

# **Flood Planning and Response Guide for British Columbia**

**Water Management Branch**

**Provincial Emergency Program**

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# Preface

This Flood Planning and Response Guide has been developed to assist Local Authorities and Diking Authorities prepare a flood response plan to guide activities during flood events. Local Authority and Ministry of Environment, Lands and Parks representatives from the southern half of the province who had participated in recent flood response activities were interviewed by the consultant. Local Authority and Diking Authority respondents and senior governments also participated in a workshop held February 18, 1999 in Chilliwack BC. The reviewers and workshop participants are listed in the Acknowledgements.

Local Authorities are required to prepare a local emergency plan under the *BC Emergency Program Act*, and that plan should include a flood response component if the Local Authority area is subject to flooding. Diking Authorities should prepare a flood response plan as they are in the best position to provide initial response efforts when a flood occurs.

This guide consists of two parts:

**PART 1 - FLOOD PLANNING** describes the process for a Local Authority or Diking Authority to develop a flood response plan, and provides information regarding the preparation of the plan. This follows the process for developing a local emergency response plan as outlined in the *Local Authority Planning Guide (1996 Revision)* prepared by the Provincial Emergency Program (PEP).

**PART 2 - FLOOD RESPONSE** includes a template that may be used to prepare the flood response plan, and other flood response-related information. The template facilitates the completion of the plan by enabling the Local Authority or Diking Authority to “fill in the blanks” with regards to the particular local conditions and circumstances. The flood response-related information can be included in the plan as appropriate.

This guide is intended to promote advance planning, share available information and lead the reader to further flood planning and response practices.

The guide is necessarily generalized and the applicability of the approaches discussed need to be evaluated and applied on a site specific basis.

# Steps in Preparing and Implementing a Local Flood Response Plan

STEPS	GUIDE REFERENCE
<b>Preparing the Flood Response Plan</b>	
<ul style="list-style-type: none"> <li>• Gather the information</li> <li>• Develop the organization</li> <li>• Prepare the plan</li> </ul>	Part 1 - Section 3.2.2 Part 1 - Section 3.2.3 Part 1 - Section 3.2.3 Part 2 - The Template Part 2 - Flood Response Information
<ul style="list-style-type: none"> <li>• Distribute, train, educate and review</li> </ul>	Part 1 - Section 3.2.4
<b>Implementing the Plan</b>	
<ul style="list-style-type: none"> <li>• Pre-flood phases</li> <li>• Flood phases</li> <li>• Environmental considerations</li> </ul>	Part 1 - Section 3.3.1 Part 1 - Section 3.3.2 Part 1 - Section 3.3.3
<b>Post Flood Management</b>	
<ul style="list-style-type: none"> <li>• Recovering from a flood</li> <li>• Debriefing</li> </ul>	Part 1 - Section 3.4.1 Part 1 - Section 3.4.2
<b>Annual Flood Plan Review and Update</b>	
<ul style="list-style-type: none"> <li>• Review after an event</li> <li>• Annual review</li> </ul>	Part 1 - Section 3.4.2 Part 2 - The Template

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### COMMENTS / ADDITIONS

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### CORRECTIONS

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# Table of Contents

## PART I - FLOOD PLANNING

<b>1. INTRODUCTION .....</b>	<b>9</b>
1.1 Purpose of this Guide .....	9
1.2 Flood Response Planning .....	9
1.3 Local Authorities, Diking Authorities and Flood Response Planning ...	10
1.4 Organization of this Guide .....	10
<b>2. FLOODS.....</b>	<b>13</b>
2.1 Floods: One of Many Natural Hazards in British Columbia .....	13
2.2 Types of Floods in British Columbia .....	14
2.3 Some Notable Floods in British Columbia's History .....	19
<b>3. FLOOD PLANNING AND RESPONSE .....</b>	<b>21</b>
3.1 Flood Prevention and Flood Damage Prevention .....	21
3.2 Preparing a Flood Response Plan .....	22
3.2.1 Prepare the Aim .....	24
3.2.2 Gather the Necessary Information .....	24
3.2.3 Organize the Administration and Prepare the Plan .....	31
3.2.4 Distribute, Train, Educate and Review .....	35
3.3 Implement a Flood Response Plan .....	36
3.3.1 Pre-flood Phases .....	36
3.3.2 Flood Phases .....	37
3.3.3 Environmental Considerations .....	39
3.4 Post Flood Management .....	39
3.4.1 Recovering from a Flood .....	39
3.4.2 Debriefing and Review .....	41
<b>4. REFERENCES .....</b>	<b>43</b>
4.1 Selected Major References and Sources of Information .....	43
4.2 Videos .....	50

<b>FIGURES</b> .....	<b>51</b>
FIGURE 1: Warning Dissemination Methods .....	51
FIGURE 2: Example of When to Issue Flood Warnings .....	53
FIGURE 3: Example of Flood Warning .....	54
FIGURE 4: A Typical Resource Directory .....	55
FIGURE 5: Types of Flood Response Exercise .....	56
FIGURE 6: An Example Checklist .....	57
<b>APPENDICES</b> .....	<b>59</b>
Appendix A: Summary of Roles and Responsibilities .....	59
Appendix B: Flood Planning and Response Tips .....	63
Appendix C: Emergency (Flood) Response Organization Types .....	71



# I. Introduction

## I.1 Purpose of this Guide

“Within this province, over the past century, more property damage has been inflicted by various forms of flooding than by any other natural hazard.”  
*Natural Hazards in British Columbia, 1996*

The purpose of this guide is to assist Local Authorities and Diking Authorities in British Columbia appropriately plan and respond to floods, by preparing a flood response plan. As such it provides information on a wide variety of topics related to flood planning and response, and provides references to additional information. This guide is not a replacement for a flood response plan, but will assist Local Authorities and Diking Authorities in preparing their flood response plan.

