



Rural Disaster Resilience Project

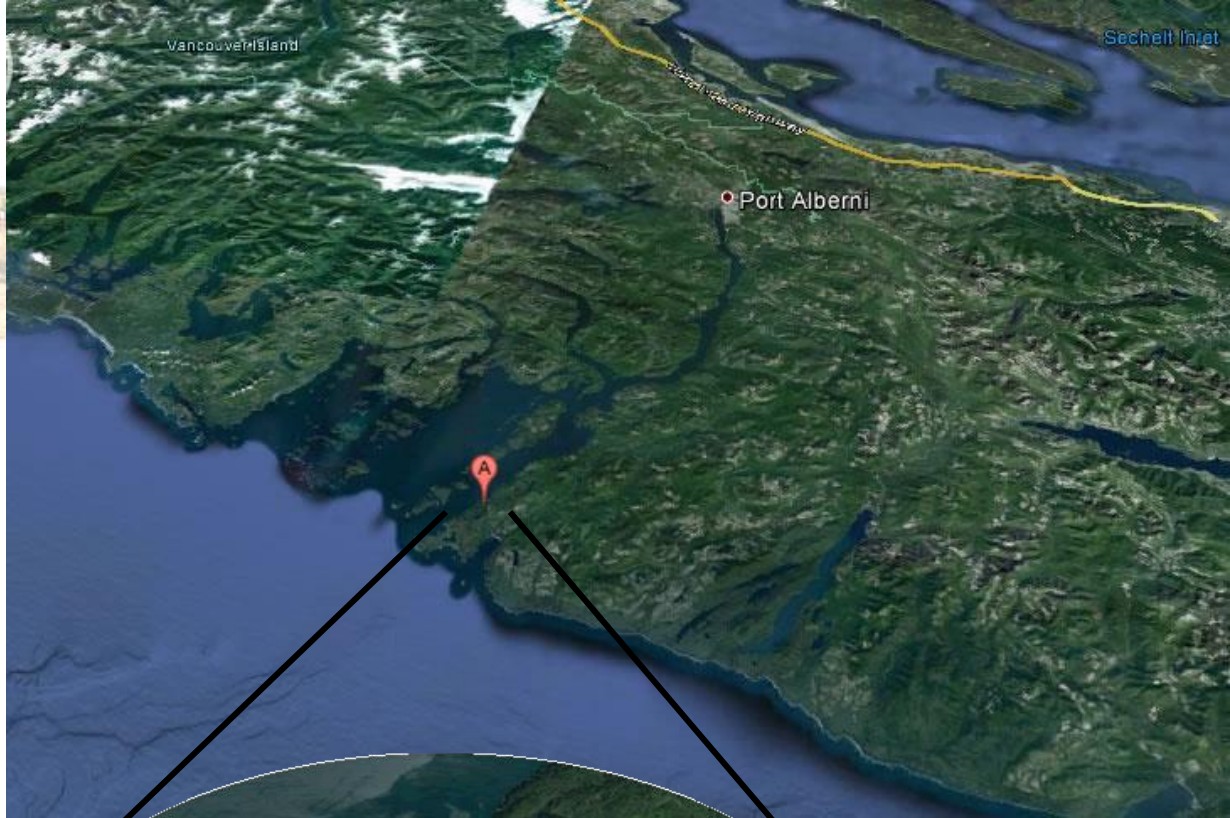
CTRI 07-0135 RD
Building Resilience and Rural Health System Capability for
Pre-Disaster Planning and Preparedness



Resilience

- The outcome of a process that transforms knowledge about the risk environment into actionable strategies that reduce vulnerability and increase the capability to adapt to uncertain hazard threats over time

