



# FRESHET 2007 PROVINCIAL EMERGENCY PROGRAM REVIEW

**Ministry of Public Safety & Solicitor General  
Emergency Management British Columbia  
Provincial Emergency Program**

## Executive Summary

### ***Report Objectives and Scope***

The purpose of this post operational debrief report is to document and discuss the successes achieved by and challenges faced by the integrated emergency management structure in Freshet 2007, and to recommend actions that should be considered to improve coordinated activities for a similar event. The majority of findings and identified actions have all-hazard applicability.

This report focuses on provincial integrated mitigation/preparedness, planning, response and recovery activities related to Freshet 2007. Many of the areas reviewed are coordinated by the Provincial Emergency Program (PEP), a branch of Emergency Management British Columbia (EMBC). Specific ministry operations, technical processes and details, and local government response activities are generally not discussed in the following report, unless they have provincial level integrated emergency management applications.

### ***Background***

By early 2007 snow pack levels in various basins throughout the province ranged between 140% and 180% above average. The River Forecast Centre of the Ministry of Environment (MoE) alerted the Flood Central Coordination Group (CCG) members of the potential for significant freshet flooding in early January. The CCG, comprised of provincial senior level decision makers, met based on the risk information provided by MOE. At this time, and based on a continued high level of risk that was prevalent throughout much of British Columbia, the province undertook the development of a comprehensive integrated emergency planning and mitigation strategy and action plan.

Provincial senior official leadership and support was extensive through freshet. The CCG, in building and maintaining a provincial strategic plan, was linked closely with Deputy Ministers and Ministers, who provided policy direction as required. The provincial government also pre-authorized \$42M in funding, comprising \$33M for structural enhancements and \$9M for readiness activities.

This strong show of support from the provincial government marked the beginning of one of the most comprehensive and successful provincial readiness efforts in history, with participation from numerous ministries, agencies, industries, volunteer groups and local authorities.

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Although the Freshet post operational review is generally very positive in its findings, five high level recommendations were identified. A more comprehensive list of findings and associated action items is also included. The five key recommendations include:

1. The Province should continue to support enhanced readiness activities for a major event by funding hazard-specific advanced planning, mitigation and training coordinated by Emergency Management BC/Provincial Emergency Program.
2. The Provincial Emergency Program should continue to build on its relationship with emergency management stakeholders through ongoing collaboration.
3. Strategic planning should be undertaken to ensure surge capacity during larger events. This should include a review of the TEAMS program and staff workloads.
4. Emergency management training for all provincial government ministries and agencies, local governments and First Nations communities, Provincial Emergency Program staff, Temporary Emergency Assignment Management System (TEAMS) members and Public Safety Lifeline Volunteers should be reviewed and enhanced.
5. The Provincial Emergency Program should review, enhance and document the internal processes used during readiness, response and recovery operations including the Provincial Regional Operations Centre Guidelines under BC Emergency Response Management System (BCERMS).

### **Summary**

The activities surrounding Freshet 2007 were extremely successful in mitigating the flood threat and ensuring an effective integrated response. Relationships with all stakeholders were strengthened, encouraging enhanced preparedness and emergency planning across the province. The significant positive feedback received from the public on the efforts of all those involved in this event demonstrates the value of extensive readiness activities in the face of a known threat.

### **Next steps:**

**Input to the strategic and action planning process of PEP and EMBC  
Share with Ministries involved in Freshet**

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# PROVINCIAL EMERGENCY PROGRAM POST OPERATIONAL DEBRIEF REPORT FRESHET 2007

## Introduction

### ***Report Objectives and Scope***

Due to the significance of the 2007 freshet, the Provincial Emergency Program (PEP) assigned two full time staff to analyze integrated emergency management activities related to freshet, and produce this report.

The purpose of this post operational debrief report is to document and discuss the successes that resulted from and challenges the integrated emergency management structure faced in Freshet 2007, and to recommend actions that should be considered in order to improve coordinated activities for a similar event. The majority of findings and identified actions have all-hazard applicability and should be analyzed further and incorporated where appropriate.

