunswick are victims of their cumulative effects—what others call “the death of a thousand cuts” or the “tyranny of small decisions” (Noble 2012, 8–9). Luckily, through the efforts of the Broken River Association and residents of the McKee’s Mills community, the provincial government is beginning to re-evaluate how it approaches bridge and causeway systems along the entire Northumberland Strait. This is not, however, the only notable consequence: the public participation in McKee’s Mills has also initiated an environmental review process at the provincial level that considers the significant benefits of meaningful cumulative effects assessments, a process that other communities can observe and perhaps strive to adopt as their aim when they address similar concerns in their regions. In many ways, this example underlines the importance of a cumulative assessment process as defined in the studies on this topic, which suggest that direct citizen participation enhances the overall environmental assessment and management processes. As outlined in a recent study (Noble 2012, 8), this process has the following characteristics:

- future-oriented: concerned about possible futures and the means to shape sustainable outcomes;
- alternatives-based: focused on identifying and systematically assessing alternative development scenarios associated with different initiatives, management plans, or courses of action;
- integrative: part of, and provides overall guidance to, the development of regional strategies and initiatives;
- adaptive: expecting to modify and adapt regional plans and development initiatives as new knowledge is gained through implementation, monitoring, and feedback;
- valued ecosystem component (VEC) centred: focused on effects to VECs that are of scientific relevance and public concern;
- multi-scaled: able to account for perturbations and processes operating at multiple spatial scales within and outside the region;
- ecosystem-based: defined by ecological rather than political or administrative boundaries, with attention to important ecosystem relationships and pathways and processes of change;
- multi-sector: encompassing of the activities, policies, and plans of multiple sectors that may exist in a region or that may influence regional processes of change and decision-making;

- multi-tiered: informed by, and informs, other existing or proposed policies and plans influencing the region, and is deliberately tiered toward downstream development assessment and decision-making processes;
- opportunistic: embracing of the opportunity to examine regional development through broader stakeholder debate, and to create or modify institutional arrangements in support of sustainability.

The metaphorical waves that the McKee's Mills community and Broken River Association have caused are significant and far-reaching, and could signal the start of major changes in the way in which government and communities approach these types of environment-related situations in New Brunswick. The community-based approach to this issue is an effective way of avoiding significant and costly protests and legal action as the first responses to any project being proposed. The New Brunswick government appears to be open to this type of community-based discussion: the prospect of legislative and policy change to this effect seems possible as the province deals with the major changes to the federal *Environmental Assessment Act*.

## Discussion and Results of this Case Study

What can be done to make a change and repair the cumulative damage that has already been inflicted on so many local ecosystems across New Brunswick? How can a small community have its voice heard among the larger-than-life entities of government and private interests? This case study review provides evidence that groups such as the Little River Land Preservation Association and the Broken River Association can be effective when a community is able to mobilize as a collective entity with a powerful voice, because an individual may not have the power or depth of understanding needed to stand alone against such seemingly overwhelming social and environmental issues and projects. A community as a collective has a unique and fundamental role to play in the design, implementation, and cumulative assessment of these types of projects. Goals can be accomplished, changes can be made, and, most important, a community can have a voice, and as a collective, it can be heard. Changes begin on the smallest level: an individual with an idea who joins forces with others to become a group with shared preoccupations and objectives, which grows through discussion and consensus into a community with a collective goal and a right to be heard. The future of the Little Bouctouche River may still be shrouded in darkness, but there is now a demonstrated commitment to informed public engagement and recognition of government willingness to consider alternative EIA processes and practices, and, at the very least, a precedent has been set for the province. The members of the McKee's Mills community can say that they came together to ask that the government and other organizations think carefully about the longer-term aspects of a major issue facing this region and many other parts of our province.

This case study demonstrates the need for meaningful public participation in effective and fair environmental assessment processes in New Brunswick and beyond. Through the work of individuals and collective public engagement, this case demonstrates how community participation and a more complete understanding of the scientific, social, and political dimensions of EIA can inform the environmental planning and impact assessment processes, as well as introduce the idea of a cumulative assessment process that looks at different scales and impacts over time and space. At the same time, this case study demonstrates that any advantages of such public participation and cumulative impact assessment depend on various factors, including the changing role of federal and provincial legislative and policy frameworks, the changing jurisdictional roles that have emerged at the federal, provincial,

and municipal levels, as well as the educational and legal aspects of access to information, adequate notice of projects, the role of public commentary, and the ability of public engagement to truly inform the decision-making process. Furthermore, this New Brunswick case study adds to the emerging body of academic literature arising from the 2012 *Canadian Environmental Assessment Act*. It has practical implications for the design of EIA processes and public participation programs that are now being discussed within the provincial and local assessment regimes. Given the reports of a pro-development political context and the limited potential of public participation at the federal level (Doelle; Lindgren), this case offers hope for a more effective approach to local community participation and empowerment, as well as scientific and legislated consideration of cumulative environmental impacts at the provincial level in New Brunswick.