Journey, M. 2010

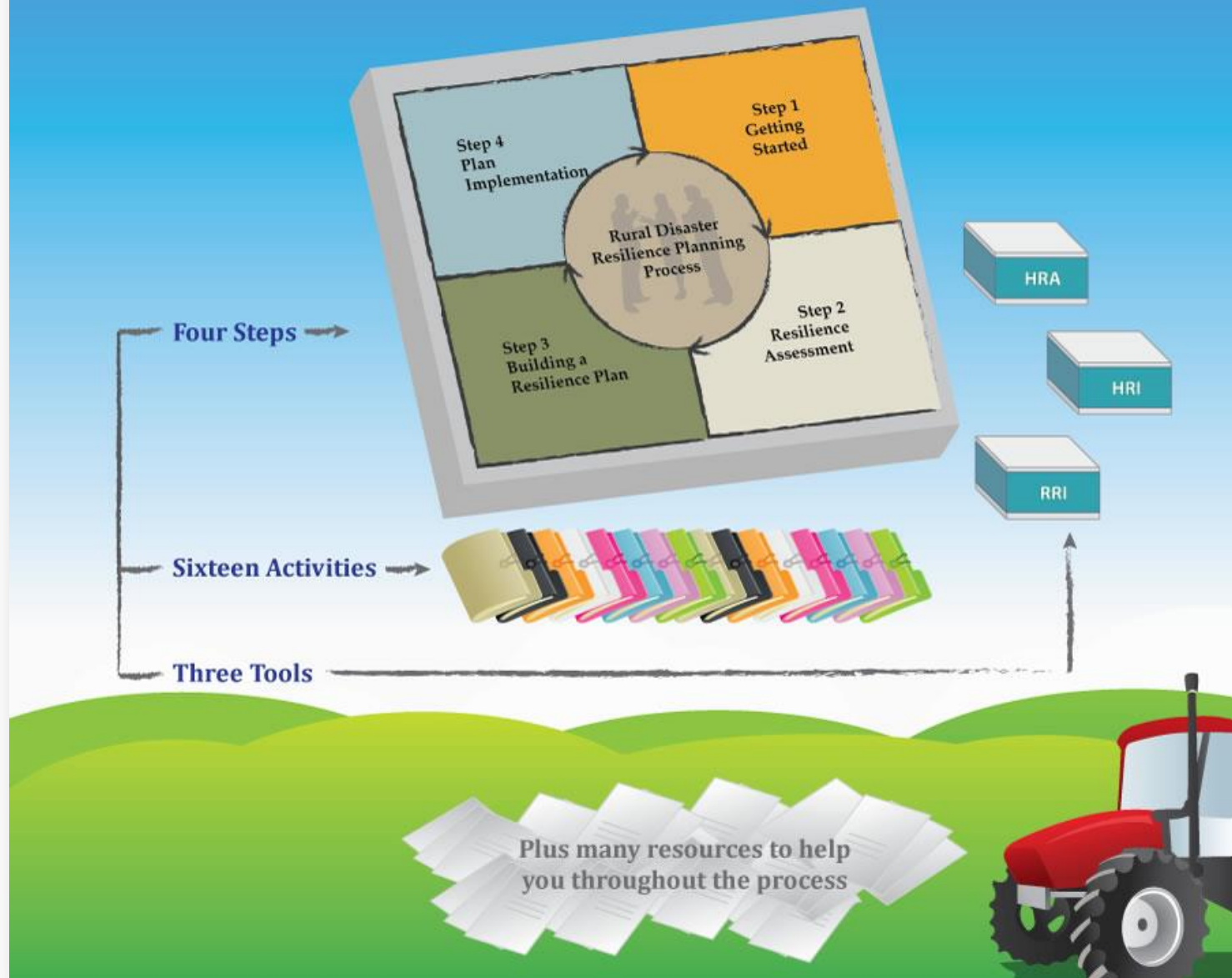


Challenges:
Rural
Remote
Coastal

Resilience is a Characteristic of RRC Communities



The Rural Disaster Resilience Planning Framework



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Assessing risks and building resilience for disasters in rural, remote and coastal communities.



Guide, Tools & Resources

Four steps to build a plan for disaster resiliency in your community. **Login to**



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Step 1: Getting Started

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In order to get started, your community needs to determine who will work through the planning process, and what geographic area makes up the community for planning purposes.

Activity 1 – Set up a Community Planning Team

In this first activity, you will identify members for and set up the Community Planning Team. The team will be responsible for gathering the information necessary to assess the community's disaster resilience, and who will draft a plan for enhancing resilience.

Activity 2 – Review the RRI, HRI and HRA Tools



Introduction

Step 1: Getting Started

Activity 1: Set up the Community Planning Team

Activity 2: Review the RRI, HRI and HRA Tools

Activity 3: Define Community Borders

Activity 4: Getting Community Buy-in

Step 2: Resilience Assessment

Step 3: Building a Resilience Plan

Step 4: Plan Implementation

Resources

My Tools & Reports

My Tools & Reports

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Click the links below to access the tools and reports.