This report focuses on provincial integrated mitigation/preparedness, planning, response and recovery from Freshet 2007. Many of the areas reviewed are coordinated by the Provincial Emergency Program (PEP), a branch of Emergency Management British Columbia (EMBC). Specific ministry operations, technical processes and details, and local government response activities are generally not discussed in the following report, unless they have integrated emergency management applications.

### ***Debrief Process***

The debrief process extended from June 2007 to January 2008 and used various methods and sources to gather information and draw out recommendations.

Debrief sessions with agency representatives, Temporary Emergency Assignment Management System (TEAMS) members, and PEP staff members were held in Surrey, Langley, Prince George, Nelson, Kamloops and Victoria. Sessions were also held for the BC Flood Line at Red Cross headquarters in Burnaby and for lower mainland local authorities in Abbotsford. First Nations readiness and response activities were debriefed internally by PEP staff through teleconference calls.

The North West region based their debrief report on exit interviews from Provincial Regional Emergency Operation Centre (PREOC) participants and

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local government surveys. Surveys of local governments were also conducted by the Central and North East regions.

All PREOC and Provincial Emergency Coordination Centre (PECC) participants were asked to complete detailed exit interviews. These were augmented by some 35 hours of individual interviews for key PEP staff members, TEAMS members, agency representatives and volunteers.

At the informal debrief for Central Coordination Group (CCG) members, it was agreed that the CCG meetings that occurred throughout the freshet event were extremely valuable. CCG participation was seen as an advanced planning tool prior to response and meetings thereafter became a venue for information sharing.

Finally, documentation from the event was reviewed to gather statistics and create timelines.

### **Background**

By early 2007 snow pack levels in various river basins throughout the province ranged between 140% and 180% above average. The River Forecast Centre of the Ministry of Environment alerted the Flood Central Coordination Group (CCG) members of the potential for significant freshet flooding in January.

At the beginning of March the provincial government pre-authorized \$42M in funding, comprising \$33M for dike enhancements and \$9M for readiness activities. The funding included \$750K to provide public safety lifeline volunteer groups with specialized equipment and training. This strong show of leadership from the provincial government marked the beginning of one of the most comprehensive and successful provincial readiness efforts in history, with participation from numerous ministries, agencies, industries, volunteer groups and local authorities.