Local Authorities refer to all municipalities and some regional districts and national parks as defined in the *BC Emergency Program Act*. Diking Authorities refer to diking authorities and diking districts regulated under the *BC Dike Maintenance Act*. Refer to Appendix A for further clarification.

## I.2 Flood Response Planning

“Beyond the human toll taken in lives and suffering, flood damage costs Canadian taxpayers millions of dollars annually.” *Emergency Preparedness Canada and Canadian Mortgage and Housing Corporation (1998)*

Flood response planning is a strategy to minimize loss of life, injury and trauma and to reduce property damage as a result of a flood. A well thought out and documented flood response plan will help Local Authorities and Diking Authorities anticipate flood-related problems and possible solutions. No one can anticipate every contingency during a flood event, but a flood response plan will help develop appropriate responses for a wide range of occurrences. A flood response plan will enable quicker, more effective and more efficient response, and lead to a speedier recovery.

Depending on the size and geographic complexity of the local area over which the Local Authority or Diking Authority has jurisdiction, the flood response plan document can range from just a few pages to several binders, and from simple to complex. The flood response plan should be designed to suit the local conditions and the local situation.

## I.3 Local Authorities, Diking Authorities and Flood Response Planning

Local Authorities, under the *BC Emergency Program Act*, must have a local emergency plan, and provide initial response. Flooding is an important type of emergency which should be a common component of the local emergency plan.

Floods, of one kind or another, can affect almost all parts of British Columbia, and therefore all Local Authorities and Diking Authorities should have a flood response plan. Time and time again, it has been shown that small jurisdictional areas are usually at a greater risk from floods because they typically have fewer resources than larger areas.

The appropriate and legal roles and responsibilities of all concerned parties during a flood are summarized in Appendix A. The *Local Authority Planning Guide (1996 Revision)*, prepared by the Provincial Emergency Program of the BC Ministry of Attorney General should assist Local Authorities in preparing their local emergency plans.

## I.4 Organization of this Guide

Diking Authorities, under the *BC Dike Maintenance Act*, must have an emergency response plan. Dike owners are in the best position to anticipate and provide the first response to a flood.

This guide has been prepared to assist Local Authorities and Diking Authorities plan and respond to floods.

PART 1, Section 2 introduces the topic of floods, provides some information on how floods fit into the broader category of natural hazards and water-related hazards, briefly explains the diversity of flood types in the province, and briefly describes some notable floods in British Columbia's history.

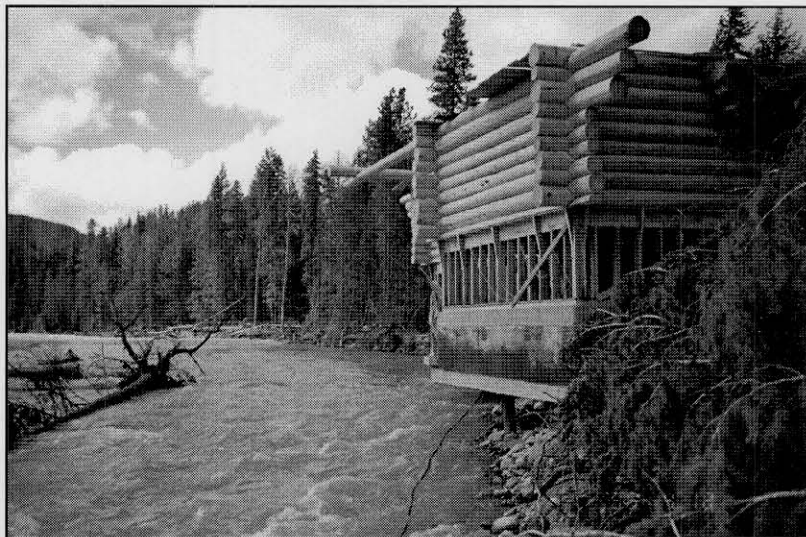
PART 1, Section 3 describes in detail, four aspects of flood planning and response:

- flood prevention and flood damage prevention;
- preparing a flood response plan;
- implementing a flood response plan; and
- post flood management.

These aspects relate to the four phases of emergency management: prevention, preparedness, response and recovery.

From the information in PART 1, Section 3, and additional information found in PART 2 - FLOOD RESPONSE, the Local Authority or Diking Authority should be able to prepare a flood response plan.

PART 1, Section 4 provides sources of additional information, including printed material and Internet web sites.



**Erosion resulting from a freshet flood**



Clearing Culvert inlet at Coldstream Creek



Debris flow at Hummingbird Creek