

# MITIGATION STRATEGIES

## Lower Elwha Klallam Tribe

### 2011 LEKT Tribal Hazard Mitigation Plan



May 9, 2011

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# Purpose of Plan:



The Lower Elwha Klallam Tribal Hazard Mitigation Plan has been prepared to guide current and future efforts to effectively and efficiently mitigate natural hazards on the Lower Elwha Indian Reservation and other areas of Tribal interest including, but not limited to, its Usual and Accustomed Areas.



# What is “Mitigation”?

- Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. Mitigation activities may be implemented prior to, during, or after an incident. However, hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.





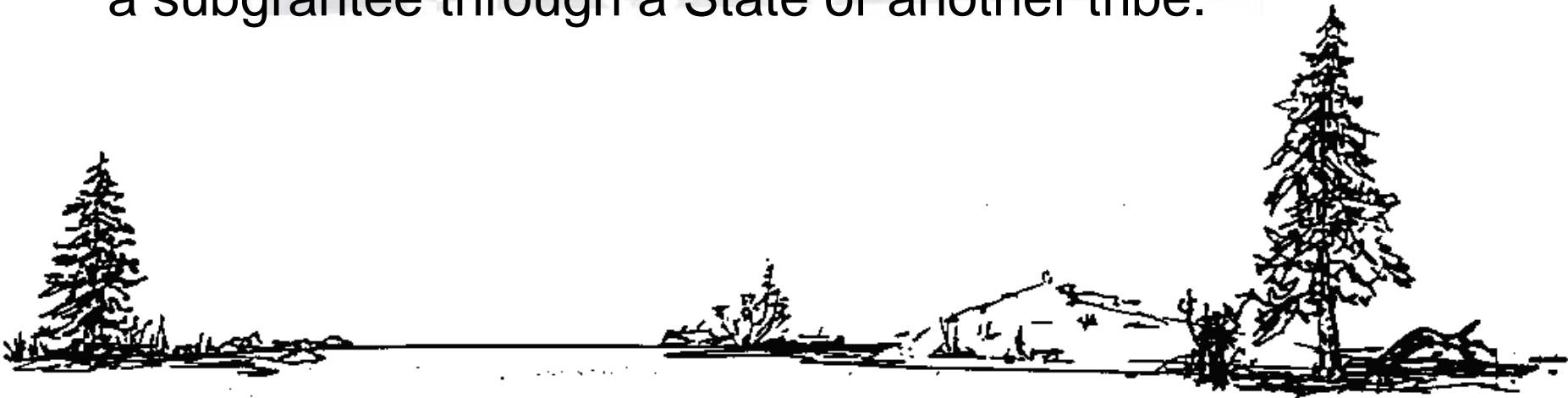
# Authority to Plan:

- Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) 42 U.S.C. 5165, as amended by the **Disaster Mitigation Act of 2000** (DMA) (P.L. 106-390), provides for States, Indian Tribal governments, and local governments to undertake a risk-based approach to reducing risks to natural hazards through mitigation planning.
- The **National Flood Insurance Act** of 1968, 42 U.S.C. 4001 et seq., as amended, further reinforces the need and requirement for mitigation plans, linking flood mitigation assistance programs to State, Tribal, and Local Mitigation Plans.
- In recognition of **tribal sovereignty** and the government-to-government relationship that FEMA has with Indian Tribal governments, FEMA amended 44 CFR Part 201 at 72 Fed. Reg. 61720, on October 31, 2007, and again at 74 Fed. Reg. 47471, on September 16, 2009, to consolidate and clarify the requirements for Indian Tribal governments, establish Tribal Mitigation Plans separately from State and Local Mitigation Plans, and finalize the Mitigation Planning rule.



