

2021 SPRING FLOODING AFTER ACTION REVIEW



RCMP Photo – Jean Marie River, June 2021

June 2023

Government of
Northwest Territories

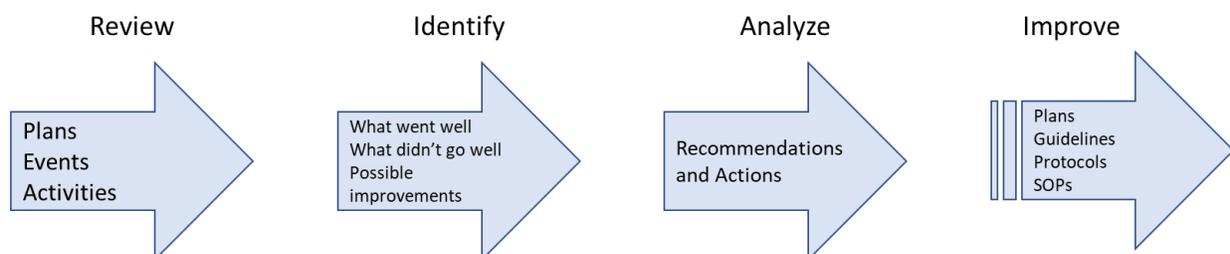
EXECUTIVE SUMMARY

In spring 2021, the Northwest Territories (NWT) experienced its worst flood season on record. This flood event impacted five communities along the Hay and Mackenzie River systems (Hay River, Jean Marie River, Fort Simpson, Fort Good Hope and Aklavik) and Little Buffalo River (Fort Resolution) resulting in damages to approximately 100 homes, 30 small businesses, six Non-government Organizations (NGOs) and community infrastructure. It also required the evacuation or partial evacuation of hundreds of residents from most of the impacted communities due to flooding or the high risk of flooding. Total damages are estimated at over \$40 million.

Efforts to prepare for and respond to this disaster were coordinated by roughly 15 community governments working with four Regional Emergency Management Organizations (EMOs) and the territorial EMO. Key Government of the Northwest Territories (GNWT) activities included monitoring risk levels, supporting community preparedness, coordinating evacuations and hosting of residents, providing emergency supplies/resources, applying disaster assistance and supporting recovery activities. This event took place during the COVID-19 pandemic which strained EMO and community resources; limited evacuation and hosting capacity; and required consideration of public health and containment measures during all response efforts. The 35-day emergency response was followed by a recovery period that continues as of September 2023.

The NWT EMO is committed to conducting an After Action Review (AAR) after major emergency events to identify opportunities for improvements and best practices during a response with a goal to improve territorial and community emergency plans and programs. In spring 2022, the EMO engaged Calian Ltd. to conduct stakeholder engagement, conduct analysis and draft the spring 2021 flood event AAR. The AAR process involved a review of current plans and conducting surveys and engagement sessions with EMO officials, regional representatives, and the public. While data collection was limited, many of the key emergency management officials across the NWT provided input. The report findings, while based on low overall results, should be viewed with this in mind.

Figure 1: After Action Review Process



There are always best practices and areas for improvement in any emergency response. Despite having plans in place and conducting a well-coordinated response, this report identifies 16 Opportunities for Improvement (OFIs) and three Best Practices (BPs) resulting in 22 Recommendations (Rs) related to four key categories of emergency management specific to EMOs at all levels, NWT EMO, and community government EMOs.

In some cases, the recommendations were very similar and specific to the same aspect of response and recovery. These results were consolidated as Action Items specific to each group (EMOs at all levels, NWT EMO, and community government EMOs) as follows:

EMOs at all levels should:

- Ensure they have plans and protocols for adequate surge capacity to quickly augment response staff during an emergency;
- During annual reviews of emergency plans, consider reviewing designated operational/meeting spaces and rest areas to optimize functionality and efficiency for staff during emergency events;
- Where possible, consider what measures can be taken to ease the stress on workers and incorporate them into emergency operational protocols where appropriate. This may include specialized services from health care professionals, and/or access to mental health support as required;
- Maximize available training and exercise opportunities related to specific emergency management plans and procedures;
- While it is likely that the large amount of ongoing government communications related to the COVID-19 pandemic was a factor in the public's ability to receive appropriate flood related information, consider reviewing and updating protocols for public communications to make them more accessible and easily understood by the public;
- Consider reviewing and updating evacuation and hosting plans and guidelines with protocols specific to supporting evacuees with mental health and addiction issues;
- Consider including plans and protocols for donation management in community and territorial emergency plans. NGOs could be pre-identified and engaged to support the management of donations during future events; and
- Consider developing standardized evacuation center guidelines and making information on evacuations and hosting arrangements more readily available and part of public information campaigns to educate and help manage expectations of the public during emergencies.

NWT EMO should:

- Consider planning and supporting increased participation from all levels of government in territorial, regional and community mock and tabletop exercise events;
- Consider providing training and/or a tool to community government EMOs on the process for making formal requests for GNWT support during emergencies for inclusion in community emergency plans;
- Ensure regular territorial EMO meetings include representation from all GNWT department and agencies, EMO partner organizations and regional EMO leads. To optimize situational awareness across all organizations, alternate members should be identified and participate when required to ensure full representation at meetings and briefings;
- Consider a single platform and online tool to enhance real-time information sharing for future events;
- While a centralized website was used by the GNWT to share information and updates on the flood situation with the public, consider reviewing this process for improvements and widely sharing this information with the public and local EMOs;
- Consider conducting an enhanced public information campaign on personal preparedness prior to flood season each year. This should include information on flood risk, personal planning requirements and how to build an emergency kit.

This could be done in coordination with the Department of Environment and Natural Resources (since renamed the Department of Environment and Climate Change) information on any expected high-water levels and flood risk;

- Consider developing territorial recovery guidelines and procedures, including the levels of territorial, regional and community government involvement related to recovery activities, to provide clarity and a broader understanding of the recovery process; and
- Consider developing and providing appropriate public information explaining the Disaster Assistance Policy (DAP) and including it in information packages for impacted residents considering a DAP claim.

Community Government EMOs should:

- During annual emergency plan reviews (required under the *Emergency Management Act*), consider:
 - including a review of what equipment and supplies are essential and must be immediately available during an emergency event,
 - establishing and maintaining a community-based EMO stockpile which includes community requirements for evacuee hosting and group lodging services, and
 - listing all emergency management primary points of contact for the NWT EMO/GNWT in the community emergency plan and sharing awareness with community emergency response personnel during preparedness activities;
- Similar to established NWT EMO training requirements, adopt and support a minimum level of exercising and training for community government staff who may be involved in emergency response;
- Consider including plans and protocols in the community emergency plan to assign a Liaison / Information Officer to coordinate information flow and control the message at the local level and liaise with outside agencies;
- Consider designating a specific public information resource for communications with the public during emergency events and including this information in the community emergency plan;
- Consider capturing traditional knowledge for future reference to help inform decision making during an emergency and consider including traditional knowledge keepers as community EMO participants;
- As part of preparedness activities, consider providing enhanced communication to residents on flood risk information (town meetings, information boards, etc.), information on personal and family preparedness, and sharing information on community plans and preparedness activities. Flood and climate change experts could be invited to participate; and
- Consider including Standard Operational Procedures (SOPs) for evacuation centres and shelter in place arrangements in community emergency plans. This should include an inventory of available community supplies and resources that can support these activities.

This report and action items will be used by the NWT EMO to update emergency programs and services. It will also be shared with the Territorial Planning Committee (TPC) for consideration when updating the NWT Emergency Plan and policies and made available to regional and community government EMOs for consideration in updating regional protocols and community emergency plans. These actions will ensure the NWT keeps pace with the changing complexity and requirements of emergency preparedness and response for future events.

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1. INTRODUCTION

1.1 Background

In 2021, the NWT experienced significant and widespread flooding caused by spring ice break up on the Mackenzie, Hay, and Little Buffalo River systems. This resulted in major damage to community infrastructure, homes, and businesses. It also required the evacuation of hundreds of residents from several communities, many for an extended period, due to flooding or the high risk of flooding.

Community governments are the lead for any emergency affecting their community and are responsible for the development and implementation of emergency plans to reasonably protect the public and minimize property damage and loss. Should an emergency require it, community governments can call upon the territorial government for assistance.

The NWT EMO (representing all GNWT departments and agencies) consists of the territorial EMO and five regional EMOs. The NWT EMO is the lead authority for the GNWT's emergency management program including supporting the emergency management activities of community governments. The basic structure for the response to emergencies in the NWT follows the Incident Command System (ICS) model. Regional EOCs and Incident Management Teams support communities during emergencies. The territorial EMO and Incident Management Team supports regions in their response and leads territorial level response activity.

The 2021 flood event took place during the context of the COVID-19 pandemic when NWT EMO resources were fully engaged with supporting all communities with their pandemic response efforts. The availability, capacity, and requirements for hosting evacuees in NWT communities was also impacted by ongoing public health measures and containment requirements. This resulted in the need to consider public health measures during all response efforts and to be flexible in managing evacuations and making hosting arrangements, sometimes using non traditional host communities.

One of the responsibilities of the NWT EMO is to review and recommend modifications to territorial and community government emergency plans and programs. To support this work, the NWT EMO conducts an AAR for all major events. The AAR serves to identify opportunities for improvement, and to build on best practices implemented during emergency events.