Tools & Standard Reports

▼ Instructions

Rural Resilience Index (RRI)	Launch Tool	View Report
Hazard Resilience Index (HRI)	Launch Tool	View Report
Hazard Risk Assessment (HRA)	Launch Tool	View Report
Rural Resilience Index Strategies		View Report
Hazard Resilience Index Strategies		View Report

Custom Reports

▼ Instructions

Rural Resilience Report	Create Report
Hazard Report	Create Report

Rural Resilience Index (RRI)

[JIBC Wordpress Multi Site Hosting \(Dev\)](#) > [Rural Disaster Resilience Planning Guide](#) > Rural Resilience Index (RRI)

Welcome to the Rural Resilience Index (RRI) tool

The RRI is a tool to help you assess your community's disaster resilience in order to provide information on areas of resilience that can be enhanced. The RRI presents two categories of resilience: Community Resources and Disaster Management. For detailed instructions on using this tool click [here](#).

Both sections of the RRI contain a number of dimensions of community resilience. To begin rating each dimension, click on one of the section headings below. A list of dimensions will appear. Click on a dimension heading to begin rating the characteristics and dimensions. First, rate each characteristic by clicking on a radio button to the left. Once you have rated all of the characteristics, click on a radio button below the Dimension to rate it. Your responses will be automatically saved when you exit the tool.

Create Report

▼ Community Resources

▼ Disaster Management

Create Report

Resources

[Instructions](#)

[Rural Resilience Index Printable](#)

[Tool](#)

^ Community Resources

The first section of the RRI, Community Resources, outlines community characteristics associated with the quality and strength of residents' connections to each other, and the self-reliance, self-determination and self-sufficiency of the community. It also includes other characteristics of community functioning such as the presence of effective leadership, inclusive decision-making processes, and open, clear, and transparent communication channels also influence resilience. The indicators (checkbox statements) in this section of the RRI help create a complex and comprehensive picture of how well a community functions, how they are likely to adapt to disruption or the loss of important services (e.g., food transportation, electricity), how effectively they can communicate and make decisions in a crisis, and the diversity and accessibility of resources, services, skills, expertise, and equipment that can be called on to prepare for, respond to, or recover from a disaster.

✓ Our community is close knit and involved

✓ Our community is self-sufficient and resourceful

✓ Our community is diverse in skills, knowledge and culture

✓ Our community has a strong health and social support system

✓ Our community has strong local leadership and governance

Our community is self-sufficient and resourceful

DIMENSION RATING ☒ High Resilience ☐ Low Resilience ☐ Needs Info ☐ Not Applicable

Yes
No
Needs More Info
Not Applicable

CHARACTERISTICS

This is important
to my community

- | | | | | | |
|----------------------------------|----------------------------------|----------------------------------|-----------------------|---|-------------------------------------|
| <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | The community has a do it yourself mentality | <input checked="" type="checkbox"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Many residents have survival skills and knowledge | <input type="checkbox"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | The community uses creative thinking and inventive problem solving | <input type="checkbox"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Employment opportunities and local services reduce the need to relocate | <input checked="" type="checkbox"/> |
| <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | The mix of self-employment, wage-employment, and informal economic activities (e.g., hunting, trapping, fishing) is relatively balanced | <input type="checkbox"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Many residents are successful in developing and sustaining their own livelihoods or local businesses | <input type="checkbox"/> |
| <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | Local community and service organizations are sustainable | <input type="checkbox"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Local churches and faith-based organizations are sustainable | <input type="checkbox"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | The Chamber of Commerce (or equivalent) actively engages in the community | <input type="checkbox"/> |
| <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | Local fundraising successfully supports community activities and shared goals | <input type="checkbox"/> |



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Our community is self-sufficient and resourceful

