



Final Report

Climate Adaptation and Disaster Mitigation Workshops

FEBRUARY 2024

PRESENTED BY





1. Introduction & Context

Eco-West Canada, in partnership with Manitoba's Emergency Management Organization (EMO) and the Department of Environment and Climate Change's Climate Action and Energy Innovation Division (Manitoba), hosted a series of Climate Adaptation and Disaster Mitigation Workshops in February 2024. The workshops took place in five communities across Manitoba - Killarney, Winkler, Gimli, St-Pierre-Jolys, and Onanole. Over 195 individuals attended the free events, representing municipal elected officials, chief administrative officers, public works staff, municipal emergency coordinators, watershed districts, and various Manitoba government departments.

The workshop agenda included expert presentations on climate adaptation, disaster risk mitigation, funding opportunities, group exercises and discussions, and opportunities for participants to share feedback. Representatives from municipalities were able to collaboratively discuss potential projects and approaches, and the challenges that they face in implementing proactive climate adaptation and disaster risk mitigation activities. The insights provided by participants will help to inform the Manitoba government on issues and opportunities related to local climate adaptation and disaster risk mitigation planning. Though information and feedback were collected during the events, it is important to note that these workshops were not a consultation and were primarily intended to be informative for participants.

2. Objectives

The objectives of the workshops were:

- To support risk assessment capacity, increase knowledge and understanding among municipal representatives of the value and opportunities in addressing climate and weather-related disasters, and to provide a framework to help them identify potential climate adaptation and disaster risk mitigation projects for their jurisdiction.
- To gain insight into municipal perspectives on the range, variety, and location of potential climate adaptation and disaster risk mitigation actions.
- To provide opportunities for collaboration between municipalities, Manitoba officials, and agencies such as Eco-West Canada.

3. Workshop Details

3.1 Promotion and Invitation

The workshops were promoted through the 2023 Association of Manitoba Municipalities Fall Convention, Eco-West Canada social media posts, and an advertisement in the December 2023 issue of the Municipal Leader magazine. Email invitations were also sent to a list of Eco-West Canada's prior Manitoba business contacts, a list of elected officials and chief administrative officers sourced from municipal websites, and watershed districts. The Association of Manitoba Municipalities also shared the invitation emails with their membership list.

3.2 Format

The workshops included a series of presentations, interactive exercises, and discussions aimed at encouraging understanding of climate adaptation and disaster risk mitigation strategies that municipalities could employ to increase resilience in the face of a changing climate. The agenda for the workshops can be found in the appendix (p. 8).

The expert presentation sessions provided participants with the following context:

- The impact of climate change on the prairies, local communities, and the costs of inaction
- Where to access the available data and resources to support climate resiliency planning, and how adaptation strategies can help municipalities to manage risk and mitigate disasters
- The importance of climate adaptation and how municipalities can leverage climate resiliency initiatives to reduce current and future costs, improve affordability for residents and enhance their community's competitiveness in the low carbon economy
- The evolving emergency management landscape, including efforts to shift from a reactionary post-disaster landscape toward a more proactive approach to reduce the impact and costs associated with the increased frequency and severity of disasters
- The sources of climate adaptation and disaster risk mitigation funds, and examples of how Eco-West Canada has used various climate change resources to improve its ability to access funding, and how participating municipalities can follow similar steps

Participants were encouraged to use what they learned in the sessions in the interactive exercises. Representatives from the Department of Environment and Climate Change, EMO, and Eco-West Canada circulated throughout the group work portion of the day to lend context and clarify points from the presentations where requested. The interactive group work activities are summarized below:

1. RISK MANAGEMENT MAPPING AND PROJECT IDENTIFICATION

Participants discussed specific climate and disaster risks facing their communities and applied what they learned during the presentations, along with their own experience in their municipality or district, to identify areas for potential climate adaptation and disaster risk mitigation projects and approaches. The project ideas were identified with numbered stickers on laminated municipal maps. Project detailing worksheets were subsequently distributed, and participants were asked to fill out the details of each project identified on their municipal map.

2. IDENTIFICATION OF CHALLENGES AND BARRIERS

Participants discussed and documented the challenges and barriers that prevent them from implementing climate adaptation and disaster risk mitigation activities in their municipalities. The responses were categorized into four categories: financial and funding management; human resources and capacity; infrastructure and physical works; and council, governance, and residents.

3. QUESTIONS

Though facilitators were on hand to provide expertise and specific feedback, participants were also invited to write out questions on sticky notes and post them on the designated 'Questions Parking Lot' poster. The written questions and additional verbal questions were addressed by project team members during the Q&A session.