The GNWT engaged Calian Ltd. to conduct an AAR of the overall response to the 2021 spring flood event. The findings contained in this report are derived from observations gathered through engagement sessions with territorial, regional and community government representatives. Surveys were also made available to all three levels of government and the public to better understand overall perspectives and opinions.

1.2 Purpose

The purpose of this AAR is to understand, assess and evaluate response and recovery activities for the 2021 spring flooding event. This information is used to make improvements to plans and protocols in

preparation for future events. It involves reviewing plans, documenting the event, identifying what went well, what could be improved upon and drawing conclusions and recommendations for improvements.

Findings and action items contained within this AAR will assist the NWT EMO to improve territorial emergency plans and programs, and support planning and emergency exercise work with Local (community government) EMOs. A key goal is to improve community government emergency plans and increase public safety and resilience in communities across the territory during future emergencies.

2. EVENT OVERVIEW

Damaging floods regularly occur during spring break up in the NWT due to ice jams on the Mackenzie and Hay River systems. Spring break up starts in April in the southern region of the NWT, works its way northward, and is completed in about ten weeks. The communities of Hay River, Fort Simpson, Fort Liard, Nahanni Butte, Tulita, Fort Good Hope, Fort McPherson, Aklavik and Jean Marie River are all considered at increased risk of annual flooding.

Figure 2 - Map of Impacted Communities during 2021 Spring Floods



In 2020, water levels on most NWT river systems remained high throughout the summer and into the winter indicating an increased risk of flooding in spring 2021. At the beginning of May 2021, the river systems began to break up and ice jam related flooding impacted the communities of Hay River and Fort Resolution (Little Buffalo River). As breakup continued along the Mackenzie River system flooding also impacted the communities of Jean Marie River, Fort Simpson, Fort Good Hope and Aklavik. Many of the communities impacted required partial or full community evacuations and sustained significant damages to property, infrastructure, and the environment.

The NWT EMO was active monitoring, coordinating and responding to these flood events including supporting impacted communities from the 5th of May until 11 June 2021, when the active response ended, and recovery work transitioned to a recovery committee. These events led to the full or partial evacuation of five communities, and damages resulting in approximately 100 homeowners, 30 small businesses, 5 community governments and 6 NGOs seeking financial assistance from the GNWT. At that point, this was the largest flood event in NWT history with an estimated \$40 million in damages.

A timeline of major events and activities follows:

- On May 5, 2021, activations of the territorial and regional EMOs began with the South Slave and Dehcho Regions and progressed north as river breakup unfolded. On May 6^h, risk of flooding at the mouth of the Hay River prompted the Town of Hay River to issue an Evacuation Alert with the assistance from the territorial EMO. The NWT public alert system, NWT Alert, was used to notify residents of the need to be prepared to evacuate on short notice. On May 7, water levels rose in the South Slave and Dehcho regions prompting Hay River to issue an Evacuation Order for low lying areas of Hay River and declare a State of Local Emergency (SOLE). It also required a number of Jean Marie River residents to evacuate.

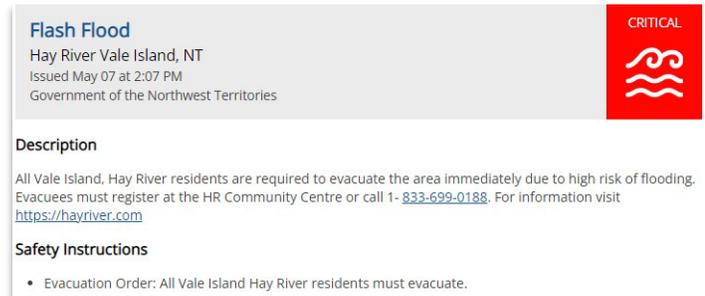


Figure 3: NWT Alert, 7 May 2021

- By May 8, breakup was underway in Fort Simpson and the Village declared a SOLE, issued an Evacuation Order, and requested GNWT assistance with hosting evacuees. Not all evacuees from the impacted area could be accommodated locally outside the flood zone in Fort Simpson. The designated hosting site for a Fort Simpson evacuation is normally the City of Yellowknife however COVID-19 conditions at the time made this location unsuitable, limiting hosting options and capacity. Subsequently evacuation centers were established in Fort Providence for Jean Marie River residents and in Fort Smith for Fort Simpson evacuees. Evacuation centers were established in accordance with the approved guidelines for evacuation and hosting in a COVID-19 environment. Evacuation of Jean Marie River residents to Fort Providence took place by road and Fort Simpson residents were moved by air transportation to Fort Smith.
- From May 9 to 18, additional residents were evacuated from Fort Simpson and Jean Marie River. With the flood risk period for Hay River having passed, the Town of Hay River was stood up as an additional host community for Fort Simpson evacuees.

The territorial EMO worked with the Dehcho Regional EMO to coordinate delivery of resources required in Fort Simpson, including water, camping kits and food hampers. A sea can for storage and food hampers for evacuees were also provided to support Jean Marie River. Additionally, the territorial EMO worked with the Sahtu EMO to pre-position cots, blankets and sheets in Norman Wells and Fort Good Hope in preparation for potential evacuations in the Sahtu Region.

- Water levels started to drop in Fort Simpson on May 16, allowing the power corporation to work on restoring power to the flood impacted area. On May 18, conditions in Fort Simpson had stabilized and the return of evacuees began. At that time Jean Marie River and Fort Simpson authorities provided Municipal and Community Affairs (MACA) with resolutions asking the GNWT to apply the DAP.
- On May 19, the territorial EMO, Department of Infrastructure, and the South Slave and Dehcho Regional EMOs worked to coordinate flights to return Fort Simpson evacuees from Hay River and Fort Smith. The territorial EMO coordinated the purchase and delivery of 300 food hampers to Fort Simpson to support residents returning to the disaster area. Dehcho Regional EMO, in partnership with the community governments, began reviewing flood damage in Fort Simpson and Jean Marie River, and information packages on disaster assistance were shared with the affected communities.
- On May 20, the Executive Council approved the application of the DAP for the 2021 floods and on May 21 the Minister of MACA provided direction to establish the Disaster Assistance Committee (DAC) and apply the policy.
- Between May 20 and 29 water levels in Fort Good Hope prompted the community government to declare a SOLE, call for an evacuation of low-lying areas, and establish an evacuation centre in the community. The Sahtu Regional EMO deployed an additional 30 cots, blankets, and sheets to the community to support hosting of evacuees. During this time, flood risk in Aklavik had increased and as a precaution, vulnerable residents (homecare clients and elders) were evacuated to Inuvik. The territorial EMO deployed 100 blankets and sheets and 150 comfort care kits to Inuvik to support Aklavik evacuees. In addition, the territorial EMO finalized a contract for damage assessments to be conducted in Jean Marie River and Fort Simpson.
- Between May 26 and 27, senior MACA officials visited Jean Marie River and Fort Simpson to gather information and attend meetings with community government leadership and residents to understand their concerns. During this time, Fort Good Hope, in partnership with the Sahtu Regional EMO, developed an inventory of structures damaged by the flood in that community.
- Between May 30 and June 2, the Hamlet of Aklavik declared a SOLE due to rising water levels and worked with the Inuvik Regional EMO to evacuate additional vulnerable residents to Inuvik.



Figure 4: Aklavik, 30 May 2021 - GNWT photo

The territorial EMO deployed additional hosting supplies, including cleaning supplies, personal protective equipment (PPE), and blankets to Inuvik. In the Dehcho Region damage assessments began in Jean Marie River.

- Over the next few weeks, the flood risk to Aklavik lowered and evacuees returned home from Inuvik on June 7. MACA established the DAC led by an Assistant Deputy Minister (ADM) for Flood Recovery and the transition of recovery activities from the NWT EMO took place. MACA Pathfinders were appointed within MACA to support the DAC and assist community governments and residents in navigating the recovery process. Damage assessments were completed in Jean Marie River, Fort Simpson, and Fort Good Hope.
- While all EMOs were able to stand down on June 11, recovery work, including emergency mould abatement work, flood level surveys, environmental spill identification, and repairs continued for many months under the direction of the DAC.

3. METHODOLOGY

3.1 General

The data collection and analysis methodology included the collection of both quantitative and qualitative information. As part of this process, numerous plans and guidelines were considered that served as a baseline for expected actions including the NWT Emergency Plan (2018), Town of Inuvik Emergency Response Plan (2014), Fort Simpson Emergency Response Plan (2019), Fort Smith Emergency Management Plan (2015), Town of Hay River Emergency Plan (2019), and GNWT Flood Response Situation Reports (2021).

In consultation with the territorial EMO, response and recovery activities included in this assessment focused on four key categories as follows:

- **Resource Management:** Considers the ability of the territorial, regional and community government EMOs to sustain long-term operations through trained personnel, necessary equipment and other support mechanisms; this includes the availability of supplies and equipment critical to an effective response as well as ease and efficiency of accessing items not immediately available.
- **Training and Exercise:** Considers the knowledge and experience of available staff when required to fill emergency management functions and positions.
- **Information Management:** Considers the effectiveness of the exchange of information between supporting government departments, community responders and the quality of messaging to the public.
- **Concept of Operations:** Considers the overall function of the Emergency Operations Centre (EOC) in the ability to support operational activities for each section and individual staff needs during an extended response, including coordination of response with respect to interoperability of supporting departments and agencies.