Dimension Rating: **High Resilience**

Resilience Strategies

- ☐ Food Security: Education programs are a fundamental starting point for increasing awareness of food security issues. Initiate an outreach program focusing on where your community gets its food and how to support regional food systems (e.g. agriculture). This could include educating residents about nutritious and abundant wild-food sources such as “Miner’s Lettuce” *Claytonia perfoliata* and fiddleheads (from ferns *Matteuccia struthiopteris*) or meat procured from local hunting and fishing. This might be another way of including elders and seniors and drawing on their knowledge.
- ☒ Food Security: To enhance food security, it is important to ensure as much food as possible comes from local or regional sources. Conduct a community food assessment. For example, do a lot of people have frozen meat or fish in their freezers? Do a lot of people have gardens that produce food? Are food producing farms nearby? How about caches of canned food set aside for disaster?
- ☐ Food Security: Consider creating buying clubs, to purchase in bulk and save money, or developing community gardens, greenhouses, and/or kitchens that prepare low cost or pot-luck healthy meals. This could be paired with a food bank or a faith-based community initiative.
- ☒ Food Security: Create support for community agriculture programs, farmers markets, pocket markets (smaller versions of farmers markets), which decrease dependence on imported food.
- ☐ Food Security: Initiate a community campaign to replace front lawns and empty lots with vegetable gardens, or that promotes adopting a seasonal diet or traditionally local diet based on immediately available resources.
- ☒ Food Security: Neighborhood networks can provide a place to share ideas, save seeds, cooperatively cook, initiate community gardens, conduct communal canning, and in general support the cause of local food security.
- ☒ Food Security: Encourage individual or collective community gardens where excess produce can be donated to local food bank or used to create food hampers for those in need.



Hazard Risk Analysis (HRA)

Logout

JIBC Wordpress Multi Site Hosting (Dev) > Rural Disaster Resilience Planning Guide > Hazard Risk Analysis (HRA)

Introduction

- [Step 1: Getting Started](#)
- [Step 2: Resilience Assessment](#)
- [Step 3: Building a Resilience Plan](#)
- [Step 4: Plan Implementation](#)

Resources

My Tools & Reports

Welcome to the Hazard Risk Assessment (HRA) tool

There are 16 categories of hazards for you to assess. For detailed instructions on using this tool click [here](#).

To begin rating each hazard, click on a hazard title below to reveal the associated factors and rating scales. First, rate each factor by clicking on a radio button to the left. Once you have rated all of the factors, click on a radio button below the Hazard name to rate it. Your responses will be automatically saved when you exit the tool.

Create Report

▼ Accidents

▼ Astronomical

▼ Atmospheric

▼ Contamination

▼ Dam Failure and Structural Collapse

Resources

[Instructions](#)

[Accidents](#)

[Astronomical](#)

[Atmospheric](#)

[Contamination and Pollution](#)

[Dam Failure and Structural](#)

[Collapse](#)

[Diseases](#)

[Earthquakes, Tsunamis and](#)

[Volcanoes](#)

[Fires](#)

[Food Shortages](#)

[Geological](#)

[Hazardous Material Spills,](#)

[Explosions and Leaks](#)

[Hydrological](#)

[Nuclear Failure](#)

[Power and Water Outages](#)

[Riots](#)

[Terrorism](#)

^ Hydrological Hazards

This section discusses hazards that are related to water or snow. This includes: Avalanches, Debris Avalanches, Debris Flows and Torrents, Drought, Flash Floods, Local Floods, Rain Storm Floods, Ice Jam Floods, Snow Melt Floods, Glaciers, Iceflows, Icebergs, Ice Islands and Sea Ice, Lake Outburst. Resources are available to assist you in completing this assessment in the Risk Assessment Resources section. Many of them are both naturally caused and caused by humans.

Avalanches - Natural & Human Caused

Debris Avalanches, Debris Flows and Torrents

Drought - Natural and Human Caused

Flash Floods

Ice Jam Floods

✓ Local Floods

✓ Rain Storm Floods

Snow Melt Floods

Glaciers

✓ Iceflows, Icebergs, Ice Islands and Sea Ice

Rain Storm Floods



HAZARD RISK INDICATOR ☒ High Risk ☐ Low Risk ☐ Needs Info ☐ Not Applicable

Yes
No
Needs More Info
Not Applicable

FACTORS

☒ ☐ ☐ ☐

Are there areas in your community with frequent high winds?

☐ ☐ ☒ ☐

******Are there areas in your community with frequent storms that have a wide geographical range (as opposed to localized storms)? These areas are at greater risk from rain storms because the water basin will fill faster.

☐ ☒ ☐ ☐

Are there areas in your community when there is constant rainfall? Areas where the soil is already saturated before a storm comes are more at risk.

☐ ☐ ☒ ☐

Are there areas in your community that historically receive annual, long-duration storms and have small watersheds in relation to the rainfall received?

☐ ☐ ☐ ☐

Are there areas in your community on or near flood plains (low lying, flat ground) that have received long and intense periods of rainfall in the past?

