Comité consultatif pour l'environnement de la Baie James
James Bay Advisory Committee on the Environment
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Consideration of cumulative effects – data
Preparatory report for the drafting of the recommendation

This report begins by setting out the context of the JBACE's work on the issues involved in taking cumulative effects into account. It then looks in greater depth at the possible solutions related to data, setting out the issues and potential solutions identified as a result of the subcommittee's work and meetings with external stakeholders. The document concludes with the recommendation of the JBACE.

Context: Cumulative Effects and the JBACE

The JBACE began work on cumulative effects assessment (CEA) in 2016. A subcommittee was set up to look specifically at this issue. Among other things, the subcommittee identified the main issues and challenges associated with CEA and the integration of cumulative effects, targeting those where action by the JBACE would be justified, relevant and feasible.

CEA remains a complex subject. To date, the only point on which there is a clear consensus among stakeholders is the undeniable importance of cumulative effects. This finding had already been highlighted in previous work by the JBACE in 2016, where it was noted that, although cumulative effects are often mentioned in impact studies, they are not necessarily taken into account in a concrete way in the design of projects or in the authorisation processes that follow.

A systemic approach has been developed based on four components:

- Project Cumulative Effects Assessments;
- Project authorization;
- Regional Planning; and,
- Regional policy.

A number of discussions were held to identify the main issues and challenges relating to the CEA for each of the components. An analysis of each of these elements was carried out in order to determine the main sub-problems or underlying contributing factors and to target the specific issues or challenges related to the consideration of cumulative effects. The analysis of the main issues led to the development of four proposed action items to address the challenges associated with CEA:

- Data;
- Regional planning;
- Directives; and
- Regional policy.

The question of data is the essential starting point for tackling CEA in the Territory. The availability, quality and relevance of data are at the heart of the JBACE's concerns and represent one of the issues most frequently raised by stakeholders. The analysis of environmental and cumulative effects data on the territory presents both significant challenges and opportunities to improve planning and decision-making.

Reflection on Data

To develop our understanding of the issues surrounding data, we conducted several interviews with stakeholders from organizations working in the Territory or in the data management field: the Impact Assessment Agency of Canada (IAAC), the Department of Fisheries and Oceans (DFO), the Cree Nation Government (CNG), the Cree Nation Research Institute (CNRI), and the St. Lawrence Global Observatory (SLGO). It should be noted that other organizations were contacted, but could not be met for various reasons.

Through these interviews, four data-related issues emerged:

- Data access;
- Lack of data;
- Cost of data; and
- Quality of the data.

Almost universally, data issues are seen as a major obstacle to taking cumulative effects into account, both in project assessment and in regional planning. According to several stakeholders, these data-related issues have a direct impact on project authorization processes in the Territory. In regional planning, planners frequently mention the lack of data as one of the main reasons why they are unable to integrate cumulative effects, despite their widely acknowledged importance.

Challenges linked to data

Challenge 1: limited access to data on the Territory

Access to data in the region remains complex for a number of reasons. Existing data is scattered, sometimes confidential or sensitive, and much of the archive has never been digitised. At the start of the process, stakeholders often try to identify online databases, such as those commonly used in southern Quebec. However, these platforms contain little or no data from the Territory. They therefore have to identify for themselves the organisations or individuals that hold the data they are looking for, which is particularly difficult in the absence of directories or a centralised system.

The available data is held by a variety of players (e.g. private companies, Cree communities, organisations working in the Territory) and is often kept confidential. The lack of a directory means that stakeholders and project proponents have to go through a lot of hoops to find the relevant information. This contributes to overloading the data holders, who frequently receive requests, sometimes repetitive, from practitioners or students. Cree tallymen, for example, who possess a wealth of essential knowledge, are regularly called upon, even though this role is not one of their responsibilities or sources of income. As a result, they do not always have the time or resources to respond to requests.