3.2 Data Collection

Data collection took place over a six-week period and was primarily conducted through two mechanisms: surveys to all levels of government and the public; and engagement sessions with territorial, Inuvik Region, Sahtu Region, Dehcho Region and South Slave Region EMO representatives. The surveys were divided into three demographic groups: NWT EMO members, community officials, and the public.

To gather the views of the public, including flood affected individuals, the public survey link was advertised and hosted on the GNWT website. The link to the community government surveys were distributed via email to the Regional Superintendents for distribution to community governments within their respective regions. The link to the NWT EMO survey was sent to key members of the GNWT via email.

The surveys generated 12 responses from NWT EMO members, 4 responses from community government officials and 28 responses from the public. The majority of the public responses indicated Fort Simpson as their community and not all participants answered every question in each survey. Four engagement sessions and six interviews were conducted across four regions resulting in response input from territorial EMO staff, nine different departments and agencies, and community governments.

Despite the active marketing of the surveys and engagement sessions to the public, community government staff and GNWT officials, responses were relatively low resulting in a small sample size on which to base analysis and recommendations. A similar size project to conduct an AAR of the 2014 wildfire response using surveys and interviews resulted in 68 survey responses and 60 completed interviews. The low response and engagement results are likely related to key territorial and community government officials' engagement during the COVID-19 pandemic and post pandemic period, ongoing flood recovery efforts and preparedness activity for spring 2022 break up. While the data sample size is considered small it included input from many of the key emergency management officials within the NWT and the results of data analysis should be considered valid.

The information collected was aggregated to preserve anonymity and identify general trends in observations. It should be noted that the small sample size of data can impact the significance of quantitative findings and should be considered when making decisions based on recommendations within this report.

3.3 Data Analysis

Numerous territorial and community government emergency plans and guidelines were considered to provide context and serve as a baseline for expected actions and activities. Data extracted from the online survey, interviews, and engagement sessions were analyzed to address common themes and similarities that indicated trends in the collective experience. For each category, context is provided, and key findings are identified and presented with supporting observations.

Findings are presented as either a Best Practice (BP) or an Opportunity for Improvement (OFI). Both types of findings are based on Supporting Observations (SO). The SOs come from the data: either the surveys, focus groups or interviews. Recommendations (R) are provided for all findings.

4. FINDINGS

4.1 Resource Management

The 2021 floods placed significant strain on the availability and sustainability of required resources for the overall emergency response. Flooding of the river systems in the NWT affected several communities simultaneously and in succession while the NWT EMO was still involved in COVID-19 response activities. Yellowknife was experiencing a COVID-19 outbreak at the same time as evacuations were taking place, putting a strain on human resources, and limiting the availability and sustainability of evacuation and hosting arrangements.

Although the need for resources can vary for large-scale responses, the focus for this review is the availability of resources including staff, equipment and supplies, and facilities. Despite the duration of this response effort and the demand that it placed on resources, organizations were able to effectively manage human resource capacity, acquire necessary equipment/supplies, and operate evacuation centers for the duration of the response.

Most of the EMO and community government survey respondents indicated they had sufficient resources to fulfill their roles and responsibilities throughout the emergency. Even when resources were not readily available, some organizations were well positioned to obtain those resources in a timely manner, citing strong relationships within a community-based emergency management structure across the region that enabled the support.

4.1.1 Human Resources

While human resources were stretched during the event, this did not appear to negatively impact the response. Organizations were able to effectively carry out their respective roles throughout the 2021 flood response. It should be noted that lessons learned throughout the COVID-19 pandemic did create some efficiencies which were successfully applied however, had the flood response lasted longer or had there been competing emergencies, some organizations may not have had adequate capacity to sustain operations. The availability of some staff was also compromised when some individuals were personally impacted by the flood. Overall, organizations were able to meet their human resource needs during this event.

4.1.1.1 Human Resources - Opportunities for Improvement

OFI #1	Mechanisms to augment human resource capacity were inadequate or not optimized for some organizations.
SO-01:	Some organizations indicated limited human resource capacity to maintain both essential emergency services and day-to-day operations for an extended period. As personnel in some locations became fatigued, awareness of options to augment staffing levels were not apparent. Some representatives from the Inuvik, Dehcho, and South Slave Regional EMOs and the territorial EMO identified that they did not have relief during the response, worked long hours, and assumed multiple roles for an extended period with little support.

SO-02:	<p>Responders at the community government, regional and territorial levels indicated that the Department of Environment and Natural Resources (ENR) was a key source of staffing support due to their availability and level of emergency response training. While this was a viable and effective source for resourcing, senior level representatives confirmed that this would not have been possible had the flood happened during an active fire season because would not have been able to provide a comparable level of staffing. There was limited engagement noted with other territorial departments to request additional staff temporarily to support response operations.</p>
R-01:	<p>EMOs at all levels should ensure they have plans and protocols for adequate surge capacity to quickly augment response staff during an emergency.</p> <p>While the NWT EMO has a process in place to draw staffing from other departments to provide surge capacity during major events, developing and maintaining an inter-departmental emergency reserve or roster of qualified personnel may be an effective way to manage human resource limitations. By identifying staff across all GNWT departments and agencies with specific capabilities, training and skills, NWT EMO and partner organizations could readily access qualified staffing during large scale and/or extended response activity.</p> <p>Community governments often rely on available staffing and key volunteers during emergency events. A similar approach could be taken by community government EMOs to develop a roster of qualified staffing and volunteers and include it in community emergency plans as a ready resource during emergency events.</p>

4.1.2 Supplies and Equipment

Overall, the availability of equipment and supplies remained adequate throughout the response. However, there were some delays noted in several communities that impeded their ability to provide immediate support to impacted residents. Generally, there were no observed supply chain issues and items typically arrived in a timely manner according to the transportation resources that were available.

4.1.2.1 *Supplies and Equipment – Opportunities for Improvement*

OFI #02	The provision of critical supplies was delayed in some communities.
SO-03:	Some regional representatives indicated that Fort Good Hope lacked immediate access to heavy-duty pumps for large volume water management when high water was threatening the fuel supply for the community.
SO-04:	Some community government officials who supported sheltering in place or the hosting of evacuees indicated they did not have immediate access to necessary equipment to support these activities.

SO-05:	A few responders at the local and regional levels identified that due to flight restrictions and the lack of road access, tents used for sheltering in place arrived 24 to 48 hours following a request, delaying efforts.
R-02:	During their annual community emergency plan review, community government EMOs should consider including a review of what equipment and supplies are essential and must be immediately available during an emergency event. Consideration should be given to establishing and maintaining a community-based EMO stockpile which includes community requirements for evacuee hosting and group lodging services.

4.1.3 Facilities

A quality workspace design can lead to a less stressful and more productive atmosphere, particularly during prolonged response situations. It is essential that the facilities and work environment of staff are considered in planning for emergencies. Staff need to feel comfortable and calm in their physical work settings to optimize productivity. While it is expected that during a prolonged event like a flood some staff would become fatigued, there were also opportunities to improve the work environment identified within some locations that could have lessened the impact on staff.

OFI #03	Some designated meeting spaces were not always optimal for effective response planning.
SO-06:	Some territorial and regional participants in the engagement sessions indicated that space was not designated for each section to meet privately resulting in meeting locations changing daily.
SO-07:	Participants indicated that some organizations did not have identified rest areas. This can have negative impacts on mental health, particularly during prolonged events where staffing capacity is limited.
SO-08:	In Fort Simpson, connectivity was identified as a barrier to efficiency when EMO staff needed to leave the meeting space to make calls or connect to the internet and return with information necessary to make decisions.
R-03:	During annual reviews of emergency plans EMOs at all levels should consider reviewing designated operational/meeting spaces and rest areas to optimize functionality and efficiency for staff during emergency events.
R-04:	Worker care and safety is an important consideration of emergency preparedness and response. Where possible, EMOs and partner agencies should consider what measures can be taken to ease the stress on workers and incorporate them into emergency operational protocols where appropriate. This may include identifying dedicated spaces as rest areas, specialized services from health care professionals, and/or access to mental health support as required.

4.2 Training and Exercises

The NWT EMO has set training standards for its staff and coordinates the delivery of territorial emergency management training programs sufficient to sustain the NWT emergency management system. The NWT EMO may also provide training opportunities, and advice and assistance to departments and community governments for the development of their own emergency management training programs.

In addition, the NWT EMO coordinates and participates in emergency management exercises to practice and improve the NWT emergency management system. These exercises may include community, regional, territorial and partner organizations. At least one territorial level exercise takes place every three years.

This section considers how previous training and/or experience impacted GNWT and community government staffs' understanding of their role during the flood response and identifies additional training requirements that may help during future emergency response efforts. Appropriate training and discussion-based tabletop and/or live mock exercises are useful tools to assist community governments to better prepare for emergencies.

The majority of community government respondents noted that they understood their roles and responsibilities to plan for and respond to flooding however some indicated they did not feel they had sufficient training to effectively carry out their role or were uncertain. All the NWT EMO and community government survey respondents indicated they understood their organization's roles and responsibilities as identified in the NWT Emergency Plan.

4.2.1.1 *Training Requirements – Best Practices*

BP #01	Knowledge of the procurement process to obtain and / or provide necessary supplies and equipment at the regional and territorial level was excellent.
SO-09:	Local EMO authorities in Aklavik, Fort Simpson, and Fort Smith were very familiar with how to request supplies and equipment from the GNWT. Interviews with regional responders indicated that the timing of requests was a key factor in efficient response times.
SO-10:	During the engagement sessions some participants identified that trained staff were able to assist or support untrained staff in following established protocols for documenting requests and receiving goods.
R-05:	NWT EMO should consider providing training and/or a tool to community government EMOs on the process for making formal requests for GNWT support during emergencies for inclusion in community emergency plans.