3.2 Continuous Improvement

Based on feedback received from participants and facilitator observations, the following changes were made to the workshop presentations and order of sessions following completion of the first week of workshops. These changes did not materially affect workshop outcomes and supported the overall effectiveness of the subsequent workshops.

- The sequence of presentations and sessions were reordered to improve flow and provide participants with better context throughout the workshop.
- The Challenges and Barriers discussion exercise was adjusted for participants to reflect on four themes regarding their challenges and barriers: 1. financial and funding management; 2. human resources and capacity; 3. infrastructure and physical works; and 4. council, governance, and residents.
- The Winkler workshop was condensed due to a winter storm forecasted for the afternoon to ensure participants were able to travel home safely.

4. Insights

4.1 Risk Management Mapping & Project Identification Exercise

During the five workshops, more than 480 climate adaptation and disaster risk mitigation projects and approaches were identified through the Risk Management Mapping and Project Identification exercise. The exercise offered municipal representatives the opportunity to identify and discuss the climate risks they face, while fostering the generation of project ideas aimed at mitigating these risks. In addition, the workshop format facilitated mutual learning among municipalities and, in certain cases, revealed potential collaborative opportunities with other municipalities, watershed districts, or other groups.

These workshops created a space for municipalities to discuss the climate risks that they are facing. Many noted that their municipalities are still working to fully understand the solutions, disaster mitigation techniques, and funding options that are available to them. As expected, participants indicated that most of the identified projects or approaches are in the idea stage at this time, and most have not yet been discussed with their respective municipal council. Local authorities can use the ideas generated to enhance mitigation discussions and mobilize solutions with council.

The most common potential partners identified for collaboration on climate adaptation and disaster risk mitigation projects included the Manitoba government, watershed districts, and the federal government. Participants also noted interest in working with fellow municipalities as well as private landowners, identifying the potential for mitigation projects to affect downstream properties. In some instances, some projects may also involve access or use of private lands. Other important factors for moving projects forward included funding and council approval, highlighting the need for financial resources and political endorsement of projects. Additionally, the need for professional expertise, project management, and feasibility studies highlights the importance of specialized skills, leadership, and assessments in navigating the complexities of these projects and approaches.

Projects were categorized by the different hazards that they address including flood, erosion, drought, fire, wind, snow, extreme temperatures, and air quality, though many of the identified project ideas considered several environmental challenges simultaneously. While some projects focused on education campaigns for climate adaptation, most projects focused on mitigation of specific climate hazards. Flooding was identified as the dominant hazard with projects such as building up roads to prevent damage from flooding, creating water retention, and cleaning out culverts and ditches. Erosion and drought were also identified as important hazards to mitigate with projects such as planting shelterbelts, bank stabilization, and developing retention ponds. These types of projects and climate risks affecting communities identified by participants offer valuable insights into municipalities' priorities for climate adaptation and disaster risk mitigation projects.

4.2 Challenges & Barriers

During this session, participants were tasked to consider the challenges and barriers experienced when looking to implement climate adaptation and disaster risk mitigation projects and approaches, and to categorize them into the four categories as listed below. Additional detail is provided in the appendix.

- 1. FINANCIAL AND FUNDING MANAGEMENT** – Challenges related to securing and managing financial resources for climate adaptation and disaster risk mitigation projects. It includes difficulties in accessing funding, budget constraints, and allocation of financial resources. The most commonly identified challenges and barriers included:
 - Municipal budgeting processes
 - Inconsistent and reduced provincial funding
 - Grant application processes
 - Knowledge of potential funding sources
 - High and increasing costs of contractors and materials
- 2. HUMAN RESOURCES AND CAPACITY** – Challenges related to the availability, skills, and capacity of municipal personnel. It includes issues such as adequacy of training, staff retention, and the need for specialized expertise for implementing projects. The most commonly identified challenges and barriers included:
 - Insufficient in-house expertise for tasks like Hazard, Risk, and Vulnerability Assessments and Request for Proposal development
 - Challenges with staff retention and council turnover leading to loss of knowledge
 - Staff lack skills for grant application and reporting
 - Limited local contractors and high costs
 - Provincial offloading of responsibilities requiring skills and resources not available to local authorities
- 3. INFRASTRUCTURE AND PHYSICAL WORKS** – Challenges related to development, maintenance, and enhancement of physical infrastructure for climate resilience and disaster preparedness. It includes issues such as aging infrastructure, adequacy of maintenance, and the need for professional services (ie. engineering services) for evaluation, planning and design of solutions. The most commonly identified challenges and barriers included:
 - Resource availability for infrastructure maintenance and improvement
 - Resolving jurisdictional issues in shared infrastructure

