



Local Government Risk Assessments in B.C.

Demand, Supply, and Cost Analysis

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Disclaimer

This report was produced as part of the UBC Sustainability Scholars Program, a partnership between the University of British Columbia and various local governments and organizations in support of providing graduate students with opportunities to conduct applied research on projects that advance sustainability and climate action across the region.

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Acknowledgements

This scope of this work covers the entire Province of B.C., which comprises the traditional, ancestral, and unceded territory of many First Nations. These lands have been cared for since time immemorial by Indigenous Peoples, whose knowledge systems, governance, and relationship with the land continue to improve our collective understanding of this place. With deep respect I would like to acknowledge this history, while hoping that resilience work can contribute to reconciliation moving forward.

Executive Summary

B.C. communities face varying degrees of risk based on the likelihood and severity of potential hazards in their area, the exposure of their infrastructure and residents to these hazards, and their capacity to mitigate impacts. A risk assessment is a project or process that evaluates the likelihood and severity of impacts from hazards based on the exposure and vulnerability of a community to these hazards. Risk assessments are summarized in documents or reports that can be used to inform emergency planning, land use planning, climate adaptation, or other initiatives.

Historically, risk assessments undertaken by local governments have used a variety of different methodologies based on local needs. In November 2023, however, the Provincial government introduced the *Emergency and Disaster Management Act* (EDMA), which included new requirements that all local governments in B.C. must complete a risk assessment that meets specific standardized criteria. Basic information on these risk assessment criteria can be found in *EDMA s. 51, Division 3*, but detailed regulations that specify and enforce these mandates are forthcoming.

This new legislative requirement raises questions about the scope, capacity, and cost of completing new or updated risk assessments, and how these factors may impact the implementation of EDMA. This analysis examines the capacity of local governments to meet these requirements by looking at this challenge through an economic lens:

1. **Demand:** To meet EDMA requirements, how many local governments will need to undertake a new risk assessment or update an existing one?
2. **Supply:** What is the capacity of the private sector to support local governments in completing new or updated assessments that meet EDMA standards?
3. **Cost:** How much have risk assessments cost historically, and what factors might influence these costs?

1 Demand Analysis

The 2023 Local Government Climate Action Program (LGCAP) survey found that **90 of 189 (48%) B.C. local governments have completed a “climate risk and vulnerability or similar assessment” and 99 (52%) have not.**¹

While project funding data indicates that 19 additional local governments have received funding to complete a risk assessment since this survey was conducted, the data set used for this analysis – 90 risk assessment documents – was limited to local governments that indicated they *completed* a risk assessment in the survey. These documents had the following characteristics:

¹ The 2023 LGCAP survey had a 100% response rate among BC local governments. Although there are 197 local governments in BC, the 8 Modern Treaty Nations will not be required to complete a risk assessment, which excludes them from analysis for risk assessment “demand”

- **Two-thirds (67%) were completed by private sector consultants**, while one-third (33%) were completed internally by local government staff;
- **Over half (53%) are at least five years old**, completed before 2021, and over one-in-ten (13%) were completed before 2016.
- There was significant variation in hazards addressed (1 to ~50), methodologies used to collect and analyze data, and document size (~15-400 pages).

In the absence of more detailed regulations – which are expected in late 2025 or early 2026 – this analysis assessed the alignment of these 90 risks assessment documents against the criteria outlined in *Division 3, s. 51 (Risk Assessments)* of EDMA. This section of EDMA states that **risk assessments must include/identify:**

1. **multiple reasonably foreseeable hazards;**²
2. **climate change projections;**
3. **local and/or Indigenous knowledge**, if available;
4. **consultation and/or coordination with local authorities and First Nations who have neighboring or overlapping territory;**
5. **equity analysis** of consequences for population(s) that may experience intersectional disadvantages in the local context.

To analyze risk assessment documents against these five criteria, an evaluation rubric was developed to score each document on a scale of zero (does not address criteria) to three (addresses criteria to a high degree). In the 90 risk assessment documents analyzed, “First Nations Consultation” scored lowest and “Climate Change Projections” scored highest, on average, in their alignment with these criteria. **None of the 90 documents analyzed scored a three for all five EDMA criteria.**

Depending on the criteria and recency requirements of forthcoming EDMA regulations, this analysis estimates that between **99 and 189 local governments will need to complete a new or updated risk assessment.**

Table 1: BC local government risk assessment demand based on EDMA regulation specifics

Which local governments require a new risk assessment:	Assessments Needed:
All local governments, excluding Modern Treaty Nations	189
Local governments that reported not completing an assessment, or had an assessment >5 years old	147
Local governments that reported not completing an assessment, or had an assessment that did not address at least 3/5 EDMA criteria to a high degree	140
Local governments that reported not completing an assessment	99

2 Supply Analysis

² *Division 3, s. 51 of EDMA* specifies that risk assessments must include “all reasonably foreseeable” hazards. To avoid making assumptions regarding what “all reasonably foreseeable” entails, this research used a simplified threshold of “multiple reasonably foreseeable” hazards.