Update



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Rain Storm Floods

HAZARD RESILIENCE INDICATOR ☐ High Resilience ☐ Low Resilience ☐ Needs Info ☐ Not Applicable

Yes	No	Needs More Info	Not Applicable	FACTORS	This is important to my community
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Community officials check frequently with weather forecasting agencies such as Environment Canada and monitor conditions that may lead to rain storm flooding.	<input type="checkbox"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Community volunteers and personnel have received training regarding sand-bagging.	<input type="checkbox"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Community-based rain storm flood exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)	<input type="checkbox"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Dredging has taken place to avert potential ice jam floods and/or dredging activities are monitored and assessed for their potential to cause submarine slides.	<input type="checkbox"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	The community has implemented structural measures to reduce the risk of rain storm flooding, such as building dams, dykes and floodwalls, creating reservoirs or making channel improvements.	<input type="checkbox"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	The community has mapped areas subject to rain storm flooding (e.g., established flood plain areas at the 100 and 200 year level).	<input type="checkbox"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	The community has posted signs warning of areas subject to rain storm flooding (e.g., roads, railroad lines).	<input type="checkbox"/>

Hazard Custom Report

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▼ General Instructions

Step ① : Select the hazards to include in the report

▼ Instructions

☐ Select All

☐ Accidents

☐ Atmospheric

☐ Dam Failure and Structural Collapse

☐ Earthquakes, Tsunamis & Volcanos

☐ Food Shortages

☐ Hazardous Material Spills, Explosions and Oil

☐ Pipeline and Gas Leaks

☐ Nuclear Failure

☐ Astronomical

☐ Contamination

☐ Diseases

☐ Fires

☐ Geological Hazards

☐ Hydrological Hazards

☐ Power and Water Outages

☐ Terrorism

Step ② : Select the Indicator rating to include

▼ Instructions

Hazard Risk Indicator

- ☒ High Risk
- ☐ Low Risk
- ☐ Needs Info
- ☐ Not Applicable
- ☐ Not Yet Rated

Hazard Resilience Indicator

- ☐ High Resilience
- ☒ Low Resilience
- ☐ Needs Info
- ☐ Not Applicable
- ☐ Not Yet Rated

Step ③ : Factors to include

▼ Instructions

Include all Factors for chosen Hazards ☒ Yes ☐ No

Include Factors not yet rated ☒ Yes ☐ No

Filter By: Important to my community ☐

Step ④ : Strategies

Hazard Category: Hydrological Hazards

Local Floods

Hazard Resilience Indicator : **Low Resilience**

This type of flooding may or may not be associated with an extreme hydrologic event, but is caused by poor or blocked drainage. In many cases it is an annual event which occurs on agricultural land and has no major consequences, in other cases it can cause hardship

Hazard Resilience Index

Rating	Characteristic	Important to my Community
No	Community officials check frequently with weather forecasting agencies such as Environment Canada and monitor conditions that may lead to local flooding.	Yes
Not Applicable	Community volunteers and personnel have received training regarding sand-bagging.	No
No	Community-based local flood exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)	Yes
Not Applicable	The community has a warning system to notify community residents and businesses of potential local flooding risk and to evacuate areas prone to local flooding.	No
No	The community has implemented measures to reduce the risk of local flooding, such as ensuring that storm sewage drains and systems are well maintained.	No

Resilience Strategies

- ✓ Community officials check frequently with weather forecasting agencies such as Environment Canada and monitor conditions that may lead to local flooding.
- ✓ Community volunteers and personnel have received training regarding sand-bagging.
- ✓ Community-based local flood exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- ✓ The community has a warning system to notify community residents and businesses of potential local flooding risk and to evacuate areas prone to local flooding.
- ✓ The community has implemented measures to reduce the risk of local flooding, such as ensuring that storm sewage drains and systems are well maintained.
- ✓ The community monitors and maintains pumps and pump stations.
- ✓ The community has ready access to stockpiles of sandbags.
- ✓ The community has retained or re-established natural ecosystems in floodplains that provide flood control, such as vegetation cover which provides soil stability and absorption, wetlands and estuaries (a partly enclosed coastal body of water with one or more rivers or streams flowing into it and a free connection to the sea) which assist with water retention and absorption, and natural stream flows and riparian areas (areas situated on the bank of a river or other body of water) which slow water runoff velocity, reduce bank erosion and reduce the introduction of sediment and debris in watercourses.
- ✓ There is a warning system in place to notify police, fire and ambulance personnel of potential local flooding and to prohibit entry into areas subject to ice jam flooding