- Inadequate infrastructure to support new development
- Collaboration with other agencies
- Regulatory challenges and changing standards

4. COUNCIL, GOVERNANCE, AND RESIDENTS – Challenges related to governance structures, decision making processes, and community engagement. It includes issues such as coordination among government agencies, level of community participation, and resistance to change from stakeholders. The most commonly identified challenges and barriers included:

- Compliance challenges with government legislation, permitting, and building codes.
- Lack of collaboration among municipal councils, provincial authorities, and other groups.
- High turnover in provincial and municipal councils affecting priorities.
- Governance issues due to insufficient council expertise in preparedness, infrastructure, and budgeting.
- Difficulty in developing shovel-ready projects due to lack of long-term strategy and resident buy-in, as well as timing constraints and budget limitations.

4.3 Questions and Responses

In addition to being able to pose questions during the workshops, participants were given the opportunity to place their written questions in the 'Questions Parking Lot.' From the questions asked, participants indicated interest in better understanding the following:

- Methods to garner influence with stakeholders for climate adaptation and disaster risk mitigation projects
- The relationship between climate adaptation and disaster risk mitigation projects (being resilient) and the competitiveness of municipalities for investments
- Details about how to conduct studies and access funding
- Methods to best manage uncertainty
- How the updated Disaster Financial Assistance program will provide opportunities for resilience
- Best ways to guide resident behaviour to reduce risks and vulnerabilities

Representatives from the Department of Environment and Climate Change, EMO, and Eco-West Canada reviewed the questions and provided their advice and information on available resources. These experts are also available via the contact info below to discuss any further questions that attendees may have.

5. Participant Feedback

A brief survey was distributed to participants at the end of each of the five workshops. The response to the workshops was very positive, with most respondents indicating that they learned something and that they found that the workshops useful.

- Did you learn something new at the workshop? – 98% responded yes
- Was the workshop useful? – 97% responded yes

6. Next Steps

These workshops offered an opportunity to foster discussions between municipalities, watershed districts, Manitoba and other key stakeholders on proactive planning and opportunities to mitigate potential disasters and enhance local climate resilience. Moving forward, Manitoba will review the information gathered via these workshops to help better understand municipal needs in this space and to inform future actions that build on this progress. It is anticipated that municipal representatives and other attendees may reach out to Manitoba representatives and Eco West Canada to share their insights on how to keep moving this conversation forward.

The projects, including worksheets and laminated maps were collected to be digitized and analyzed. The physical and digital copies, along with copies of the presentations, will be returned to their respective municipality in the spring of 2024.

7. Contact Information

The following representatives from Manitoba and Eco-West attended the workshops and can be reached for questions and additional follow-up. If you have any questions, concerns, or would like to share any additional information on your experience at the Climate Adaptation and Disaster Mitigation Workshops, please reach out to any of the representatives listed below.

Manitoba Department of Environment and Climate Change

Elaine Fox	Manager, Climate Adaptation	elaine.fox@gov.mb.ca	(204) 945-6488
Rob Patchell	Senior Policy Advisor	rob.patchell@gov.mb.ca	(204) 583-5095
Alexandra Bourne	Senior Policy Advisor	alexandra.bourne@gov.mb.ca	(204) 914-2934

Manitoba Emergency Management Organization

Stephanie Woltman	Manager of Mitigation	stephanie.woltman@gov.mb.ca	(204) 794-5393
Daniel Phalen	Senior Mitigation Analyst	daniel.phalen@gov.mb.ca	(204) 914-0339
Evan Graham	Senior Mitigation and Compensation Analyst	evan.graham2@gov.mb.ca	(204) 794-3557
Cassandra Kiernicki Bommersbach	Recovery & Mitigation Specialist	cassandra.kiernicki@gov.mb.ca	(431) 277-9767

Eco-West Canada

Dany Robidoux	Executive Director	drobidoux@eco-ouest.com	(204) 797-7328
Gaby Tétrault	Manager of Municipal Relations	gtetrault@eco-ouest.com	(431) 999-8910
Michel Forest	Senior Technical Writer	mforest@eco-ouest.com	(204) 806-4035
Shane Pelletier	Municipal Liaison Officer	spelletier@eco-ouest.com	(204) 229-3640

8. Appendix

8.1 Workshop Agenda

The workshop agenda followed the following format, save for the variations discussed in the Continuous Improvement section.

