

# TOWN OF LYMAN

## INTRODUCTION

The purpose of this section of the plan is to assess the vulnerability of the Town of Lyman in regards to the various natural hazards previously identified in SECTION II of this plan. In addition, mitigation strategies that are currently in place relating to these natural hazards as well as newly proposed mitigation strategies have been included in this section of the plan.

To complete the vulnerability assessment process, various town staff utilized a series of locally developed forms as well as forms available in the 20/20 Mitigation Software that was provided to Skagit County by the Washington State Military Department, Emergency Management Division. The information collected with these forms is included in this portion of the plan.

As part of the vulnerability assessment process, the Town of Lyman completed an inventory of all critical facilities and has considered these critical facilities in our planning and mitigation strategy development process.

The Town of Lyman participates in the National Flood Insurance Program (NFIP). The identifying, analyzing, and prioritizing of mitigation measures is based (and will continue to be based) upon continued participation and compliance with the National Flood Insurance Program. There are no repetitive loss properties in the Town of Lyman.

Representatives from Town of Lyman government worked closely with other jurisdictions, agencies, Indian tribes, and the Skagit Natural Hazards Planning Committee to develop a comprehensive, coordinated mitigation plan intended to reduce the vulnerability to natural hazards within the Town of Lyman. The information contained in this document presents the results of this effort to identify the specific natural hazards threatening the Town of Lyman, to characterize the vulnerability of the Town of Lyman regarding these hazards, and to identify current as well as proposed mitigation strategies, projects and/or programs to address those vulnerabilities.

The analyses conducted by Town of Lyman staff were based on the best currently available information and data regarding the characteristics of the neighborhoods identified, the natural hazards that threaten the people, property, and environment of these neighborhoods as well as the impacts these neighborhoods have suffered in past disasters. This information includes, when available, United States Census data, local tax records, local and national geographic information system data, Flood Insurance Rate Maps, hazard specific analyses, and other environmental and demographic facts. However, very often authoritative or current information simply was not available for the planning effort. In these cases, the experience, knowledge and judgment of local officials representing Town of Lyman government were used in the planning, including assumptions and approximations that were believed to be reasonable. In addition, straight-forward, simplified technical analyses were used for tasks such as estimating property values, determining the size of populations affected, and so forth. The reliance on the judgment of knowledgeable officials and simplified analyses is considered acceptable at this stage to allow the participating organizations to complete the tasks needed to develop this multi-jurisdictional natural hazards mitigation plan. As the planning continues in future years, or at the time when a proposed mitigation initiative is intended to be funded and/or

implemented, the participating organizations/jurisdictions recognize that additional information and analyses may be required.

A large majority of the Town of Lyman, as shown on map "LYM – 2" and is included in this portion of the plan, lies directly in the channel and adjoining floodway of the Skagit River. The town participates in the National Flood Insurance Program but does not participate in the NFIP Community Rating System program. As an NFIP community, the Town of Lyman is very fortunate that almost the entire developed portion of the Town is located outside of the floodplain and that there are no homes located in the Skagit River Floodway within the Town of Lyman.

Areas within the Town of Lyman and adjacent to the Skagit River are protected by a small rip-rap levee. This levee was damaged during the floods of 1990; repairs were made by the United States Army Corps of Engineers.

Town of Lyman government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. Town of Lyman government is also committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, Indian tribes, and jurisdictions to make the Town of Lyman County more resistant to the damages and hardships that could otherwise be the result of future natural disasters.

Contact Information: Eileen Warchow, Town Clerk  
Town of Lyman  
8334 South Main  
Lyman, WA 98263  
Telephone: (360) 826-3033

## PROFILE

Population of Jurisdiction: 445 (2008 Census Estimate)  
Estimated Geographical Size: .76 square miles (60.6% in Floodway)  
Principal Economic Base: Some Business and Industrial; primarily residential  
Economic Characteristic: Median Household Income is \$39,318  
Neighborhood Characteristics: The Town of Lyman is a modest community consisting of 317 structures with an average value of \$46,500.