4.2.1.2 *Training Requirements – Opportunities for Improvement*

OFI #04	Some staff require more training opportunities to better understand emergency management processes, roles, and responsibilities.
SO-11:	Some organizations require additional training on the processes and protocols related to a multi-agency multi-jurisdictional response effort. For example, some community government responders indicated that they lack the training and awareness to understand what requests can and should be made to the GNWT for support during an emergency response.
SO-12:	Some support staff indicated they were not trained in emergency management documentation processes.
SO-13:	Some focus group participants indicated that participation in territorial exercises by other levels of government and other organizations has been inconsistent and limited.

SO-14:	While the NWT EMO has established training requirements, including ICS, to work in territorial and regional EOCs, some community government and regional participants indicated that there is no minimum level of ICS training identified for staff to work in community government EOCs.							
SO-15:	Some focus group participants identified that there are no mentorship programs currently in place to support regional and community government personnel gain understanding and expertise on the territorial emergency management processes within EMO.							
SO-16:	<p>When asked what future training would help staff in their respective roles moving forward, NWT EMO participants indicated a priority for job-specific training. This was consistent with community government participants who agreed on needed training requirements for community government staff and elected officials in dealing with emergencies (see Table 1).</p> <p style="text-align: center;">Table 1: Future Training Requirements</p> <table border="1" data-bbox="321 646 1421 989"> <thead> <tr> <th data-bbox="321 646 1421 730">Future Training Needs and Priorities</th> </tr> </thead> <tbody> <tr> <td data-bbox="321 730 1421 804">Job-specific training (e.g., Incident Command System, departmental responsibilities, Emergency Operations Centre, Liaison Officer)</td> </tr> <tr> <td data-bbox="321 804 1421 842">Training on departmental/organizational emergency plans, procedures, and processes</td> </tr> <tr> <td data-bbox="321 842 1421 879">Role / function-specific training</td> </tr> <tr> <td data-bbox="321 879 1421 917">Training on the Territorial plans, procedures, and processes (of other organizations)</td> </tr> <tr> <td data-bbox="321 917 1421 955">Flood response training</td> </tr> <tr> <td data-bbox="321 955 1421 989">Simulated emergency exercises</td> </tr> </tbody> </table> <p>Other training courses that were noted in the surveys included volunteer roles and responsibilities, and administrative software.</p>	Future Training Needs and Priorities	Job-specific training (e.g., Incident Command System, departmental responsibilities, Emergency Operations Centre, Liaison Officer)	Training on departmental/organizational emergency plans, procedures, and processes	Role / function-specific training	Training on the Territorial plans, procedures, and processes (of other organizations)	Flood response training	Simulated emergency exercises
Future Training Needs and Priorities								
Job-specific training (e.g., Incident Command System, departmental responsibilities, Emergency Operations Centre, Liaison Officer)								
Training on departmental/organizational emergency plans, procedures, and processes								
Role / function-specific training								
Training on the Territorial plans, procedures, and processes (of other organizations)								
Flood response training								
Simulated emergency exercises								
R-06:	<p>Territorial, regional and community government EMOs and partner agencies should maximize available training and exercise opportunities related to specific emergency management plans and procedures. The NWT EMO should consider planning and supporting increased participation from all levels of government in territorial, regional and community tabletop and mock exercise events.</p> <p>Like established NWT EMO training requirements, a minimum level of exercising and training for community government staff who may be involved in emergency response should be encouraged and supported by community government EMOs.</p>							

4.3 Information Management

Information is the most valuable commodity during emergencies or disasters. It is what authorities and the public need to make decisions and is an essential aspect in an organization’s ability to gain (or lose) visibility and credibility. Above all, it is necessary for rapid and effective assistance to those affected by a disaster. This section addresses the effectiveness of information exchange between responding agencies, as well as messaging provided to the public.

The NWT Emergency Plan indicates that public communications are a critical and continuous process.

It requires coordination to ensure consistency and accuracy and must be timely, clear, and easily understood by residents. The GNWT Communications Group is responsible to guide government-wide public communications in accordance with the Emergency Communications Protocol.

Operational communications used by the NWT EMO is essential to the development of situational awareness and objectives necessary for the effective management and coordination of emergency operations. Complete, accurate, and timely communication must be maintained between all departments, all levels of government, and all response elements. The NWT EMO also manages the Territorial Public Alerting System, NWT Alert, which provides public alerts to NWT residents during emergencies and disasters. It is designed to immediately deliver critical and potentially life-saving alerts to residents through cell phone systems, television, and radio networks across the NWT. When required the NWT EMO will use NWT Alert to advise and update the public on emergency critical information including, information on risk, protective measures, and instructions when residents are or may be impacted by emergencies.

4.3.1 Information Exchange

Clear communications by all appropriate authorities are critical before, during and after an emergency. Emergency communications for the 2021 flood events included information on risk levels, preparedness measures, evacuations (including COVID-19 hosting guidelines), regular touch-point meetings with EMO officials, public alerting communications (NWT Alert) and recovery communications (including Pathfinder engagement activity).

As part of the GNWT response, Regional EMOs are the direct point of contact and communication link with community governments. In turn, the territorial EMO is the link for GNWT support to all Regional EMOs. The territorial EMO hosted weekly meetings with territorial EMO members and partners to provide updates and allow for questions throughout the event. Additionally, the territorial EMO issued the following situational awareness tools regularly (typically each Monday, Wednesday, and Friday) throughout the event:

- Situation Reports: issued to all territorial EMO members, partners, and regional EMO leads; and
- Executive Incident Reports: issued to Deputy Ministers and the Minister of Municipal and Community Affairs (subsequently sent to Ministers and Members of the Legislative Assembly).

Most territorial, regional EMO members and community government officials surveyed indicated that emergency information was shared effectively between the GNWT and community governments. Communication tools were viewed as effective and reliable by most NWT EMO members however only some community government participants thought favorably of those tools. The situation reports issued by the territorial EMO were considered effective as were the ongoing territorial EMO meetings in maintaining situational awareness. Additionally, the majority of NWT EMO and community government respondents indicated that the GNWT effectively communicated information on high water levels and the risk of flooding, preparedness measures for individuals, small businesses and community governments, and evacuation and hosting information.

Sources used to obtain situational awareness varied depending on the response group with “conversations with people” indicated overall as the most relied upon and consistent source of information for EMO members, community government officials and the public based on those surveyed.

While formal reports including situation reports, briefings, and weather forecasts had the higher percentage of responses from the surveyed NWT EMO members, social media and conversations with others was indicated higher by surveyed public respondents.

Table 2: Sources Used to Maintain Situational Awareness

Source of Information	Responses Ranked by importance	
	EMO	Public
Weather forecast (Environment Canada, Weather Network, etc.)	1	3
Social Media (Facebook, Twitter, Instagram, etc.)	6	1
News outlet (local or national)	4	5
Media release from NWT EMO	5	7
Situation Reports / briefings / bulletins from NWT EMO	1	8
Media release from my community government	5	4
Weather conditions	3	4
Conversations with others (phone, in person)	2	2
High Water Level Reports	2	4
Other (knowledge holders, Updates from the Senior Administrative Officer, and Mayor daily)	5	6

4.3.1.1 *Information Exchange – Best Practices*

BP #02	Traditional knowledge keepers were essential in gathering information regarding the behavior of the river for the purpose of decision making.
SO-17:	Staff who participated in the engagement sessions at the community government level agreed that the inclusion of traditional knowledge was key in making sound decisions regarding the response.
SO-18:	A granted request to take traditional knowledge keepers up in a helicopter to view the river in real-time was advantageous to provide assessments about the rivers' behaviour back to the hydrologist for consideration.
R-07:	Hands on experience and wisdom from elders and knowledge keepers offers unique insight into a comprehensive connection to the behaviour of land, animals, and seasons. Local EMOs should consider capturing traditional knowledge for future reference to help inform decision making during an emergency and consider including traditional knowledge keepers as local EMO participants.

4.3.1.2 Information Exchange – Opportunities for Improvement

OFI #05	Community government awareness of primary points of contact within the GNWT could be improved.
SO-19:	Some focus group participants indicated that at the community government and regional levels greater clarity is needed on who staff should contact within the Regional EMO during emergencies.
R-08:	Community government EMOs should consider listing all emergency management primary points of contact for the EMO/GNWT in the community emergency plan and share awareness with community emergency response personnel during preparedness activities.

OFI #06	Information exchange between the Territorial EMO and some regions could be improved to optimize situational awareness.
SO-20:	Some deployed field staff indicated during focus group sessions that timely and accurate information was difficult to obtain during evacuations.
SO-21:	Some engagement session participants indicated that some responders became overwhelmed when attempting to locate useful information and that this activity consumed much of their time in an already stressful situation.
SO-22:	Some engagement session participants identified that regular situational update meetings conducted by the territorial EMO did not always include all regional representatives which hampered situational awareness for some.
SO-23:	Some engagement session participants noted that there is currently no single on-line platform available to ensure information can be shared in real-time by all response organizations to ensure a common operating picture is effectively available and maintained.
SO-24	Some community government participants indicated that they identified a single point of contact to act as a liaison with outside agencies partway through the flood event. Those impacted stated that this improved morale, efficiency, and response times.
R-09:	Regular territorial EMO meetings should include representation from all GNWT department and agencies, EMO partner organizations and regional EMO leads. To optimize situational awareness across all organizations, alternate members should be identified and participate when required to ensure full representation at meetings and briefings.
R-10:	The territorial EMO should consider a single platform and online tool to enhance real-time information sharing for future events.
R-11:	Community government EMOs should consider including plans and protocols in the community emergency plan to assign a Liaison / Information Officer to coordinate information flow and control the message at the local level and liaise with outside agencies.