This analysis identified **45 firms that are active and operating in B.C. with the capacity to provide risk assessment services to local governments**, as of July 2025. A survey was sent to these firms to inquire about: (a) their level of experience conducting risk assessments for local governments; and (b) the capacity and expertise of their staff in EDMA-mandated risk assessment components. Based on the 27 responses received, this analysis found that:

- Firms with the capacity to support risk assessments can be categorized as one of nine types: climate planning, community planning, emergency planning, engineering, forestry, environmental, multi-national, GIS, or multi-disciplinary;
- The distribution between large (201+ employees, 38%), medium (11-200 employees, 33%) and small (0-10 employees, 29%) firms is relatively even;
- In terms of employee capacity (number of staff with relevant expertise), firms scored highest in the areas of Local and/or Indigenous Knowledge, Multiple Hazards, and Climate Projections;
- In terms of experience to date, firms scored highest in the areas of Local and/or Indigenous Knowledge, Multiple Hazards, and Climate Projections.

Figures 1 and 2 map the relationship between: (a) how well risk assessment documents identified in this analysis address each EDMA requirement; and (b) the experience and capacity that firms responding to the survey reported for each EDMA requirement.

Figure 1: firm capacity vs. historical inclusion of EDMA criteria in risk assessments

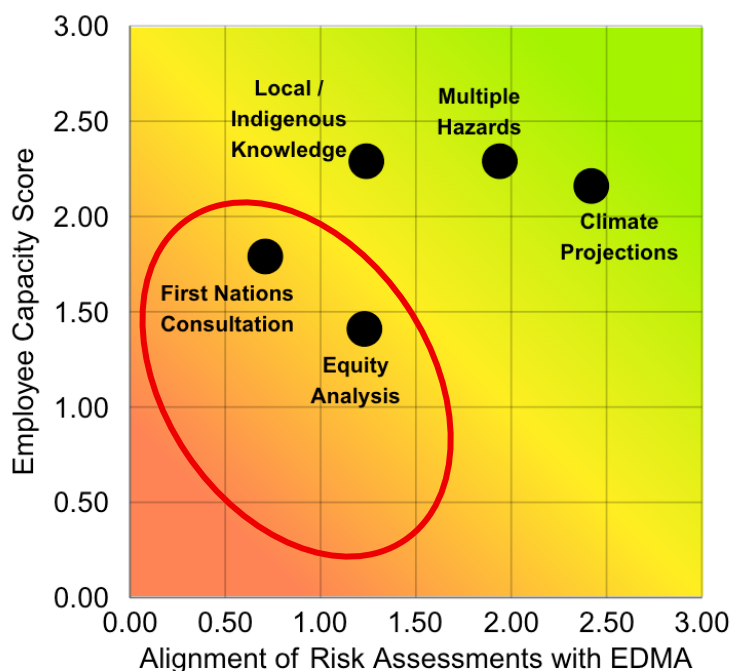
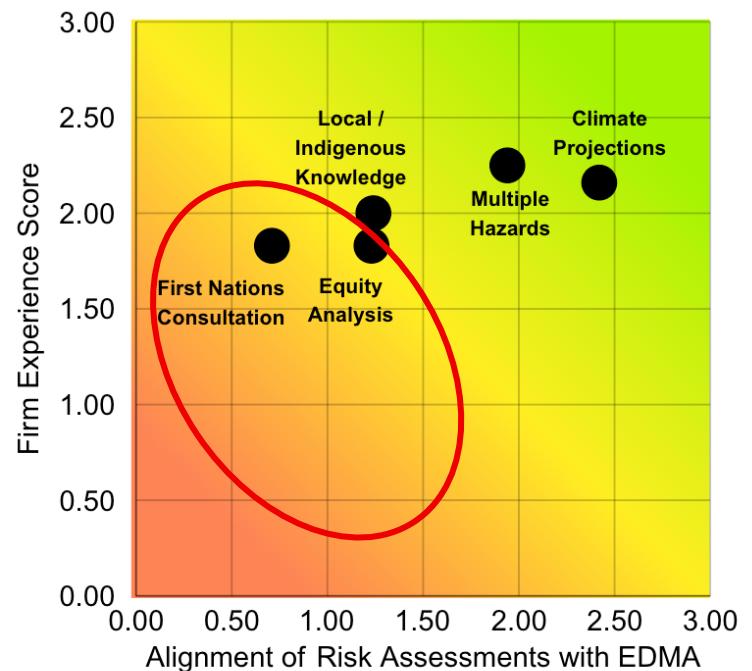


Figure 2: firm experience vs. historical inclusion of EDMA criteria in risk assessments



These figures show that the **local government risk assessment documents analyzed scored weakest on equity analysis and First Nations consultation. These EDMA criteria are also the two areas where surveyed firms reported having both the least experience and the weakest staff capacity.**