### Current Hazard Mitigation Codes/Plans/Ordinances:

- Comprehensive Land Use Plan
- Zoning Code
- Building and Fire Code (County does inspections under the 2006 International Code)
- Capital Facilities Plan
- Critical Areas Code
- Participation in the NFIP Program
- Comprehensive Water System Plan

## Town of Lyman

### 2008 Natural Hazard Identification and Risk Estimation

*\*Based on Mitigation 20/20 Risk Assessment Formula (Area Impacted+Health and Safety Consequences+Property Damage+Environmental Damage+Economic Disruption multiplied by Probability of Occurrence)*

*\*\*The greater the Risk Score, the greater the risk.*

	Area Impacted	Health & Safety	Property	Environment	Economic	Probability	Risk Score
Earthquake	4	2	2	1	2	2	22
Flooding	4	1	2	1	2	5	50
High Winds	4	1	1	1	1	2	16
Landslide/Erosion	1	1	1	0	0	1	3
Storm Surge/Tsunami	0	0	0	0	0	1	0
Subsidence,expansive Soils	1	0	0	0	0	1	1
Urban Fire	1	1	1	1	2	2	12
Wildfire	1	1	1	1	1	1	5
Winter Storm	4	1	1	0	1	2	14
Volcanic Activity	4	2	3	3	3	2	30

<b>Total Jurisdictional Risk Estimation Score:</b>	<b>153</b>
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Area Impacted:	0=No impact	1=<25%	2=<50%	3=<75%	4=>75%
Health & Safety:	0=No impact	1=Few injuries	2=Few fatalities, many injuries	3=Numerous fatalities	
Property:	0=No impact	1=Few destroyed or damaged	2=Few destroyed, many damaged or damaged	3=Many properties destroyed or	
Environment:	0=Little or No impact	1=Short term	2=Long term	3=No recovery	
Economic:	0=No impact	1=Low costs	2=High direct cost and Low indirect or Low direct and High indirect	3=High Direct and Indirect Cost	
Probability:	1=Unknown but rare	2=Unknown but anticipated	3= <100 year	4=<25 year	5=Once a year or more

## 2008 PLAN UPDATE

The Town of Lyman has appointed the Town Council to act as the Mitigation Planning Committee for the town. Town personnel involved in the 2008 plan update process were Debra Heinzman, Mayor and Debbie Boyd, Deputy Town Clerk. Mayor Heinzman and Ms. Boyd provided information to be included in the updated plan and coordinated the plan update with Skagit County Department of Emergency Management personnel. Ms. Boyd attended a Skagit Natural Hazards Planning Committee Meeting to provide input into the planning process; Mayor Heinzman reviewed and approved the updated document.

In 2004, the Town of Lyman completed the update of the Municipal Water System to meet state and local health standards and best management practices to minimize the potential for contamination or other damage in the event of a natural disaster.

The Town of Lyman is a small rural community with a minimal tax base and staff to carry out mitigation projects. As part of the original development of the **Skagit County Natural Hazards Mitigation Plan** in 2003, the Town of Lyman submitted a lengthy list of proposed mitigation measures including the above-referenced update of the Municipal Water System. Local funding and lack of full-time staff have prevented the town from completing the remaining mitigation measures proposed for the 2003 – 2008 plan cycle. These mitigation measures have been deferred indefinitely and are not listed in the updated plan. The Town Council may elect to re-affirm these mitigation measures in the future depending upon the availability of mitigation grant funds.

During the period of November 2–11, 2006, flooding of the Skagit River caused erosion of the rock revetment (levee) protecting the Town of Lyman. The revetment is 550 feet in length and runs in an east to west direction along the north bank of the Skagit River. The revetment construction consists of a 48" layer of rip-rap over a foundation of quarry spalls (below water level) and sand/earthen material (above water level).