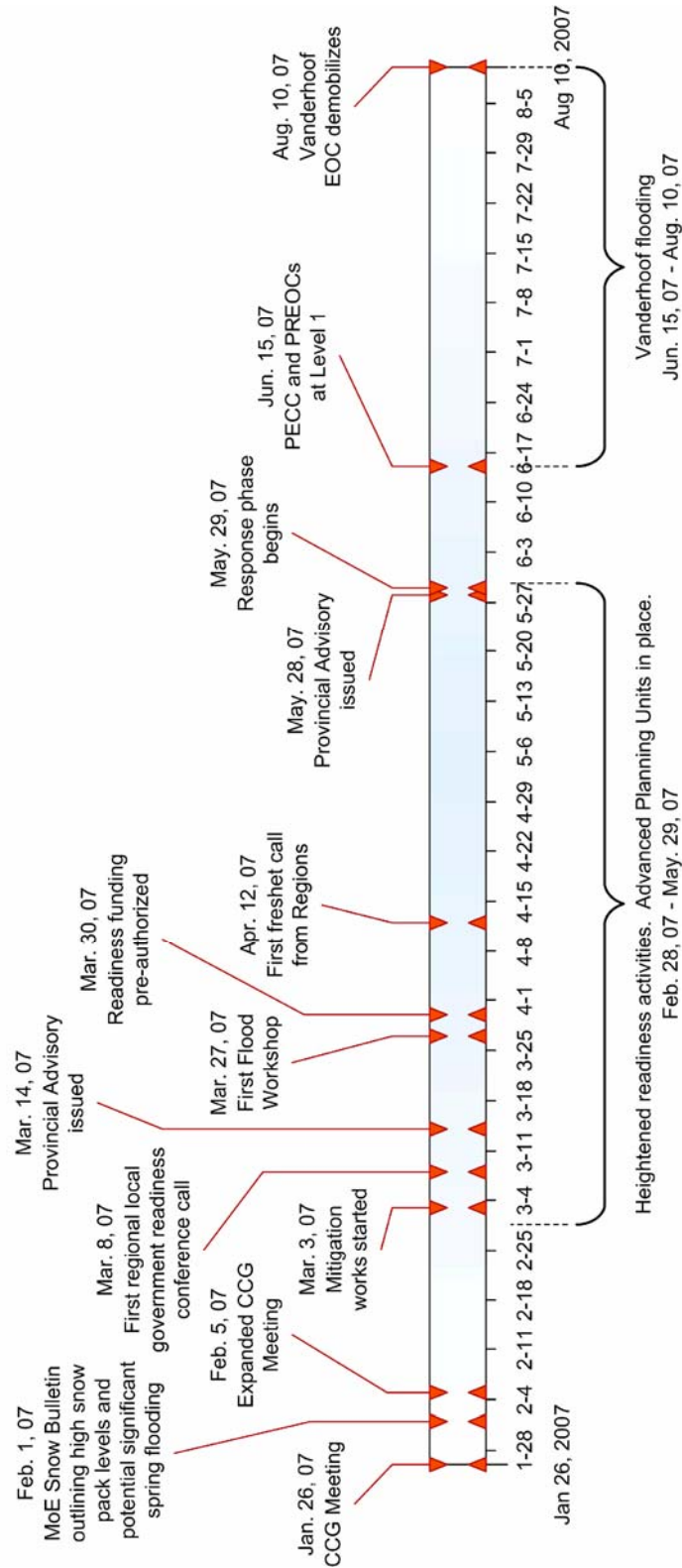
The Provincial Emergency Program, as a branch of Emergency Management BC (EMBC), acted as the coordinating body for these efforts through the CCG and initiated planning activities early on. The Provincial Emergency Coordination Centre (PECC) and PEP regional offices activated advanced planning units to address planning requirements for the potentially large response.

During response the PECC and five PREOCs were activated. Significant flooding took place in the North West, North East and South West PEP regions. Minor flooding also occurred in the South East and Central regions. 37 local government emergency operation centres were activated throughout the

province and 11 Declarations of State of Local Emergencies were issued. Approximately 1900 homes and businesses throughout the province, as well as 18 First Nations communities, were placed on evacuation alert. Some 100 homes were evacuated.

Current recovery damage estimates are \$1.4M for local authorities and \$10.8M for ministries. 248 claims were received from the private sector of which 197 have been closed with a total of approximately \$1.4M. This includes 13 claims from First Nations Communities to be reimbursed by Indian and Northern Affairs Canada (INAC).

## Freshet 2007 Timeline



## Key Readiness Activities

The following outlines some of the provincial activities performed during readiness, as part of an integrated emergency management approach:

- Central Coordination Group (CCG)
  - First core meeting held January 26<sup>th</sup>. Expanded CCG first meeting held February 5<sup>th</sup>. Early activation spurred ministry and stakeholder readiness activities.
- Mitigation works and alternative technologies
  - 55 dike enhancements completed totalling \$29.5M
  - 32 Ministry of Transportation mitigative projects totalling \$3.5M
  - 316 dams assessed province-wide by Ministry of Environment contractors
  - 10km of gabion mesh baskets purchased and pre-positioned. Utilized in Vanderhoof from June to August.
  - Approximately 6M sandbags pre-positioned and distributed to local authorities and First Nations communities across the Province.
  - 66 flood safety kit bags assembled for Forest Service Unit Crews
- Training
  - Swift water safety and rescue training courses for Search and Rescue Volunteers
  - Swift water safety courses for Ministry of Forest crews
  - Extra emergency management courses for local authorities. Approximately 250 people participated.
  - A BCERMS/PREOC Overview on-line course was developed and presented for local agency representatives.
  - Over 100 BC Flood Line call centre volunteers trained in customer service.
  - Emergency Social Services (ESS) training for First Nations volunteers in the South West region
  - 12 flood workshops for local authorities to review emergency response concepts; discuss roles and responsibilities and outline flood safety issues, sandbagging techniques and dike inspection. The workshops also outlined risks particular to the region in which they were held. Approximately 600 people attended.
  - JIBC was contracted to develop a Radio Communications Station Management course and a PREOC Management Functions course.