In addition to this survey of firms in B.C.'s risk assessment services sector, six interviews were conducted with local government emergency management staff (4) and private sector consultants (2). This small sample of experts provided useful qualitative context on factors that affect the efficient completion of risk assessments, including:

- Capacity: As many risk assessment activities require support and participation from staff and community members, **lack of capacity among local governments staff** is likely to affect the assessment process, regardless of the extent of private sector support available.
- Duration: **risk assessments generally take 6 to 18 months** between the project start date and the completion of final reports, depending on the community size and scope of the assessment.
- Funding Limitations: Presently, **local governments do not have access to long-term, stable funding to support risk assessments, and must apply to multiple funding sources for different risk assessment activities** (e.g., all hazards, public engagement, geo-technical analysis and equity analysis, etc.)

3 Cost Analysis

To assess the costs associated with relevant risk assessment projects, this analysis examined grant funding data from the Community Emergency Preparedness Fund (CEPF), as well as supplementary request for proposal (RFP) data from B.C. Bid and data supplied directly by local governments.³ **For the 204 risk assessment projects identified from these sources, project cost ranged from \$10,000 to \$1,100,000, with an average cost of \$154,212 and a median cost of \$150,000.** It should be noted, however, that this median cost mirrors the maximum funding allowance per applicant for CEPF "C1 Projects," which entail risk mapping, risk assessments, and risk planning. It is unclear how the scope or cost of risk assessment projects might be impacted if this budgetary restraint was removed.

This analysis confirmed that the cost of a risk assessment is primarily influenced by the scope and methodology employed in the risk assessment, as multi-hazard assessments were found to be more costly than single-hazard assessments.

To achieve compliance with EDMA *Division 3, s. 51*, all local governments will be required to produce an assessment that addresses "all reasonably foreseeable hazards." Accordingly, it is likely that future risk assessments will need to address multiple hazards, which are often more costly than single-hazard assessments. To meet this criterion, local governments that have previously completed only a single-hazard assessment may be required to conduct a more comprehensive multi-hazard process.

Historically, local governments have had access to 6-10 different grant programs or funding streams that can be used to support risk assessment work. Each source of

³ CEPF program data provided confidentially by the Union of BC Municipalities on July 14, 2025. Data included risk assessment projects undertaken by First Nations communities in addition to local governments to allow for an expanded sample size of reasonably comparable risk assessments.

funding is limited in terms of who is eligible to apply, what hazards are covered, how long funding is provided, and other limitations. **Experts and local government staff interviewed expressed a desire for a single comprehensive funding option that includes long-term money for all the required hazards and sub-projects that will be necessary to produce an EDMA-complaint risk assessment (public engagement, consultation, etc.).**

4 Key Findings & Further Considerations

As of 2023, 99 of 189 B.C. local governments reported that they had not completed a “climate risk and vulnerability or similar assessment.” This analysis of risk assessment documents also found that most, if not all, of the 90 assessments already completed by local governments do not substantively address the risk assessment criteria outlined in EDMA. Depending on the detailed requirements outlined in forthcoming regulations, these assessments may not be compliant with the Act. Furthermore, 48 of these assessments were at least five years old, and would be deemed non-compliant if a five-year recency requirement were included in forthcoming EDMA regulations. Therefore, **depending on the stringency of EDMA regulations, this analysis estimates that between 99-189 local governments will be required to complete a new or update an existing risk assessment to become EDMA compliant.**

As 67% of the local government risk assessment documents analyzed in this report were supported by private sector consultants, **it is likely that local governments will continue to rely on the private sector for some or all risk assessment activities.**

As private sector survey respondents indicated less experience and weak capacity in equity analysis and First Nations consultation, specific attention may be needed to ensure that future risk assessments can meet these EDMA criteria. Given that local government staff must be involved in the design and implementation of many risk assessment activities, **capacity limitations within local governments may hinder the completion of assessments, even with ample private sector support.**

The costs required to complete an EDMA-compliant risk assessment will vary based on the size of the community, how much risk assessment work has been completed previously, which types of work are still needed to address gaps in previous assessments, and other factors. As the cost of completed risk assessment projects closely aligned with the limitations of available CEPF funding (\$150,000), and do not reflect inflationary cost increases or potential scope increases required to meet EDMA criteria, the future cost of completing an EDMA compliant risk assessment may be higher. Future changes to the number of capable private sector companies and the number of risk assessment projects seeking support will also impact the cost of future risk assessment work.

References

BC Bid. "Contract Awards." Accessed June 3, 2025.

https://bcbid.gov.bc.ca/page.aspx/en/ctr/contract_browse_public

Emergency and Disaster Management Act, S.B.C. 2023. Accessed August 5, 2025.

<https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/23037#section51>

Government of British Columbia. "Local Government Climate Action Program Outcomes." Accessed August May 8, 2025.

<https://www2.gov.bc.ca/gov/content/environment/climate-change/local-governments/local-government-climate-action-program/local-government-outcomes>