9:00 – 9:30

SETTING THE STAGE

9:30 – 10:00

CLIMATE ADAPTATION: PREPARE TODAY AND PROSPER TOMORROW

A look at how climate change continues to impact the prairies, its effect on local communities, and the costs of inaction. This is an opportunity to learn about available data, resources, and how adaptation strategies can help communities avoid disasters and manage risk.

10:00 – 10:30

REACTIVE TO PROACTIVE: DISASTER RISK REDUCTION IN MANITOBA

Review the changing landscape of emergency management in Canada and Manitoba, including creation of Manitoba EMO's Mitigation Program Area and other programs; how proactive disaster risk mitigation is of benefit to communities; and how to use risk management tools to support disaster risk mitigation.

10:30 – 10:45

BREAK

10:45 – 11:00

INTRODUCTION TO RISK MANAGEMENT MAPPING

Introduction of disaster risk mitigation approaches and how to use DFA maps as a tool to support planning.

11:00 – 12:00

RISK MANAGEMENT MAPPING EXERCISE

Using local DFA maps, work through identifying potential projects and approaches to support disaster risk mitigation for your community.

12:00 – 1:00

LUNCH

1:00 – 1:30

RISK MANAGEMENT MAPPING EXERCISE (CONTINUED)

Build on the discussions and projects generated before lunch.

1:30 – 2:00

TOP TIPS FOR DEVELOPING NEW FUNDING OPPORTUNITIES

Discussion of strategies and opportunities to identify and secure available funding for local climate adaptation and disaster risk reduction projects and approaches.

2:00 – 2:15

BREAK

2:15 – 3:00

ROUNDTABLE DISCUSSIONS: CHALLENGES AND BARRIERS

Discuss and document the challenges in implementing disaster risk mitigation and response at the local level.

3:00 – 3:15

Q&A

Manitoba Government representatives will comment on climate and disaster risk mitigation questions and concerns that attendees will have an opportunity to pose throughout the day.

3:15 – 3:30

CLOSING REMARKS

8.2 Presentations

The titles of the presentations and associated organizations are listed below.

1. **CLIMATE ADAPTATION: PREPARE TODAY AND PROSPER TOMORROW** - Manitoba Department of Environment and Climate Change
2. **REACTIVE TO PROACTIVE: DISASTER RISK REDUCTION IN MANITOBA** - EMO
3. **TOP TIPS FOR DEVELOPING NEW FUNDING OPPORTUNITIES** - Eco-West Canada

8.3 Workshop Dates, Locations, and Attendees

The level of attendance varied between the five workshops with different numbers and types of representatives from municipalities and watershed districts in attendance. These groups were able to collaborate on the municipal Risk Management Mapping and Project Identification and the Challenges and Barriers discussion exercises. The table below indicates the workshop dates, locations, and number of attendees.

Date	Workshop Location	# of Attendees
February 7, 2024	Shamrock Centre, Killarney	33
February 8, 2024	Quality Inn and Suites Conference Centre, Winkler	26
February 14, 2024	Lakeview Gimli Resort, Gimli	46
February 15, 2024	St-Pierre-Jolys Recreation Centre, St-Pierre-Jolys	44
February 20, 2024	Elkhorn Resort, Onanole	56

8.4 Risk Management Mapping & Project Identification Exercise Outcomes

The information gathered during the Risk Management Mapping and Project Identification exercise was analyzed by grouping the project and approach descriptions into hazard categories through interpretation. This data is presented in percentages in the tables below. Percentages noted in tables may not add up to 100% as participants were able to select or identify several options simultaneously.

APPROVAL OR DISCUSSION AT COUNCIL

Has this project or approach been discussed or approved in council?	
Discussed	37%
No response	23%
Not yet	20%
Approved	11%
I do not know	9%

POTENTIAL PARTNERSHIPS

Are there potential partners for this project or approach?	
Manitoba Government	53%
Watershed district	34%
Federal government	33%
Private landowner	30%
Another local authority	19%
Indigenous community	10%
Other	8%
Non-profit organization	8%
Industry group	7%
No	6%
I do not know	3%

ENABLERS

What would be needed to have this project or approach move forward?	
Funding	70%
Council approval	56%
Expertise	50%
Project management	45%
Feasibility study	27%
Other	8%
I do not know	1%

SIGNIFICANT HAZARDS

Projects Identified, per Hazard Category	
Flood	64%
Erosion	14%
Drought	11%
Fire	9%
Wind	5%
Snow	5%
Extreme temperatures	5%
Air quality	1%

8.5 Challenges and Barriers Discussion Outcomes

Responses provided during this discussion were transcribed from hand-written notes to a digital format and analyzed. This included interpreting responses as needed, grouping into common themes, and presenting them as complete statements. A very small number of responses could not be interpreted or were illegible, and therefore they were omitted from the analysis. The following represents a summary of the responses received.