4.3.2

4.3.3 Public Information

Information exchange with the public was an important component of the response efforts and was essential to ensuring public safety. Information sources used by the public varied greatly, however a majority of surveyed members of the public indicated that public communications could be improved. The majority also indicated that that community governments and the GNWT did not provide them with all the information they needed during the flood. In contrast, most EMO and community government respondents indicated they shared information effectively with residents.

4.3.3.1 Public Communications – Opportunities for Improvement

OFI #07 Information provided to the evacuees related to accommodations and services could be improved.	
SO-25:	<p>Engagement session participants indicated that some evacuees that arrived in host communities had unrealistic expectations of the available accommodations (e.g., some assumed they would be placed in a hotel versus an evacuation centre). This caused significant frustration among evacuees and created additional stress for staff who had to manage contentious encounters with angry displaced residents.</p>
	
	<p>Figure 5: Fort Smith Evacuation Centre – GNWT photo</p>
R-12:	<p>Territorial, regional and community government EMOs should consider developing standardized evacuation center guidelines and sharing information with the public at the beginning of flood season to help reinforce reasonable expectations of evacuees during times of displacement.</p>

OFI #08 Information and messaging by all levels of EMO did not always meet the needs of the public.	
SO-26:	<p>There were marked differences in what was thought to be shared with the public by the GNWT versus the actual level of awareness of essential information that the public indicated that they received. According to the survey and engagement sessions, territorial and regional EMO officials indicated that they provided regular and effective information before, during and after flooding for various communities. However, this contradicts most public responses that indicated that they lacked the information necessary to evacuate effectively and were unaware of the status of water levels or what the back up plan was for people who were unable to evacuate.</p>
SO-27:	<p>Almost half of the public participants in the survey made statements that indicated they believed the response and evacuation was disorganized and confusing with little or no communication coming directly to them from the community, regional, or territorial governments.</p>

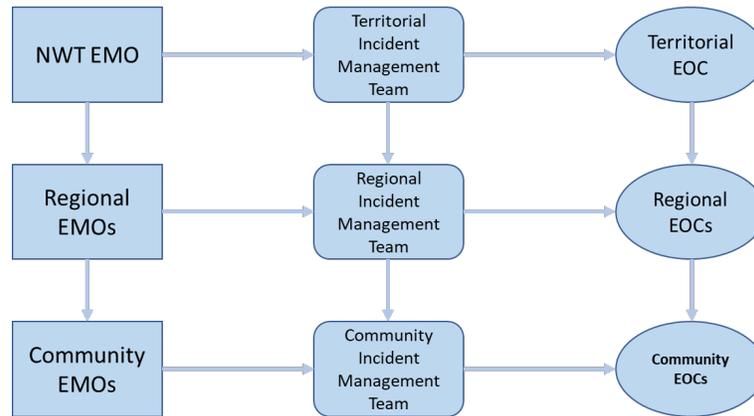
R-13:	<p>During any type of emergency, members of the public will seek information from multiple sources. It is the responsibility of the authorities to provide guidance and situational awareness to the public in a way and means that is accessible and easily understood.</p> <p>While it is likely that the large amount of ongoing government communications related to the COVID-19 pandemic was a factor in the public’s ability to receive appropriate flood related information, territorial, regional and local EMOs should consider reviewing and updating their protocols for public communications to make them more accessible and easily understood by the public.</p>
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OFI #09	The resilience and redundancy of emergency public messaging could be improved.
SO-28:	Some public survey responses and interview results indicate that a reliable system for communicating consistent and standardized messages to the public was not implemented during the flood response and evacuations.
SO-29:	Some engagement session responses indicated that the radio system in some communities was effective until operators were evacuated making it difficult to continue using this platform of communication.
R-14:	<p>While a centralized website was used by the GNWT to share information and updates on the flood situation with the public, the NWT EMO should consider reviewing this process for improvements and widely sharing this information with the public and local EMOs.</p> <p>Community government EMOs should consider designating a specific public information resource for communications with the public during emergency events and including this information in the community emergency plan.</p>

4.4 Concept of Operations

The basic structure established in the NWT Emergency Plan for the response to emergencies follows the ICS model. Regional EOCs and Incident Management Teams support communities during emergencies. The territorial EOC and Incident Management Team supports regions in their response and leads territorial level responses. This section considers the overall function of the EOC in the ability to support operational activities for each section and individual staff needs during an extended emergency event, including coordination of response with respect to interoperability of supporting departments and agencies.

Figure 6: NWT Emergency Response Structure



For the response to the 2021 floods, about half of surveyed members of the public indicated they did not agree that the community government and GNWT responded appropriately during the flood, and only a few indicated that territorial support to assist impacted community governments was effective.

Concept of operations is addressed in each phase of an emergency: preparedness, response, and recovery.

4.4.1 Preparedness

Preparedness activities increase the ability to respond when a disaster occurs. Two key aspects of preparedness are to have an emergency plan in place and to understand the risk environment.

Emergency planning involves a coordinated, co-operative process of matching expected response requirements and essential needs with available resources based on likely risk profiles. The *Emergency Management Act* requires community governments to have an updated emergency plan in place that is reviewed each year. When surveyed, two of the four community government respondents indicated that their Community Emergency Plan was up to date at the time of the flood.

While the GNWT does not have a flood forecasting or prediction system, it does issue an annual flood preparedness media campaign to promote risk awareness and personal preparedness, and Regional EMOs connect with flood risk communities to discuss risk and encourage community emergency plan review. Additionally, ENR issues high water warnings throughout the year and the territorial EMO connects closely with ENR hydrologists to monitor real-time water levels throughout river breakup. Most NWT EMO members surveyed noted that these reports provide adequate risk information to inform preparedness activities. Most surveyed NWT EMO members also indicated that the GNWT notification of risk to community governments was sufficient. Only one of the four community government respondents agreed with this statement.

In general, most of the NWT EMO and community government survey respondents indicated they felt they had an accurate understanding of the 2021 flood risk and potential severity ahead of the 2021 river breakup season. Most public survey respondents indicated they knew there was a risk of flooding before the floods occurred, however less than half of public survey respondents indicated they thought that the community government and GNWT were good at warning the public of that flood risk.

All four community government survey respondents noted that their local EMO met to review flood preparedness ahead of the high-risk period.

4.4.1.1 *Preparation – Best Practices*

BP #03 Host communities were exceptional at working to meet the needs of evacuees.	
SO-30:	Engagement session participants indicated that in the absence of formalized procedures to set up and manage evacuation centres, community government staff were resourceful and worked effectively in an ad hoc manner to ensure the centres were established quickly and effectively.
SO-31:	Engagement session participants identified that community responders used their networks and existing relationships to gain access to the necessary resources to welcome evacuees and provide comfort and safety.
R-15:	Community government EMOs should consider capturing the informal evacuation centre procedures that were implemented during the floods and proved effective and including them in community emergency plans and protocols.

4.4.1.2 *Preparation – Opportunities for Improvement*

OFI #10 Efforts to bolster personal and community preparedness for flood season could be improved at all levels.	
SO-32:	The level of personal preparedness before the flood was not sufficient based on the identified items respondents indicated they had as part of their personal evacuation plan. While most surveyed members of the public indicated they knew what to do if they had to evacuate, less than half indicated they had a 72-hour kit assembled or other key elements of a household emergency plan established in the event of an emergency and/or evacuation.
SO-33:	Over half of NWT EMO survey respondents indicated the GNWT provided appropriate advice and support for flood preparedness and mitigation to community governments, small businesses, and residents. About a third indicated that community governments and the GNWT could improve preparedness and mitigation for flood risk. Some noted that community governments and individuals could be more proactive in preparedness, especially with the impacts of climate change on flood season (e.g., starting earlier).
SO-34:	In general, a large majority of surveyed members of the public, including community government respondents, did not feel that their community government and GNWT were prepared for a flood.
R-16:	The NWT EMO should consider conducting an enhanced public information campaign on personal preparedness prior to flood season each year. This should include information on flood risk, personal planning requirements and how to build an emergency kit. This could be done in coordination with ENR information on any expected high water levels and flood risk. As part of preparedness activities, community government EMOs should consider providing enhanced communication to residents on flood risk information (town meetings, information boards, etc.), information on personal and family preparedness, and sharing information on community plans and preparedness activities. Flood and climate change experts could be invited to participate.

OFI #11 Planning for mental health and addictions needs for evacuees could be improved.	
SO-35:	Engagement session participants indicated that host communities and GNWT partners struggled to immediately respond to the specialized and complex needs of some evacuees who arrived with significant mental health and addictions issues when hosting evacuees. They identified that health care professionals were not advised in advance due to lack of pre-registering and awareness.
SO-36:	Participants also indicated that the limited availability of qualified health care/mental health and addictions professionals created additional stress when trying to manage the complex needs of some evacuees.
R-17:	Territorial, regional and local EMOs should consider reviewing and updating evacuation and hosting plans and guidelines with protocols specific to supporting evacuees with mental health and addiction issues.