---

## Works Cited

- André, Pierre, et al. *Public Participation: International Best Practice Principles*. Fargo, ND: Special Publication Series 4, International Association for Impact Assessment, 2006. Print.
- Burt, Jonathan, and David Macguire. Department of Environment and Local Government. Personal interview. 17 July 2012.
- Connelly, Robert. "Canadian and International EIA Frameworks as They Apply to Cumulative Effects." *Environmental Impact Assessment Review* 31.5 (2011): 453–6. Print.
- DeLong, Stephen. Personal Interview, McKee's Mills, August 22, 2013.
- Diduck, Alan, and Bruce Mitchell. "Learning, Public Involvement and Environmental Assessment: A Canadian Case Study." *Journal of Environmental Assessment Policy and Management* 5.3 (2003): 339–64. Print.
- Doelle, Meinhard. "CEAA 2012: The End of Federal EA as We Know It?" *Journal of Environmental Law and Practice* 1.24 (2012): 1–17. Print.
- , and A. John Sinclair. "Time for a New Approach to Environmental Assessments: Promoting Cooperation and Consensus for Sustainability." *Environmental Impact Assessment Review* 26.2 (2006): 185–205. Print.
- , and Chris Tollefson. *Environmental Law: Cases and Materials*. 2nd ed. Toronto: Thomson/Carswell, 2013. Print.
- Fidler, Courtney, and Bram F. Noble. "Stakeholder Perceptions of Current Planning, Assessment and Science Initiatives in Canada's Beaufort Sea." *Arctic* 66.2 (2013): 179–90.
- Government of Canada. *Canadian Environmental Assessment Act (CEAA) 2012*. Bill C-38, *Jobs, Growth and Long-term Prosperity Act 2012*, 1st Session, 41st Parliament, 2012.
- Hanna, Kevin S., and D. Scott Slocombe. *Integrated Resource and Environmental Management: Concepts and Practice*. Oxford and Toronto: Oxford UP, 2007. Print.
- Hanna, Kevin S. *Environmental Impact Assessment: Practice and Participation*. 2nd ed. Oxford and Toronto: Oxford UP, 2009. Print.
- Harty, Crystale. "Little Bouctouche River Bridge." Message to the author. 24 June 2014. E-Mail.
- LeBlanc, Serge, and Terrence Melanson. "The 1999 Bouctouche Watershed Bacterial Monitoring Program." n.d. Unpublished report. Print.
- Maxwell, J.A. *Qualitative Research Design: An Interactive Approach*. London: Sage Publications, 1996. Print.
- Muldoon, Paul, et al. *An Introduction to Environmental Law and Policy in Canada*. Toronto: Emond Montgomery Publications, 2009. Print.

- New Brunswick Department of Environment and Local Government. "Guidelines for an Environmental Impact Assessment. Modifications to the Petitcodiac River Causeway." Fredericton: Government of New Brunswick, 2002. Print.
- . "Summary of the Environmental Impact Assessment Report for Modifications to the Petitcodiac River Causeway." EIA Summary. Fredericton: Government of New Brunswick, 2005. Print.
- New Brunswick Department of Transportation. "Little Bouctouche River Bridge No. 1 – Route No. 134: Bridge Replacement." Fredericton: Government of New Brunswick, 2008. Print.
- Noble, Bram. "Strategic Approaches to Regional Cumulative Effects Assessment: A Case Study of the Great Sand Hills, Canada." *Impact Assessment and Project Appraisal* 26.2 (2012): 78–90. Print.
- . *Introduction to Environmental Impact Assessment: A Guide to Principles and Practice*. 2nd ed. Oxford and Toronto: Oxford UP, 2010. Print.
- Quinn, M.S., G. Greenway, D. Duk, and T. Lee. *A Collaborative Approach to Assessing Regional Cumulative Effects in the Transboundary Crown of the Continent*. Ottawa: Canadian Environmental Assessment Agency, 2002. Print.
- Sinclair, A. John, and Alan Diduck. "Public Participation in Canadian Environmental Assessment: Enduring Challenges and Future Directions." *Environmental Impact Assessment: Practice and Participation*. 2nd ed. Ed. Kevin S. Hanna. Oxford and Toronto: Oxford UP, 2009. 58–82. Print.
- , and Patricia Fitzpatrick. "Provisions for More Meaningful Public Participation Still Elusive in Proposed Canadian EA Bill." *Impact Assessment and Project Appraisal* 20.3 (2003): 161–76. Print.
- U.S. Council on Environmental Quality. *Considering Cumulative Effects under the National Environmental Policy Act*. Washington, DC: Council on Environmental Quality, 1997. Print.
- Usher, Peter J. "Traditional Ecological Knowledge in Environmental Assessment and Management." *Arctic* 53.2 (2000): 183–93. Print.
- Yin, Robert K. *Case Study Research: Design and Methods*. 4th ed. London: Sage Publications, 2009. Print.