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- Public Education and Information Management
  - Flood-related material was created and/or reviewed and posted on the PEP website:
    - Flood Preparedness for Business Tool Kit
    - Critical Infrastructure Workbook
    - Community Emergency Management Toolkit including the JELC Emergency Information Response Plan template
    - Community Flood Preparedness Information Tool Kit
    - Personal flood preparedness and prevention material in English, Punjabi and Chinese
    - Disaster Financial Assistance Guidelines for Private Sector
  - Flood-related brochures were created/revised, printed and distributed:
    - Disaster Financial Assistance Brochure
    - Flood safety brochures
- Advanced Planning Units
  - Advanced Planning Units (APUs) were established at the provincial and regional level. Technical specialists worked closely with the PECC APU. Working groups under the APUs consisted of subject matter experts including representatives from government, industry and volunteer groups undertaking provincial readiness projects including:
    - animal welfare;
    - health;
    - public education;
    - transportation;
    - recovery;
    - government services;
    - critical infrastructure and utilities;
    - communications;
    - evacuation planning;
    - and oil & gas sector issues.

- Community Outreach (including INAC/FNESS work with FN Communities)
  - Freshet Readiness Support (FRS) teams developed in each region to do community outreach
  - Community profiling completed by regional staff to identify capacities (including ESS)
  - Regular conference calls held with local authorities and other stakeholders
  - Community meetings were hosted by local governments with PEP involvement to answer questions from the public
  - Indian and Northern Affairs Canada and First Nations Emergency Social Services (FNESS) contractors compiled First Nations community profiles and developed emergency contact lists
- Volunteer Readiness
  - Volunteer training (mentioned above)
  - Safety equipment as well as radio equipment purchased and distributed to SAR, ESS, emergency communications, and PEP Air volunteers
  - Deployment procedures developed to track volunteer deployment and contact information
- Infrastructure
  - Increased capacity in the South West region through the use of trailers
  - Increased capacity of the PECC through the rental of additional office space
  - Improved audio-visual equipment and conference call abilities for the PECC
  - Increased IT/telecommunications capabilities implemented across the province in preparation for potentially large response
- Financial and HR
  - To complete the additional work required for readiness (and response):
    - 29 auxiliaries were hired for the regional offices and the PECC
    - 99 readiness and response contracts were awarded
    - 6 temporary assignments were posted and filled in the PECC
  - Financial tracking system was developed and utilized to capture all readiness and response costs

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- Disaster Financial Assistance and Community Recovery
  - A new Disaster Financial Assistance (DFA) Claim tracking system multi user access database was designed and implemented to process claim information in a more efficient manner
  - A draft DFA Evaluator Training Guide was developed to ensure evaluators are assessing as per provincial standards
  - The creation of a DFA Ministry Manual was begun. Further work is required.
  - The application procedure for claimants was streamlined.
  - Recovery workshops were held to inform local governments of recovery responsibilities and to foster relationships between local authorities and potential local support organizations

## Key Response and Recovery Activities

- Support to local authority EOCs included:
  - Additional sandbags delivered
  - Coordinated use of Ministry of Forests unit crews for sandbagging
  - Gabion baskets delivered to several communities. These were deployed for six weeks in Vanderhoof.
  - ESS mobile support teams were deployed to Terrace and Vanderhoof.
  - Access to subject matter experts in flood management, diking, alternate technologies, and weather
  - PAB Public Information Officers were deployed upon request
  - Consultation on emergency management procedures provided
  - Mentoring between Nanaimo and Fraser Fort George Regional District emergency management program personnel was facilitated
  - Coordinated over flights of impacted areas
  
- Support to stakeholders included:
  - Daily regional interagency/local authority conference calls
  - Daily PREOC agency briefings
  - Regular CCG/Expanded CCG meetings
  - Situation reports
  - Advanced planning collaboration
  
- Public Education and Information Management
  - The launch of the “BC Flood Information Line” on May 22<sup>nd</sup>, 2007 by Premier Gordon Campbell and the Minister of Public Safety and Solicitor General, John Les to answer public inquiries regarding flooding. The information line remained active from May 22<sup>nd</sup>, 2007 to June 15<sup>th</sup>, 2007 receiving a total of 1911 calls.
  - Regular media briefings in all impacted PEP regions.
  