OFI #12 Some response activities do not have Standard Operating Procedures as part of planning and preparedness.	
SO-37:	During the engagement sessions, some evacuating and host community representatives recognized that there is a lack of SOPs for setting up evacuation centers and shelter in place arrangements.
R-18:	Community government EMOs should consider including SOPs for evacuation centres and shelter in place arrangements in community emergency plans. This should include an inventory of available community supplies and resources that can support these activities.

4.4.2 Response

The approach to emergency management in the NWT relies on participation from everyone including individuals/families, communities, the territorial government, and other governments. An individual affected by an emergency is expected to have taken prudent precautionary measures beforehand and must provide for their own initial response. When an emergency is of the type or magnitude that exceeds an individual’s capabilities, the community government, through the local EMO, will respond. When the community government’s capacity to manage the response using local resources is exceeded, territorial assistance may be requested or offered.

The primary focus of the response phase to the 2021 floods was to ensure the safety of the affected residents, restoration of critical services, removal of debris from property, protection of critical infrastructure, and meet the basic needs of the residents who were impacted by the floods. Response activities included evacuations and movement of residents, establishment of evacuation centres and other hosting arrangements and provision of emergency supplies and grocery hampers.

4.4.2.1 *Response – Opportunities for Improvement*

OFI #13	The coordination and management of donations at all levels requires improvement during disaster response.
SO-38:	Some engagement session participants indicated that responders at the community level struggled to manage the overwhelming amount of individual and organizations donations of food and goods during the floods. Several interviewees indicated that they are not aware of a current formal structure for managing large-scale donations during an event.
SO-39:	It was noted that staff would often receive donations unexpectedly and were without a plan to manage delivery or storage of these items.
SO-40:	It was also noted that the type and quantity of donations received was not aligned with the needs of the community or evacuees.
R-19:	Territorial, regional and community government EMOs should consider including plans and protocols for donation management in community and territorial emergency plans. NGOs could be pre-identified and engaged to support the management of donations during future events.

OFI #14	Perceptions of community needs were not always aligned between government and the public.
SO-41:	About a third of surveyed members of the public indicated that the provision of emergency supplies and grocery hampers was effectively carried out, one quarter identified that this activity was not well coordinated with the remainder undecided. In contrast, roughly half of EMO and community government survey participants indicated it was effectively coordinated.
SO-42:	Although identified as a best practice, the establishment of evacuation centres and other hosting arrangements was viewed as effective by only one third of the surveyed public with roughly one third indicating ineffective and the remainder undecided. This contrasts with how EMO members and community officials responded on the surveys indicating that the majority thought that the establishment of shelters and hosting arrangements was effective.
R-20:	Territorial, regional and community government EMOs should consider making information on evacuations and hosting arrangements more readily available and part of public information campaigns to educate and help manage expectations of the public during emergencies.

4.4.3 Recovery

Recovery is the measures taken to repair or restore conditions to an acceptable level after a disaster. It involves decisions and actions relative to the return of evacuees, rebuilding homes, repairing, or replacing property, resuming employment, restoring businesses, and permanently repairing and rebuilding infrastructure. The process may take years and requires balancing the more immediate need to return a community to normalcy with the longer-term goal of reducing future vulnerability.

Recovery from the 2021 floods involved those actions that were taken to return the affected communities to normal or near-normal conditions once the initial response phase had ended and the risk of further flooding had passed. Transition from response to recovery has historically seen the NWT EMO arranging for damage assessments, emergency work (e.g., mold abatement) and flood level surveys and then having the Disaster Assistance Committee lead recovery. Half of surveyed EMO members and community officials thought this was a good transition point to recovery (with the remainder undecided), as it allows the EMO to focus on other emergencies while handing off recovery tasks.

4.4.3.1 *Recovery – Opportunities for Improvement*

OFI #15 Recovery activities and associated timelines are not well understood.	
SO-43:	Based on feedback from all participants in the surveys (NWT EMO, community government, and the public), recovery is an area that is not well understood with almost half the participants undecided and less than a third indicating it was effective.
SO-44:	Some members of the public could not return home because of the extent of damage. Although long-term displacement lodging and allowances were provided, almost half the public survey respondents indicated they were not provided enough support when displaced for the period their home was under repair. Most of the remainder of the respondents indicated they were undecided.
SO-45:	Overall, almost a third of all responses to the surveys (NWT EMO, community government and public) indicated the GNWT was effective when asked how well the GNWT did in arranging recovery activities (damage assessments and emergency work) while almost half of all respondents indicated they were undecided.
R-21:	NWT EMO should consider developing territorial recovery guidelines and procedures, including the levels of territorial, regional and community government involvement related to recovery activities, to provide clarity and a broader understanding of the recovery process.

4.4.3.2 *Disaster Assistance*

The GNWT may provide financial assistance to community governments, small businesses, and residents of the NWT who have suffered damage because of a widespread disaster. The GNWT's DAP may provide financial support to assist individuals, small businesses, and community governments in recovering from a disaster and restoring damaged property to its pre-disaster condition.

The DAP provides the authority, provisions (including eligibility and criteria), and financial resources to administer assistance. MACA administers the policy through a Disaster Assistance Committee which coordinates assistance to eligible recipients to assist in recovering from a disaster event.

The DAP (10 March 2005) was applied to 2021 flood events. Financial assistance programs were made available to eligible residents in need of financial help from the impacts of the flooding. Support was coordinated through MACA regional offices and pathfinders.

Typically, disaster assistance covers up to 80% of eligible claims. Over a third of respondents to the public survey disagreed that 80% was enough with a few indicating it was sufficient and the remainder undecided.

A large majority of public survey respondents indicated they were undecided when asked if they thought it was easy to fill out their disaster assistance claim.

OFI #16	Awareness of the application of the Disaster Assistance Policy and associated programs could be improved.
SO-46:	Engagement session feedback noted that while the GNWT communicated the Disaster Assistance Policy publicly, some community government members did not understand it or have the literacy skills necessary to navigate the policy.
SO-47:	More than half of the respondents to the public survey indicated that they were not aware of the Disaster Assistance Policy and guidelines before the flood event.
SO-48:	Most NWT EMO members and community government officials surveyed indicated they were undecided when asked if the GNWT was effective at communicating the the DAP, guidelines and information. A large majority also indicated undecided when asked if the territorial application of DAP was effective.
R-22:	The NWT EMO should consider developing and providing appropriate public information explaining the DAP and including it in information packages for impacted residents considering a DAP claim.

5. CONSOLIDATED SUMMARY OF ACTION ITEMS

This report identifies 16 Opportunities for Improvement and three Best Practices resulting in 22 Recommendations related to four key categories of emergency management specific to EMOs at all levels, NWT EMO, and community government EMOs. In some cases, recommendations were very similar and specific to the same aspect of response and recovery. These results were consolidated in the following Table as Action Items specific to each group (EMOs at all levels, NWT EMO, and community government EMOs).

5.1 Action Items for EMOs at all Levels

No.	Action Item	Category
1.	Consider having plans and protocols for adequate surge capacity to quickly augment response staff during an emergency.	Resource Management
2.	During annual reviews of emergency plans, consider reviewing designated operational/meeting spaces and rest areas to optimize functionality and efficiency for staff during emergency events.	Resource Management
3.	Where possible, consider what measures can be taken to ease the stress on workers and incorporate them into emergency operational protocols where appropriate. This may include specialized services from health care professionals, and/or access to mental health support as required.	Resource Management
4.	Maximize available training and exercise opportunities related to specific emergency management plans and procedures.	Training and Exercise
5.	While it is likely that the large amount of ongoing government communications related to the COVID-19 pandemic was a factor in the public's ability to receive appropriate flood related information, consider reviewing and updating protocols for public communications to make them more accessible and easily understood by the public.	Information Management
6.	Consider reviewing and updating evacuation and hosting plans and guidelines with protocols specific to supporting evacuees with mental health and addiction issues.	Concept of Operations
7.	Consider including plans and protocols for donation management in community and territorial emergency plans. NGOs could be pre-identified and engaged to support the management of donations during future events.	Concept of Operations
8.	Consider developing standardized evacuation center guidelines and making information on evacuations and hosting arrangements more readily available and part of public information campaigns to educate and help manage expectations of the public during emergencies.	Information Management

5.1 Action Items for NWT EMO

No.	Action Item	Category
1.	Consider planning and supporting increased participation from all levels of government in territorial, regional and community mock and tabletop exercise events.	Training and Exercise
2.	Consider providing training and/or a tool to community government EMOs on the process for making formal requests for GNWT support during emergencies for inclusion in community emergency plans.	Training and Exercise
3.	Ensure Regular territorial EMO meetings include representation from all GNWT department and agencies, EMO partner organizations and regional EMO leads. To optimize situational awareness across all organizations, alternate members should be identified and participate when required to ensure full representation at meetings and briefings.	Information Management
4.	Consider a single platform and online tool to enhance real-time information sharing for future events.	Information Management
5.	While a centralized website was used by the GNWT to share information and updates on the flood situation with the public, consider reviewing this process for improvements and widely sharing this information with the public and local EMOs.	Information Management
6.	Consider conducting an enhanced public information campaign on personal preparedness prior to flood season each year. This should include information on flood risk, personal planning requirements and how to build an emergency kit. This could be done in coordination with Department of Environment and Natural Resources information on any expected high water levels and flood risk.	Concept of Operations
7.	Consider developing territorial recovery guidelines and procedures, including the levels of territorial, regional and community government involvement related to recovery activities, to provide clarity and a broader understanding of the recovery process.	Concept of Operations
8.	Consider developing and providing appropriate public information explaining the Disaster Assistance Policy and including it in information packages for impacted residents considering a DAP claim.	Concept of Operations