Data relating to Cree traditional knowledge poses a particular challenge because of its sensitive nature. Communities want to retain control over it and ensure that it is used respectfully, and this requires prior consultation and negotiation processes. However, many practitioners or project proponents do not allow sufficient time or recognise the cultural and political significance of this data. As a result, traditional data is often left out of assessments, despite its relevance.

In addition, many organisations have never digitised the data they hold. These physical archives, which are sometimes disorganised or poorly preserved, make it difficult to access information. This type of storage also presents risks in the event of disasters, such as floods or fires, as the original documents are rarely saved elsewhere. The absence of digitisation represents a potential loss of valuable information for environmental assessment and long-term planning.

Challenge 2: Lack of data

A large part of the Territory has never been the subject of scientific research or development projects. As a result, some areas remain entirely lacking in environmental data. Elsewhere, where projects have been carried out, data is sometimes available, but its scope remains limited. Generally speaking, long-term environmental monitoring and follow-up studies are not as frequent in the Territory, which contributes to the lack of quantitative data, particularly over long-time scales.

Frequently, no quantitative data is available for a given site or for certain components of the environment. In many cases, existing data – whether appropriate to the situation or not – is the only source of information available to practitioners, who do not always have the resources to collect new data. Studies and assessments are therefore often based on incomplete or unrepresentative data, which can compromise their rigour and reliability.

This general lack of data creates a high degree of uncertainty as to the evolution of the environment in the region. The data available does not adequately cover the entire territory, nor does it cover a sufficiently long period to support robust CEAs. This situation entails a real risk, as planning or project authorisation decisions could be taken on the basis of an incomplete understanding of the state of the environment, which could have negative long-term consequences.

Challenge 3: Costs

The costs associated with accessing data represent a major obstacle to developing a realistic portrait of the Territory's environment. Data holders come from a range of actors (e.g. public organisations, private companies, Cree community members) and, in the absence of a regional open data agreement, no entity is obliged to share the data it holds. In most cases, practitioners have to buy the data, which greatly limits access. Sharing agreements based on the purchase of data often prove too costly to be concluded with all data holders, and prices can be prohibitive for small organisations or independent researchers.

The production of new data in the Territory also entails high costs, due in particular to the vast size of the region, the remoteness of communities from urban centres and geomorphological features, such as the presence of numerous wetlands, which complicate access to the land. These financial constraints explain why some practitioners choose to re-use data they have already acquired or produced. However, this practice leads to the repeated re-use of a limited number of data sets for several studies and assessments, which contributes to maintaining a partial and imprecise image of the Territory's environment.

The cost of acquiring and producing data is therefore one of the main obstacles for practitioners. CEAs require a large volume of diversified data, spread over time and over vast areas of the territory. In the current context, the purchase of all existing data, combined with the production of new data on a sufficient scale to carry out a complete CEA, would probably be too expensive to consider.

Challenge 4: The quality of data

Stakeholders specialising in data management point out that the quality and accuracy of data vary considerably. This variability poses a particular challenge in the Territory, where access to data is already limited. When available data is of insufficient quality, it becomes unusable to practitioners, further reducing the volume of usable information.

This situation is a major obstacle to carrying out environmental assessments and CEAs, which require a large volume of reliable and accurate data. Several tools commonly used in the south of the province cannot be used in the northern context. For example, environmental modelling requires extensive and rigorous data sets to produce meaningful results.

The uneven quality of the data available, combined with other access issues, can lead to significant delays in conducting CEAs in the Territory, as practitioners do not have sufficient appropriate data to use their analysis tools effectively.

Potential Solutions

The lack of access to data raises a number of issues and has negative repercussions for the region. All the stakeholders consulted agree that it is essential to find practical ways of making existing data accessible, so that a more complete and coherent picture of the Territory can be drawn up.

The potential solutions presented here are based on interviews with stakeholders, discussions held within the subcommittee, and examples of methods implemented elsewhere. In particular, we examined the Northwest Territories cumulative effects database, the Government of Canada's open data portal, the database managed by the SLGO, and the approaches recommended by the FNQLSDI.