- Disaster Financial Assistance and Community Recovery
  - PEP staff attended community meetings to provide support and information

### Recommendations

**1. The Province should continue to support enhanced readiness activities for a major event by supporting hazard-specific advanced planning, mitigation and training coordinated by Emergency Management BC/Provincial Emergency Program.**

The extra funding provided by Cabinet was critical to PEP's ability to engage in the extensive readiness activities that resulted in a very successful integrated freshet response. Feedback from the public and partner stakeholders remains extremely positive. The experience has pushed emergency preparedness to the forefront in BC and encouraged all stakeholders to continue emergency planning work.

The public education campaign carried out in advance of the freshet ensured that public reaction to the government's response was positive. The public had a comprehensive understanding of the risks they were facing and of the activities the province was undertaking to mitigate them. Early engagement and education ensured that the media became partners in public information management.

Readiness activities contributed to a more effective and integrated response. In addition, deliverables of the advanced planning units, new training initiatives, facility upgrades and emergency equipment grants for volunteer groups will have long lasting benefits.

## **2. The Provincial Emergency Program should continue to build on its relationship with emergency management stakeholders through ongoing collaboration.**

One of the key successes of Freshet 2007 was the strengthening of the relationships between the stakeholders involved in preparing for and responding to this event. The integration between provincial players and other stakeholders was unprecedented and contributed to a more effective response.

Extensive information sharing took place throughout the readiness and response phases. The Flood CCG and expanded CCG met well in advance of freshet, informing stakeholders of the level of threat and provincial activities. The expanded CCG included utilities, other ministries and agencies as well as federal government representatives and supported these stakeholders in their readiness activities.

Agencies and stakeholders represented in PEP Advanced Planning Units included:

- Ministry of Health (MoH)
- Ministry of Transportation (MoT)
- Ministry of Forests & Range (MoFR)
- Integrated Land Management Bureau (ILMB)
- Ministry of Agriculture & Lands (MAL)
- Ministry of Environment (MoE)
- Oil and Gas Commission (OGC)
- Ministry of Children & Family Development (MCFD)
- Ministry of Employment & Income Assistance (MEIA)
- Provincial Government Business Continuity Management Program
- Accommodation & Real Estate Services (ARES)
- Emergency Preparedness for Industry & Commerce Council (EPICC)
- Joint Emergency Liaison Committee (JELC)
- Public Safety Lifeline Volunteers
- Utilities (BC Hydro, Terasen Gas, etc.)
- Public Affairs Bureau (PAB)

Regions hosted interagency conference calls and meetings coordinating regional level planning and response. Workshops and presentations were held throughout the province informing and educating local authorities. There was an extended presence of agency representatives such as INAC in the PREOCs. OGC, MoFR, Canada Command, and Public Safety Canada were also in attendance at several PREOCs, allowing for collaborative outreach work and planning activities.

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Enhanced collaboration between agencies and PEP brought many successes and legacies for the future including:

- New protocols for MoFR coordinated air operations during response
- Mapping through ILMB for ministries, agencies, local governments, and PEP
- Collaboration between PEP, MCFD and MEIA to identify vulnerable populations and develop evacuation procedures and plans
- Collaboration between MAL and PEP in the development of rate sheets and relocation protocols for livestock
- PAB facilitated conference calls for information officers from lower mainland agencies which ensured consistent messaging to the media and gave media an understanding of the emergency management structure in BC
- Collaboration with JELC members produced a draft critical infrastructure rating workbook and training for lower mainland local government representatives
- Collaboration between Business Continuity Management Program and Accommodation and Real Estate Services (ARES) identified government facilities on flood plains and developed relocation plans for several significant sites in the lower mainland.
- Please refer to the appendix for the full list of deliverables.