FINANCIAL AND FUNDING MANAGEMENT

- Lack of grants, loans, funding, or revenue to pay for projects or programs.
- Misalignment between funding provided or awarded and increases in project budget due to the timing of when funds are released, as compared to when the project budget was set. The project cost could increase because of seasonal variation, inflation, supply costs and labor costs. The increase could happen between the time the funds are applied for and when the funds are released. In some instances, this can completely stall a project.
- Costs of contractors, consultants, and service providers can be prohibitively high.
- Difficulty identifying and engaging potential funding partners or sources.
- Provincial budget cuts that significantly impact budgeting ability.
- Funding caps that do not reflect the realities of project costs.
- Complex or extensive requirements and restrictions applied to funding, including limitations in stacking, funding thresholds for project type, matching requirements, mandatory assignment of where and how funding dollars are spent, and the short timeline to apply for funds.
- Challenges in municipal budgeting process, including timing, expertise, data management, and ensuring timely, completed audits.
- Limited or negligible municipal revenue due to small and/or shrinking tax base and limited capacity for economic development.
- Resident disagreement or 'push back' on spending on projects that are considered high priority for council or public works.

- Ensuring budgets are available for capital asset management.
- Unable to access available funding due to funding thresholds based on population size. Limited availability of basket and reserve funding models.

HUMAN RESOURCES AND CAPACITY

- Limited in-house human resources and expertise to undertake things such as engineering, Hazard, Risk and Vulnerability Analysis (HRVA), and development of Requests for Proposals and quotes.
- Issues due to limited number of permanent staff, employee retention, and consistent council turnover, resulting in lack of continuity and loss of institutional knowledge.
- Available staff lack the necessary skills and digital literacy to understand what grants are available, how to apply for them, and execute reporting obligations.
- Limited available local contractors and high associated expenses.
- Provincial offloading of responsibilities to RMs, requiring people and/or skills that RMs don't currently have and don't have the budget to hire or sub-contract for.

INFRASTRUCTURE AND PHYSICAL WORKS

- Ensuring availability of resources to maintain, manage, and improve built and natural infrastructure and assets.
- Understanding, navigating, and resolving jurisdictional issues with shared infrastructure.
- Insufficient infrastructure to support new development.
- Cooperation and collaboration with other agencies.

- Changing standards and regulatory requirements including permitting and red tape.
- Limited available asset management data, expertise, planning, and development.
- Deficiencies in municipal capacity including limited available equipment, space, and time for projects.
- Poor internet quality limits municipal capacity to adopt new or even minimum-standard technologies.
- High/increasing costs associated with utilities, hiring contractors, and purchasing or upgrading equipment and materials.
- Limited availability of local contractors and materials.
- Unexpected presence of endangered species on project sites.
- Extreme weather events causing damages to infrastructure.
- Insufficient availability of housing infrastructure within the community.
- Calculating, understanding, or budgeting for continued maintenance or replacement of infrastructure/equipment.
- Issues with set tender limits when seeking sub-contractors or service providers.

COUNCIL, GOVERNANCE, AND RESIDENTS

- Difficulty complying with federal and provincial government legislation, permitting and red tape, and building code limitations.
- Limited collaboration and communication between municipal councils, Manitoba, and other groups.
- High rates of turnover in provincial and municipal councils leading to changes in priorities.
- Governance issues stemming from insufficient council expertise related to preparedness, infrastructure, and budgeting.
- Developing shovel ready projects due to insufficient long-term strategy, asset management, and vision.
- Insufficient resident buy-in and conflicting priorities due to large proportions of seasonal residents (in some cases).
- Timing restraints due to municipal capacity, lengthy provincial approval processes, or issues with Manitoba Hydro / land titles.
- Limited available budget due to wanting to keep taxes low. Not qualifying for funding based on small population size.
- Nature Conservancy of Canada is purchasing private lands, limiting opportunities for development in the area.
- Understanding, navigating, and resolving jurisdictional issues with shared infrastructure.