5.2 Action Items for Community Government EMOs

No.	Action Item	Category
1.	During annual emergency plan reviews (required under the <i>Emergency Management Act</i>), consider; <ul style="list-style-type: none"> • including a review of what equipment and supplies are essential and must be immediately available during an emergency event; • establishing and maintaining a community-based EMO stockpile which includes community requirements for evacuee hosting and group lodging services; and • listing all emergency management primary points of contact for the NWT EMO/GNWT in the community emergency plan and sharing awareness with community emergency response personnel during preparedness activities. 	Resource Management Information Management
2.	Like established NWT EMO training requirements, adopt and support a minimum level of exercising and training for community government staff who may be involved in emergency response.	Training and Exercise
3.	Consider including plans and protocols in the community emergency plan to assign a Liaison/Information Officer to coordinate information flow and control the message at the local level and liaise with outside agencies.	Information Management
4.	Consider designating a specific public information resource for communications with the public during emergency events and including this information in the community emergency plan.	Information Management
5.	Consider capturing traditional knowledge for future reference to help inform decision making during an emergency and consider including traditional knowledge keepers as community EMO participants.	Information Management
6.	As part of preparedness activities, consider providing enhanced communication to residents on flood risk information (town meetings, information boards, etc.), information on personal and family preparedness, and sharing information on community plans and preparedness activities. Flood and climate change experts could be invited to participate.	Concept of Operations
7.	Consider including Standard Operational Procedures (SOPs) for evacuation centres and shelter in place arrangements in community emergency plans. This should include an inventory of available community supplies and resources that can support these activities.	Concept of Operations

6. CONCLUSION

The spring 2021 flood event was the largest flood disaster to date requiring full activation of the NWT territorial emergency management system and major emergency operations by five impacted communities. The flood event resulted in damages to approximately 100 homes, 30 small businesses, six NGOs and community infrastructure. It also required the evacuation or partial evacuation and hosting of hundreds of residents under pandemic conditions and recovery activities that continue. Total damages for this event are estimated at over \$40 million.

Efforts to prepare for and respond to this disaster were coordinated by the territorial EMO and four regional EMOs working with roughly 15 communities across the territory. Key activities included monitoring risk levels, supporting community preparedness, coordinating evacuations and hosting of residents, providing emergency supplies/resources, applying disaster assistance, and supporting recovery activities. This event took place during the COVID-19 pandemic which strained EMO and community resources, limited evacuation and hosting capacity and required consideration of public health and containment measures during all response efforts. The 35-day emergency response was followed by a recovery period that continues as of May 2023.

While overall the GNWT, through the NWT EMO, managed a well-coordinated and effective response to the 2021 floods, three best practices and 16 opportunities for improvement were identified that resulted in 22 recommendations that were consolidated into several action items for EMOs at all levels, NWT EMO, and community government EMOs.

This report will serve as a record of the events and action items identified will be used to improve emergency management plans, protocols, and programs at the territorial, regional and community levels. It is through this cycle of preparing, responding, analyzing what happened to identify recommendations, and updating and improving the NWT emergency management system, that will prepare the NWT for the more frequent and severe future events predicted due to climate change.

ACRONYMS

AAR	After Action Review
ADM	Assistant Deputy Minister
BP	Best Practice
DAC	Disaster Assistance Committee
DAP	Disaster Assistance Policy
EOC	Emergency Operations Centre
EMO	Emergency Measures Organization
ENR	Environment and Natural Resources
GNWT	Government of the Northwest Territories
ICS	Incident Command System
MACA	Municipal and Community Affairs
NGO	Non-government organization
NWT	Northwest Territories
OFI	Opportunity for Improvement
R	Recommendation
SO	Supporting Observation
SOLE	State of Local Emergency
SOP	Standard Operational Procedure
TPC	Territorial Planning Committee

APPENDIX A: RESPONSE TO THE 2021 SPRING FLOODING AFTER ACTION REVIEW ACTION ITEMS

Continuous improvement is an important part of the Northwest Territories (NWT) emergency management system. Many of the recommendations and action items contained in the 2021 Spring Flooding After Action Review have already been addressed or are being worked on since the event, as part of ongoing improvements. The following table identifies NWT Emergency Management Organization (EMO) operational and strategic responses to the report action items and includes identifying supports in place to assist community government EMOs address items specific to them.

Table 1: Best Practice Findings

Item No.	Action Item	Category	GNWT Emergency Management Organization Response
For EMOs at all Levels			
1.	Consider having plans and protocols for adequate surge capacity to quickly augment response staff during an emergency.	Resource Management	<p>The NWT EMO has a process in place to draw staffing from other departments to provide surge capacity during major emergency events. The EMO offers emergency management training when available to other department staff and maintains awareness of those trained and qualified to work in the territorial Emergency Operations Centre (EOC). This is an ongoing effort to build capacity and expertise across the GNWT.</p> <p>Community governments often rely on available staffing and key volunteers during emergency events. The capacity and capabilities of staffing is normally well understood. For volunteers, the Community Emergency Plan Template includes a Volunteer Inventory and Registration Form that can be used to have a ready list of qualified and available volunteers during an emergency. While community governments are responsible for their own training, regional EMOs can provide information on appropriate training, training events and emergency exercise opportunities.</p>
2.	During annual reviews of emergency plans, consider reviewing designated operational/meeting spaces and rest areas to optimize functionality and efficiency for staff during emergency events.	Resource Management	<p>The NWT EMO has a designated EOC and Standard Operating Procedures to expand office/meeting facilities to accommodate the requirements of an emergency response. After each emergency event a quick review as part of a hot-wash exercise is conducted to identify any deficiencies.</p> <p>Community emergency plans normally identify a designated and alternate EOC to coordinate emergency operations. Should additional facilities be required, the Community Emergency Plan Template contains a Community Building Resource Inventory that could be used to quickly identify suitable space. Department of Municipal and Community Affairs (MACA) staff will encourage community governments to review designated facilities for suitability as part of their emergency plan reviews.</p>
3.	Where possible, consider what measures can be taken to ease the stress on workers and incorporate them into emergency	Resource Management	<p>During major emergency incidents, the NWT EMO stands up an Incident Management Team under the Incident Command System (ICS). A key member of that team is the Safety Officer who is</p>

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	operational protocols where appropriate. This may include specialized services from health care professionals, and/or access to mental health support as required.		<p>responsible for monitoring incidents or event operations and advises the Incident Commander on all matters relating to the health and safety of response personnel. This includes identifying mental health concerns and promoting mental health support available through the Employee and Family Assistance Program and provided by local health authorities.</p> <p>Community governments may assign a Safety Officer as part of a local EMO response to serve a similar function. Should appropriate mental health supports not be available locally, a request for assistance can be made to the regional EMO for this support.</p>
4.	Maximize available training and exercise opportunities related to specific emergency management plans and procedures.	Training and Exercise	<p>The NWT EMO has set training standards for its staff and coordinates the delivery of territorial emergency management training programs to key GNWT staff, sufficient to sustain the NWT emergency management system. The NWT EMO may also provide training opportunities, and advice and assistance to departments and community governments for the development of their own emergency management training programs. In addition, the NWT EMO coordinates and participates in emergency management exercises to practice and improve the NWT emergency management system. These exercises may include community, regional, territorial and partner organizations. At least one territorial level exercise takes place every three years. EMO training and exercise activity is an ongoing effort to maintain skills and capacity within the GNWT to deal with emergencies.</p> <p>The NWT EMO delivers community emergency planning and tabletop exercise workshops to assist community governments and their Local EMOs to better understand the emergency management system in the NWT, to develop or update their community emergency plan, and practice elements of their plan including regional procedures. While community governments are responsible for their own training, regional EMOs can provide information on appropriate training, training events and emergency exercise opportunities.</p>
5.	While it is likely that the large amount of ongoing government communications related to the COVID-19 pandemic was a factor in the public's ability to receive appropriate flood related information, consider reviewing and updating protocols for public communications to make them more accessible and easily understood by the public.	Information Management	<p>Public communications by the GNWT is an ongoing process which is continually being reviewed and amended. The NWT EMO will continue working with communications partners to ensure clear, consistent, accurate and timely public communications during emergency events.</p> <p>To assist community governments, the NWT EMO has developed tools and templates for public safety related communications and will continue to support community governments with their public communications requirements during emergency events.</p>
6.	Consider reviewing and updating evacuation and hosting plans and guidelines with protocols specific to supporting evacuees with mental health and addiction issues.	Concept of Operations	<p>The NWT Emergency Plan includes evacuation guidelines. While the Department of Health and Social Services is responsible for assisting community governments meet the needs of disaster victims in terms of hosting, there is no specific guidance or protocols related to evacuees with mental health and addiction issues. These issues are currently dealt with as part of evacuee screening at hosting centres during evacuations. The NWT EMO will work with health officials to improve guidance and</p>