Participating in readiness activities was a positive experience for all stakeholders. The working relationships built and strengthened during the freshet are critical to successful emergency management in BC.

**3. Strategic planning should be undertaken to ensure surge capacity during larger events. This should include a review of the TEAMS program and staff workloads.**

At the onset of planning for the freshet, PEP executives realized that PEP did not have the staff capacity to fulfill the requirements of an intense readiness phase. A number of auxiliaries and contractors were hired to complement and support existing staff through readiness and into the response.

The addition of such a large number of temporary staff to the program was well received and enabled the completion of several significant projects. However, there were several human resource management challenges. Many of the new staff required immediate training in emergency management as well as in depth orientation of the program. The increase in staff caused a corresponding increase in administration support demands, contract administration workload, payroll and time tracking as well as IT hardware, software, and security support. At the end of the event, these temporary staff members were released and the program lost the experience and the knowledge they had gained. It is also noted that the number of available emergency management contractors in BC is limited and PEP was competing with many others for this resource.

The TEAMS program provides staff from provincial government ministries to fill functions within the PREOCs and the PECC during response. These staff members are not available during the readiness phase despite the advantages of using personnel with previous emergency management training and experience. Where exceptions to this rule were made, the work of the TEAMS members deployed during readiness was essential to the success of both the readiness and response phases.

The TEAMS program has been highly successful for several years. Many of the current TEAMS members are highly skilled and experienced. It is becoming increasingly difficult for ministries to allow their staff to be deployed for emergency management purposes for longer periods of time. As the number and size of emergency events is growing yearly the trend towards longer deployments will continue.

Traditionally, TEAMS members have been drawn from ministries that have an emergency response mandate such as MoFR Protection Branch and MoE Water Stewardship Division. This curtails PEP's ability to rely on the full complement of TEAMS members at each event. This situation was exacerbated for the freshet due to the lack of MoE flood hazard specialists. PEP staff members with this

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experience and expertise were required to fill this gap and were not available to perform their normal command functions in the PECC.

Despite efforts to augment existing staff with temporary hires, contractors, and some TEAMS members, there were still workload issues for program staff. Some of the daily work was not done during the freshet period.

**4. Emergency management training for all provincial government ministries and agencies, local governments and First Nations communities, Provincial Emergency Program staff, TEAMS members and Public Safety Lifeline Volunteers should be reviewed and enhanced.**

The benefits of the training provided during the readiness period are numerous including:

- Increased stakeholder understanding of emergency management in British Columbia
- Increased and more effective collaboration between stakeholders
- Increased safety of personnel and volunteers actively engaged in flood fighting
- Increased community capacity for handling local emergencies
- More effective response decision making
- The provision of the knowledge local governments and First Nations communities need to understand local flood issues and how to respond appropriately

Training initiatives received very positive feedback and the increased emergency management capacity of all stakeholders who participated will also have future benefits. A review of the current emergency management training program facilitated by PEP to identify gaps and determine future training requirements will further enhance capacity and response efficiency. This review should consider the establishment of a government-wide emergency management training program providing BCERMS training to all employees. This will ensure the government retains the depth of knowledge and experience needed to respond to a major provincial emergency event.

**5. The Provincial Emergency Program should review, enhance and document the internal processes used during readiness, response and recovery operations including the Provincial Regional Operations Centre Guidelines under BCERMS.**

While the extensive readiness and response efforts of PEP staff and TEAMS members across the province were outstanding and stakeholder feedback indicates a strong appreciation for the level of leadership demonstrated, a number of processes used within PEP can be improved upon. Drawing on the experiences from the freshet event, many current procedures should be reviewed. BCERMS was successfully used for the first time in a prolonged readiness phase. A new concept of operations that captures the structure and activities of this phase has yet to be defined.

Documentation should be reviewed for revisions or additions to current response procedures. New processes should be explored that incorporate the lessons learned and ensure that the successes are repeated and the challenges are overcome in future events.