In addition to information-sharing agreements, the proposed approaches include centralising data, digitising existing data and compiling an inventory of available data. These measures are intended to improve the accessibility and development of the data available in the Territory.

Centralization of data

Centralizing data in a single registry is a common approach in the open data movement. Many organisations upload their data to a portal managed by a centralised body, such as the Government of Canada's Open Government Portal. The body managing this type of portal must ensure that the data published is accessible in standardised formats and that the tools made available are relevant to users. A centralised portal greatly facilitates research by bringing together all the available data in one place.

This is a particularly valuable tool for practitioners, who are already using the databases available in southern Quebec to analyse and take account of cumulative effects. The centralisation of vast volumes of data means that professionals can assess these effects much more effectively in the south of the province than in the north, where the data is even more scattered.

Despite the advantages offered by data portals, setting up a centralised portal for the region would be a major undertaking. A large number of sharing agreements would have to be concluded, a large number of archives would have to be digitised, and mechanisms would have to be established to obtain the data held by private companies operating in the Territory. To ensure the smooth running of such a portal, an entity would also have to be designated to manage, maintain and control access to it.

It remains uncertain whether data holders will agree to voluntarily share their information in a centralised portal. A first step could be to require practitioners and project proponents to deposit their raw data from environmental assessments carried out as part of projects in the Territory. This obligation would help to gradually populate the database and guarantee its relevance.

Another option would be to entrust the centralisation of data to third-party organisations or to exploit existing databases. Numerous public databases are available, and local stakeholders could contribute their data to them. Some organisations in charge of these portals offer support services for the creation of databases, the development of tools and the management of portals.

Digitization of existing data

A more realistic solution would be to focus on digitization, by encouraging the various players in the territory to digitize their physical archives in order to extract the data. The stakeholders we consulted indicated that they regularly submit requests for information to organisations present in the Territory, but that the documents containing the data they are looking for have often never been digitized. The manual search for these documents represents an additional burden for the organisations, which generally do not have the resources to devote the time to it. As a result, the data remains inaccessible to practitioners, even though it could prove valuable.

Actively supporting the digitization of the archives held by the Territory's organisations would significantly improve access to the data. It would also facilitate the work of data holders by making information easier to locate and use. With today's tools, digital files can be filtered and searched efficiently to identify relevant data. The long-term objective would be to ensure that most of the data available in the region is digitized and therefore more easily shared – whether in the form of open data or metadata requiring authorisation for access.

Inventory and categorization of available data

Given the lack of access to data on the territory, a crucial step would be to carry out an inventory of existing data. Preparing a list of stakeholders in the territory who hold data useful for assessing cumulative effects would greatly facilitate the work of practitioners in carrying out their environmental and CEA assessments. Such a tool would allow them to save precious time by quickly identifying who to contact to obtain the relevant data.

Given the large number of stakeholders involved, particularly in the private sector, such a task would represent a considerable effort. However, this inventory could be built up gradually, as assessments are carried out. For example, practitioners and planners could incorporate into their process a step aimed at systematically recording the source of the data used in each assessment.

Conclusion and recommendation

The difficulties associated with obtaining and using environmental data in the Territory is a significant issue for stakeholders. Lack of access prevents practitioners from considering the cumulative effects of new projects proposed in the Territory, which could lead to the Territory's acceptable threshold for environmental quality being exceeded. Regional planners have the same problem, and are unable to factor cumulative effects into their decisions because they lack the appropriate data.

The following recommendation was adopted by the JBACE members:

CONSIDERING the importance of taking cumulative effects into account in project impact assessment and review;

CONSIDERING that access to data is essential for an effective cumulative effects assessment;

CONSIDERING the following possible solutions identified by the JBACE in its report on data (attached to this recommendation):

- Centralization of data;
- Digitization of existing data;
- Inventory and categorization of available data.

The JBACE recommends that the governments of the Cree Nation, of Québec and of Canada support and implement initiatives to promote access, production and sharing of, data in order to facilitate the consideration of cumulative effects in the Territory.