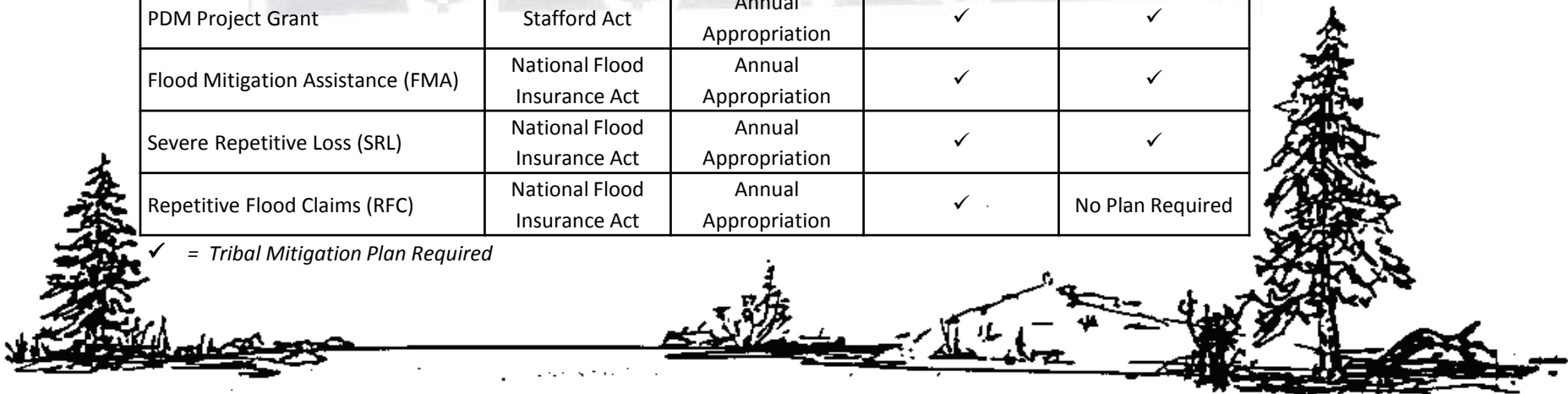
# Grant Eligibility

- Indian Tribal governments with an approved Tribal Mitigation Plan in accordance with 44 CFR 201.7 may apply for assistance from FEMA as a grantee.
- If the Indian Tribal government coordinates with the State for review of their Tribal Mitigation Plan, then the Indian Tribal government also has the option to apply as a subgrantee through a State or another tribe.



Program	Enabling Legislation	Funding Authorization	Tribal Mitigation Plan Requirement	
			Grantee Status	Subgrantee Status
Public Assistance (PA) (Categories A, B: e.g., debris removal, emergency protective measures)	Stafford Act	Presidential Disaster Declaration	No Plan Required	No Plan Required
Public Assistance (Categories C-G: e.g., repairs to damaged infrastructure, publicly owned buildings)	Stafford Act	Presidential Disaster Declaration	✓	No Plan Required
Individual Assistance (IA)	Stafford Act	Presidential Disaster Declaration	No Plan Required	No Plan Required
Fire Management Assistance Grants	Stafford Act	Fire Management Assistance Declaration	✓	No Plan Required
Hazard Mitigation Grant Program (HMGP) Planning Grant	Stafford Act	Presidential Disaster Declaration	✓	No Plan Required
HMGP Project Grant	Stafford Act	Presidential Disaster Declaration	✓	✓
Pre-Disaster Mitigation (PDM) Planning Grant	Stafford Act	Annual Appropriation	No Plan Required	No Plan Required
PDM Project Grant	Stafford Act	Annual Appropriation	✓	✓
Flood Mitigation Assistance (FMA)	National Flood Insurance Act	Annual Appropriation	✓	✓
Severe Repetitive Loss (SRL)	National Flood Insurance Act	Annual Appropriation	✓	✓
Repetitive Flood Claims (RFC)	National Flood Insurance Act	Annual Appropriation	✓	No Plan Required

✓ = Tribal Mitigation Plan Required



# Organization of Plan

- Executive Summary
- Introduction: overview of Plan, authority, assurances
- Section 2 describes how the THMP was prepared including the **planning process** and **public involvement**
- Section 3 describes the land use, socioeconomic conditions, and physical characteristics of the Lower Elwha Reservation and surrounding area.
- Section 4 presents an **assessment of hazard risks** on the Reservation and the surrounding area.
- Section 5 presents the Lower Elwha Tribe's **mitigation strategy**.
- Section 6 describes the THMP **maintenance process**.



# Hazards affecting Lower Elwha Tribe

- Coastal Erosion
- Earthquakes
- Floods
- Landslides
- Severe Weather
- Tsunamis
- Wildfires





# Potential Dollar loss from Hazards

<i>Structure &amp; Content Values for LEKT ( in millions of \$)</i>			
	Structure	Contents	Total
Tribal Facilities & Infrastructure	\$30.9	\$1.2	\$32.1
Tribal Housing	\$23.3	\$11.7	\$35.0
Total			<b>\$67.1</b>

**Coastal Erosion:** \$1,035,000

**Earthquakes:** Estimated loss to earthquake-prone structures is **\$19.95 Million**  
Estimated loss to contents is **\$2.37 million**