Because of the proximity of the Town of Lyman to the Skagit River, the Lyman Town Council has determined the repair of the rip-rap levee adjacent to the Skagit River is a priority in mitigating the town's vulnerability to flood but has yet been able to effect full repair of the levee. The cost estimate for repair is \$378,213 as listed on Department of Homeland Security Federal Emergency Management Agency Project Worksheet # O.M.B. No.1660-0017 (FEMA – 1671-DR-WA CJ-20).

The Town of Lyman has hired HDR Engineering to provide professional engineering, consulting, and related services in connection with the project. At this time, no work has been completed; the town has submitted the JARPA and is waiting for input from other agencies. The work is also subject to the window that is described in the Wild and Scenic status of the Skagit River. This window is approx 4 to 6 weeks in length during the months of July and August.

The SCOPE OF WORK for this project is meant to effect repair of the revetment to pre-disaster condition. Work will include the placement of large rock to form a "toe" (approximately 5 feet wide and 5 feet high) at base of the revetment for a distance of approximately 550 feet. The rock will be placed by a large crane or excavator capable of reaching out and down the slope. In addition, riprap will be replaced to a maximum thickness of 48" or an average thickness of 24" over the revetment.

***Completion of this project is the single jurisdiction-specific flood mitigation measure proposed by the Town of Lyman for the 2008 – 2013 plan cycle. Proposed mitigation measures for other natural hazards are listed in Section III of this plan.***

## **INCORPORATING MITIGATION INTO OTHER PLANNING MECHANISMS**

The Town of Lyman has adopted the basic planning and code framework as required by the Washington State Growth Management Act. The Town of Lyman Comprehensive Plan and Code was adopted in 2002; minor revisions to correct typographical errors were made in 2005 and a full update of the Comprehensive Plan is scheduled for 2012.

The Town of Lyman typically updates its Comprehensive Plan following United States Census dates (2000, 2010) and has therefore not yet incorporated the mitigation strategy and other information contained in the **Skagit County Natural Hazards Mitigation Plan** into the Comprehensive Plan. The Town of Lyman expects this activity will take place during the scheduled 2012 update of the Comprehensive Plan. The process followed in updating the Comprehensive Plan will serve as the process for incorporating the mitigation strategy and other information contained within this plan (as appropriate) into the Comprehensive Plan.

## **MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS**

<b>POLICY TYPE AND APPLICATION TO HAZARD</b>	<b>CITATION</b>	<b>MITIGATION-RELATED POLICY STATEMENT</b>
<b>2002 COMPREHENSIVE PLAN</b> • Land Use • Flooding, Landslides	Chapter 2, Section C 6 & 9	➤ Protect and restore critical areas; plan for surface water management and pollution control, establishment and maintenance of greenbelts and conservation areas and coordinate with adjoining jurisdictions.  ➤ Maintain an active program for citizen participation to review proposed development projects, changes to plans, policies, codes and regulations, and to provide an opportunity for discussion and problem solving as appropriate.
<b>2002 COMPREHENSIVE PLAN</b> Flooding Earthquake Severe Storm Fire	Chapter 5 B	➤ The transportation plan is designed to ensure the continued ability of the transportation system to function at a reasonable level of service throughout the urban service area and coordinate the links to the regional transportation system along SR 20.  ➤ The Town of Lyman 2001 Water System Supply Plan Update is hereby adopted by reference, as may be further amended.  ➤ The area is currently served by Fire District #8, under a contractual agreement. There is a station in the Town Limits. Service is currently made up of volunteers.

## MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
<b>2002 COMPREHENSIVE PLAN</b> Flooding	Chapter 8 B	Use a variety of innovative land use techniques to maintain the character and quality of parks and open space, including but not limited to conservation and open space easements, public trust, public lands, transfer and purchase of development rights and other means.
<b>2002 COMPREHENSIVE PLAN</b> Steep Slopes Flooding Earthquake Severe Storm	Chapter 9 A	<p>Of the total 489.51 acres, there are approximately 296.89 acres of Skagit River floodway. This area is zoned for Open Space.</p> <p>Wetlands on private property are required to be delineated prior to any permits being issued.</p> <p>The Town of Lyman is unique with respect to the fact that 60.6% of the incorporated land is in the Skagit River floodway, extending south to include the old Lyman Ferry Road across the Skagit River. A Critical Areas Ordinance that complies with Best Available Science is adopted in conjunction with these policies, based on work completed by Skagit County.</p>
<b>2002 COMPREHENSIVE PLAN</b> Land Movement Earthquake	Chapter 9 B	<ul style="list-style-type: none"> <li>➤ Provide adequate erosion and sedimentation control during construction and additional construction practices, methods and requirements, including but not limited to best management practices and limitations on construction equipment permitted on the site, to protect critical areas on the site, on adjacent sites and within the drainage basin.</li> <li>➤ All grading in critical areas shall be stabilized by October 31st unless demonstrated to the satisfaction of the Town based on approved technical analysis that no environmental harm or safety issues would result from grading between November 1st and March 31st.</li> <li>➤ Provide protection of steep slopes according to standards in the Critical Areas Ordinance.</li> </ul>

## MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
<b>2002 COMPREHENSIVE PLAN</b> Flooding Severe Storms Earthquake Land Movement	Chapter 9 B	<ul style="list-style-type: none"> <li>➤ Manage stormwater runoff to improve drainage, control stormwater quantity, prevent localized flooding of streets and private property during high water table and rainy conditions, and protect and enhance water quality.</li> <li>➤ Plan the stormwater management system to be consistent with policies regarding flooding, wetlands, land use and water quality.</li> <li>➤ Develop an integrated program for quantity and quality control that recognizes the unique situation with much of the town in the floodway and needs for flood control in larger storm events, while at the same time needing to control the effects of smaller storms in terms of both quantity and quality of runoff.</li> <li>➤ Apply best management practices to reduce pollutant loading and minimize the effects of contaminated sediments on the Skagit River.</li> <li>➤ Provide for ongoing public education aimed at residents, businesses, and industries in the area. The education programs are to inform citizens about stormwater and its effects on water quality, flooding, and fish/wildlife habitat, and to discourage dumping of waste material or pollutants into storm drains.</li> <li>➤ Implement the goal of the Puget Sound Water Quality Management Plan which is to protect shellfish beds, fish habitat, and other resources, to prevent the contamination of sediments from urban runoff, and to achieve standards for water and sediment quality by reducing, and eventually eliminating harm from pollution discharges from stormwater throughout Puget Sound.</li> <li>➤ Make investigations and corrective actions of problem storm drains, including sampling.</li> </ul>