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			<p>support related to mental health and addictions and recommend updates to the evacuation guidelines in the NWT Emergency Plan.</p> <p>During community emergency planning workshops, NWT EMO staff will stress the importance of having appropriate supports in place for mental health and addictions.</p>
7.	Consider including plans and protocols for donation management in community and territorial emergency plans. NGOs could be pre-identified and engaged to support the management of donations during future events.	Concept of Operations	<p>The NWT EMO is responsible to establish policies and programs respecting emergency management. There is no guidance or roles and responsibilities for donation management assigned within the NWT Emergency Plan. The current approach is to engage and support territorial NGOs with donation management experience to conduct this activity. The NWT EMO will work towards establishing a formal agreement with an NGO.</p> <p>The Community Government EMO is responsible for developing and implementing emergency plans and other preparedness, response and recovery measures for emergencies including donation management at the local level. The NWT EMO continues to encourage community governments to reach out to local Indigenous governments and non-government organizations to support donation management activity in the community.</p>
8.	Consider developing standardized evacuation center guidelines and making information on evacuations and hosting arrangements more readily available and part of public information campaigns to educate and help manage expectations of the public during emergencies.	Information Management	<p>The NWT Emergency Plan includes Evacuation Guidelines to provide advice and direction for community governments and other agencies to develop specific action plans for the safe and efficient movement of populations at risk away from hazard areas, and their eventual return. The Community Emergency Plan Template also includes guidance and tools on evacuation planning.</p> <p>The NWT EMO has developed an “Evacuation/Hosting” information sheet for use by community governments to inform residents on how evacuations and hosting of evacuees is coordinated and what evacuees can expect. This information is distributed to community governments as part of the Community Flood Preparedness Package, on an annual basis.</p>
For NWT EMO			
1.	Consider planning and supporting increased participation from all levels of government in territorial, regional and community mock and tabletop exercise events.	Training and Exercise	<p>The NWT EMO coordinates and participates in emergency management exercises to practice and improve the NWT emergency management system. The NWT EMO delivers community tabletop exercise workshops, on request of a community government, conducts drills and development workshops with regional EMOs and coordinates GNWT involvement in a territorial level exercise event (Op NANOOK-TATIGIIT) every three years. Op NANOOK-TATIGIIT is a military (Joint Task Force North) hosted activity to exercise a whole of government, joint and comprehensive sovereignty operation, including the provision of federal support during a major territorial civil emergency event. Participation in this exercise has increased over the years from just NWT EMO participation to the inclusion of multiple departments, to community and regional involvement in the last few years.</p>

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			While participation in the 2022 NANOOK was minimal (likely due to the number of recent major territorial emergency events) plans are to continue to expand GNWT and community participation in this activity.
2.	Consider providing training and/or a tool to community government EMOs on the process for making formal requests for GNWT support during emergencies for inclusion in community emergency plans.	Training and Exercise	The NWT EMO has developed a form, Community Government Request for GNWT Emergency Management Assistance, which is included as part of the Community Emergency Plan Template for community government use. This information is also included in discussions during community emergency planning workshops.
3.	Ensure Regular territorial EMO meetings include representation from all GNWT department and agencies, EMO partner organizations and regional EMO leads. To optimize situational awareness across all organizations, alternate members should be identified and participate when required to ensure full representation at meetings and briefings.	Information Management	Within the NWT Emergency Plan, all GNWT departments and agencies are required to maintain a senior official and alternate to participate in NWT EMO activities. Territorial EMO meetings have been a standard part of emergency response since the NWT Emergency Plan came into force in 2018 with very good participation rates. While the intent is to have 100% participation, this is not always possible due to the short notice of some meetings, competing priorities, communications issues, and timing (after hours/weekends, etc.).
4.	Consider a single platform and online tool to enhance real-time information sharing for future events.	Information Management	The NWT EMO shares public information on various webpages, through media campaigns and uses a centralized website for specific emergency event information. It uses NWT Alert for emergency critical alerts which remain available on the NWT Alert website. It has also recently created an Emergency Management Organization Portal which hosts comprehensive information, tools, and templates for use by emergency management officials, including community governments. The NWT EMO continues to re-evaluate and improve its information sharing platforms and practices.
5.	While a centralized website was used by the GNWT to share information and updates on the flood situation with the public, consider reviewing this process for improvements and widely sharing this information with the public and local EMOs.	Information Management	The NWT EMO shares public information on various webpages, through media campaigns and uses a centralized website for specific emergency event information. It uses NWT Alert for emergency critical alerts which remain available on the NWT Alert website. The NWT EMO will review public messaging to ensure information on where to find public information during emergencies is included and actively market those sources during an event.
6.	Consider conducting an enhanced public information campaign on personal preparedness prior to flood season each year. This should include information on flood risk, personal planning requirements and how to build an emergency kit. This could be done in coordination with Department of Environment and Natural Resources information on any expected high water levels and flood risk.	Concept of Operations	Each year in early-May during Emergency Preparedness Week, EMO conducts an information campaign aimed at reminding residents of the risks in the NWT and need for personal preparedness. It includes a Minister's message, print ads, radio announcements and social media content. Flood preparedness packages are also sent to community governments including flood forecast and warning information and flood preparedness communications materials. This is done in coordination with the Department of Environment and Climate Change spring flood risk messaging.
7.	Consider developing territorial recovery guidelines and procedures, including the levels of territorial, regional and community government involvement related to recovery activities, to provide clarity and a broader understanding of the recovery process.	Concept of Operations	While the NWT Emergency Plan recognizes that recovery is an important aspect of comprehensive emergency management it does not provide any guidance on how to conduct recovery activity other than through the application of the Disaster Assistance Policy. The current approach calls upon the NWT EMO to take initial recovery action as part of an emergency response with emergency repairs, damage assessments and surveys and then turn it over to a recover team to manage. A review of

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			this process in ongoing by the NWT EMO with a goal to recommend changes to the NWT Emergency Plan that includes recovery guidelines and SOPs.
8.	Consider developing and providing appropriate public information explaining the Disaster Assistance Policy and including it in information packages for impacted residents considering a DAP claim.	Concept of Operations	MACA hosts comprehensive information on the Disaster Assistance Policy on its website. This information is actively shared with impacted communities, residents, and the public. Much of this information is included in information packages for impacted residents, used by MACA Pathfinders during engagement and provided to community governments.
For Community Government EMOs			
1.	During annual emergency plan reviews (required under the <i>Emergency Management Act</i>), consider; <ul style="list-style-type: none"> including a review of what equipment and supplies are essential and must be immediately available during an emergency event; establishing and maintaining a community-based EMO stockpile which includes community requirements for evacuee hosting and group lodging services; and listing all emergency management primary points of contact for the NWT EMO/GNWT in the community emergency plan and sharing awareness with community emergency response personnel during preparedness activities. 	Resource Management Information Management	The Community Emergency Plan Template includes an Equipment Resource Inventory sheet, Community Building Resource Inventory sheet, a Volunteer Inventory and Registration Form and a section to identify emergency contact information. Information and advice on developing a community emergency stockpile can be obtained through regional EMOs.
2.	Like established NWT EMO training requirements, adopt and support a minimum level of exercising and training for community government staff who may be involved in emergency response.	Training and Exercise	Advice and assistance on establishing community government emergency management training and exercise requirements can be sought through regional EMOs. Training requirements are also often a topic of discussion during community emergency planning workshops. ICS 100 is available to community government staff through the School of Community Government.
3.	Consider including plans and protocols in the community emergency plan to assign a Liaison/Information Officer to coordinate information flow and control the message at the local level and liaise with outside agencies.	Information Management	The Community Emergency Plan Template includes a section on identifying members of the local EMO, this could include assignment of a Liaison/Information Officer. This topic is also covered during community emergency planning workshops.
4.	Consider designating a specific public information resource for communications with the public during emergency events and including this information in the community emergency plan.	Information Management	The Community Emergency Plan Template includes the responsibility of Council to appoint a community government spokesperson to communicate with the media and residents throughout the duration of an emergency. This topic is also covered during community emergency planning workshops

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5.	Consider capturing traditional knowledge for future reference to help inform decision making during an emergency and consider including traditional knowledge keepers as community EMO participants.	Information Management	The NWT EMO continues to encourage community governments to incorporate Indigenous governments and organizations and traditional knowledge keepers and practices into their Local EMO and emergency management programs. This practice is promoted throughout emergency management resource materials, training events and direct engagement by regional EMO staff.
6.	As part of preparedness activities, consider providing enhanced communication to residents on flood risk information (town meetings, information boards, etc.), information on personal and family preparedness, and sharing information on community plans and preparedness activities. Flood and climate change experts could be invited to participate.	Concept of Operations	Every year, as part of a public information campaign to promote Emergency Preparedness Week, the NWT EMO sends flood preparedness packages to community governments that includes flood preparedness materials for residents. The NWT EMO also makes available to community governments, the Emergency Management Organization Portal which hosts comprehensive information, tools, and templates for use by emergency management officials, including flood planning materials.
7.	Consider including Standard Operational Procedures (SOPs) for evacuation centres and shelter in place arrangements in community emergency plans. This should include an inventory of available community supplies and resources that can support these activities.	Concept of Operations	The Emergency Management Organization Portal and Community Emergency Plan Template both include guidance and tools on evacuation and hosting planning. The NWT EMO has also developed an "Evacuation/Hosting" information sheet for use by community governments to inform residents on how evacuations and hosting of evacuees is coordinated and what evacuees can expect.