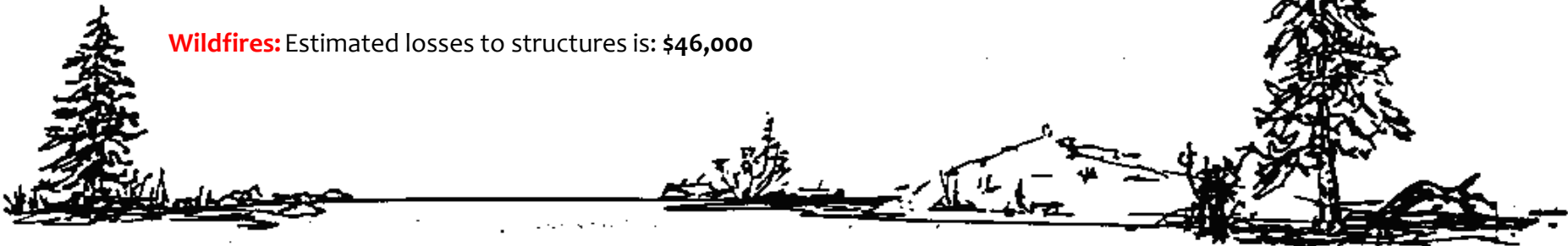
**Floods:** Estimated damage to Tribal facilities and property is : **\$253,000/yr**

**Landslides:** No estimate made

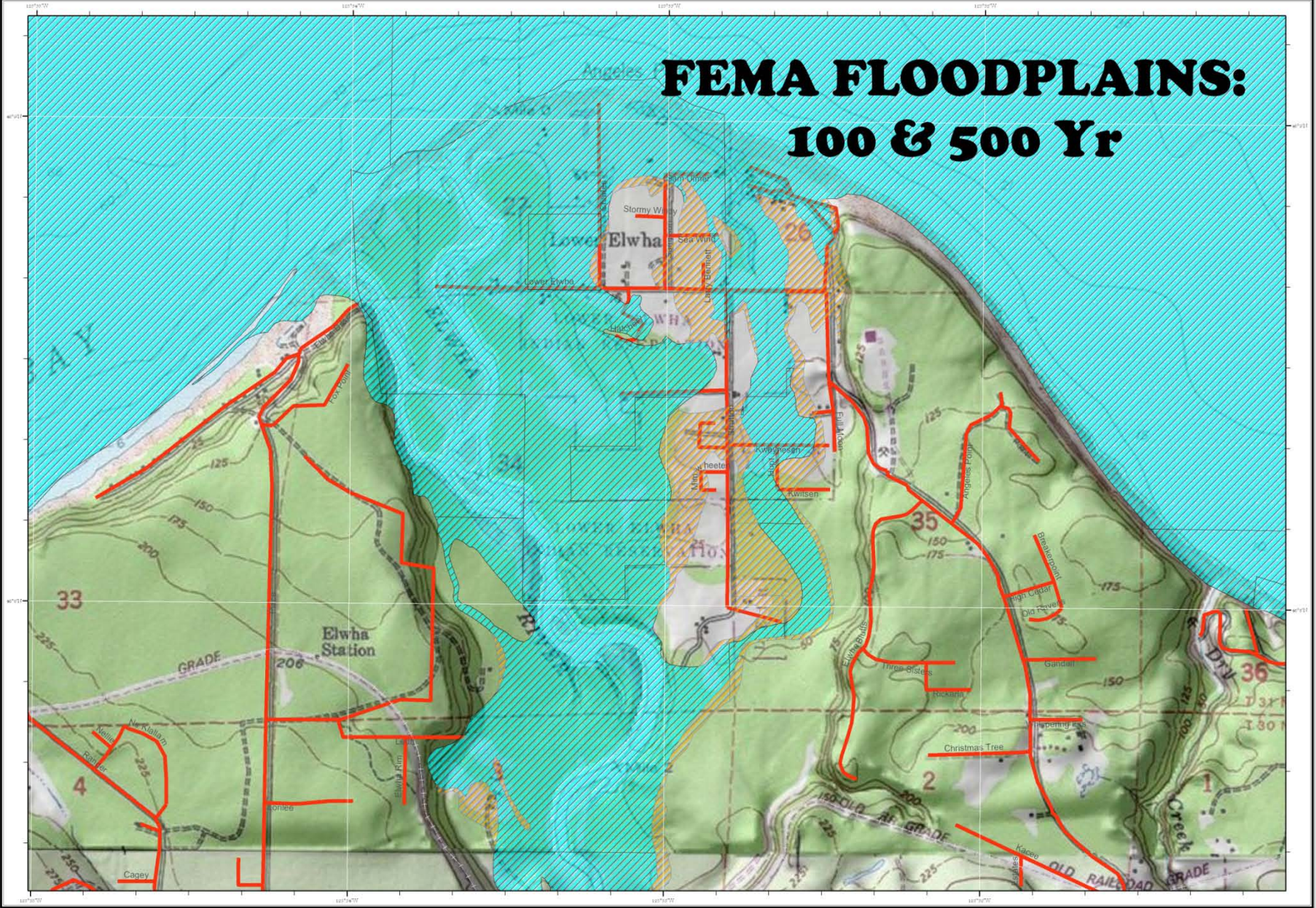
**Severe Weather** (wind damage):  
Estimated losses to structures: **\$1.08 Million**  
Estimated loss to contents: **\$258,000**