<p><i>continued....</i></p>		<ul style="list-style-type: none"> <li>➤ Require new development and re-development to comply with the standards of the Department of Ecology's Stormwater Management Manual.</li> <li>➤ Develop a program for operation and maintenance of storm drains, detention systems, ditches, and culverts.</li> <li>➤ The Floodway shall be regulated to protect human life, property and the public health and safety of the citizens of Lyman; minimize the expenditure of public money; and maintain the town's flood insurance eligibility while avoiding regulations which are unnecessarily restrictive or difficult to administer.</li> <li>➤ There shall be a buffer that is based on the classification in the Critical Areas Ordinance of wetlands and riparian corridors. A wetlands reconnaissance or delineation may be required by the Town to verify the ordinary high water mark and whether unique site features warrant any additional setbacks. No removal of native vegetation or wildlife shall be permitted within the protected wetlands and riparian corridors and their buffers, except as part of an approved restoration or parks open space enhancement program or other approved plan.</li> <li>➤ Wetland determinations shall be based on the Washington State Wetlands Identification and Delineation Manual (Department of Ecology, 1997).</li> <li>➤ When development is proposed on sites with wetlands, and/or riparian corridors, the Town may restrict developmental coverage and construction activity areas to the most environmentally suitable portion of the site. Grading activities shall be strictly limited to areas as determined by the Town.</li> </ul>
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## MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
<b>2003-2008 CAPITAL IMPROVEMENT PLAN</b> • Fire, Earthquake, Severe Storms	Level of Service Standards and Individual Department Submittals	<ul style="list-style-type: none"> <li>➤ Urban Level of Service Standards are established to ensure protection of public health, safety and welfare by meeting relevant standards</li> <li>➤ Six-year list of projects including specific actions targeted towards natural hazard mitigation</li> </ul>
<b>1997 UNIFORM BUILDING CODE</b> • Earthquake, Severe Storm, Fire, Landslide	Seismic and Wind Loads, Construction Standards	<ul style="list-style-type: none"> <li>➤ Seismic Zone 3</li> <li>➤ Wind Exposure C</li> <li>➤ Fire Resistive Construction Standards</li> <li>➤ Grading Standards</li> </ul>
<b>1997 UNIFORM FIRE CODE</b> • Fire	Fire protection and building maintenance standards	<ul style="list-style-type: none"> <li>➤ Fire flow</li> <li>➤ Annual Inspection of Commercial Structures</li> <li>➤ Plan Review</li> </ul>
<b>2002 CRITICAL AREAS CODE</b> • Flooding, Landslide	Section 15.15.020 Application-Purpose	<ul style="list-style-type: none"> <li>➤ Frequently flooded areas; It is the purpose of this Chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in the floodplain and the floodway according to the provisions established under this code;</li> <li>➤ Geologically hazardous areas; Geologically hazardous areas include areas susceptible to the effects of erosion, sliding, earthquake, or other geologic events. They pose a threat to the health and safety of citizens when incompatible residential, commercial, industrial, or infrastructure development is sited in areas of a hazard. Geologic hazards pose a risk to life, property, and resources when steep slopes are destabilized by inappropriate activities and development or when structures or facilities are sited in areas susceptible to natural or human caused geologic events. Some geologic hazards can be reduced or mitigated by engineering, design, or modified construction practices so that risks to health and safety are acceptable. When technology cannot reduce risks to acceptable levels, building and other construction within identified geologically hazardous areas shall be prohibited.</li> </ul>

## MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
<b>ZONING CODE</b> <ul style="list-style-type: none"> <li>• Flood, Fire, Landslide, Earthquake</li> </ul>	Section 17.03.020 Purpose	<p>➤ The purpose of this title is to implement the Town of Lyman's Comprehensive Plan. This title will be used to further the growth and development of the Town of Lyman consistent with the adopted comprehensive plan and its implementing elements. This title will also further the purpose of promoting the health, safety, morals, convenience, comfort, prosperity, and general welfare of the town's population.</p> <p>➤ The specific zones and regulations herein are designed to facilitate adequate provisions of utilities, schools, parks and housing with essential light, air, privacy, and open space; to lessen congestion on streets and facilitate the safe movement of traffic thereon; to stabilize and enhance property values; to prevent the overcrowding of land; to facilitate adequate provisions for doing public and private business and thereby safeguard the community's economic structure upon which the prosperity and welfare of all depends and through such achievements help ensure the safety and security of home life, foster good citizenship, create and preserve a more healthful, serviceable and attractive municipality and environment in which to live.</p> <p>➤ To most effectively accomplish these purposes, this title divides the town into zones wherein the location, height and use of buildings, the use of land, the size of yards and other open space, and the provision of off-street parking and loading are regulated and restricted in accordance with the comprehensive plan for the Town of Lyman. These zones and regulations are hereby deemed necessary and are made with reasonable consideration, among other things, as to the character of each zone and its particular suitability for specific uses, the need for such uses, the common rights and interests of all within the zone as well as those of the general public, and with the view of conserving and encouraging the most appropriate use of land throughout the town.</p>