**Tsunami:** Estimates Loss to Tribal Facilities: **\$26,790,000**  
Estimated loss to 65 homes in valley: **\$7,475,000**  
Total estimated loss from a tsunami event: **\$34,265,000**

**Wildfires:** Estimated losses to structures is: **\$46,000**



# FEMA FLOODPLAINS: 100 & 500 Yr

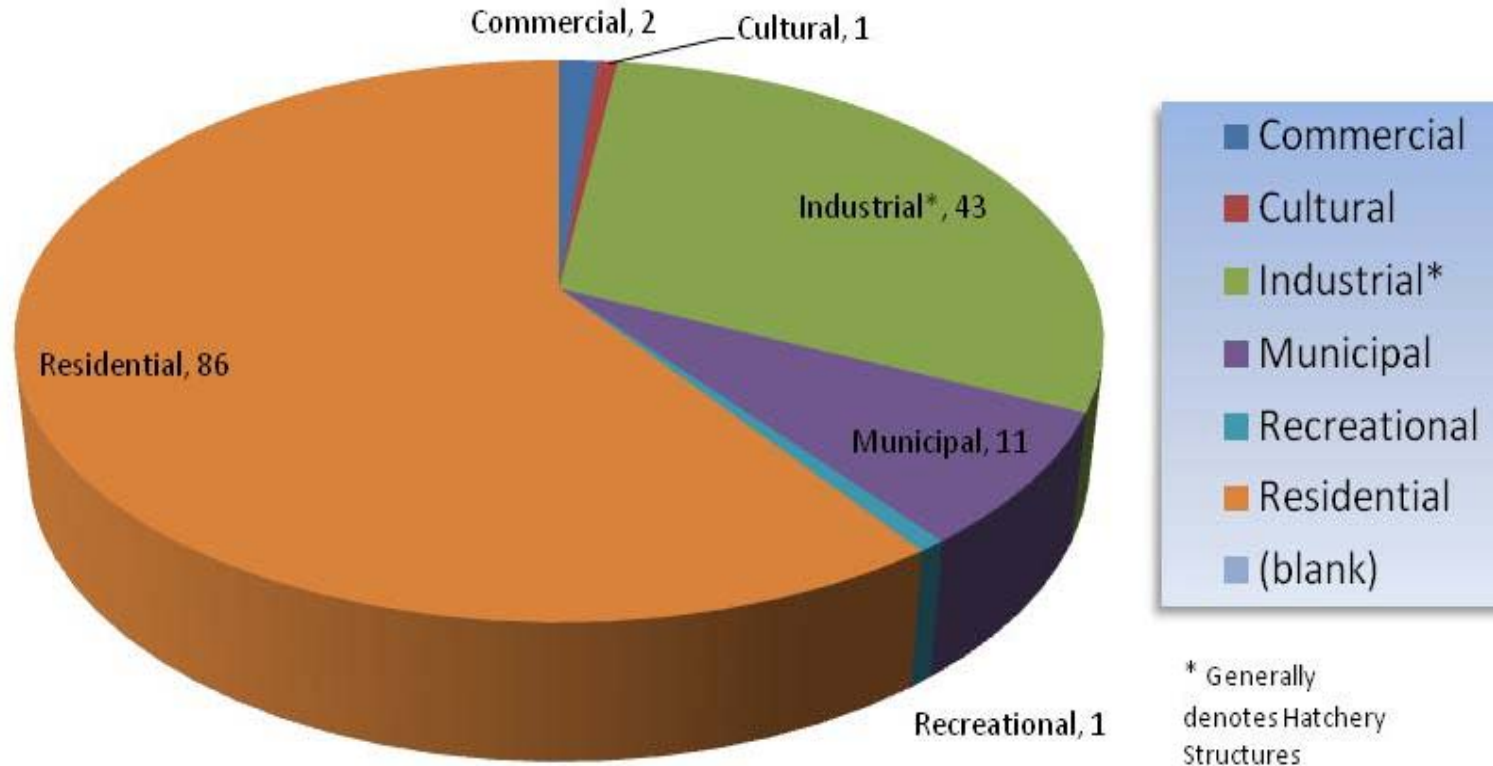




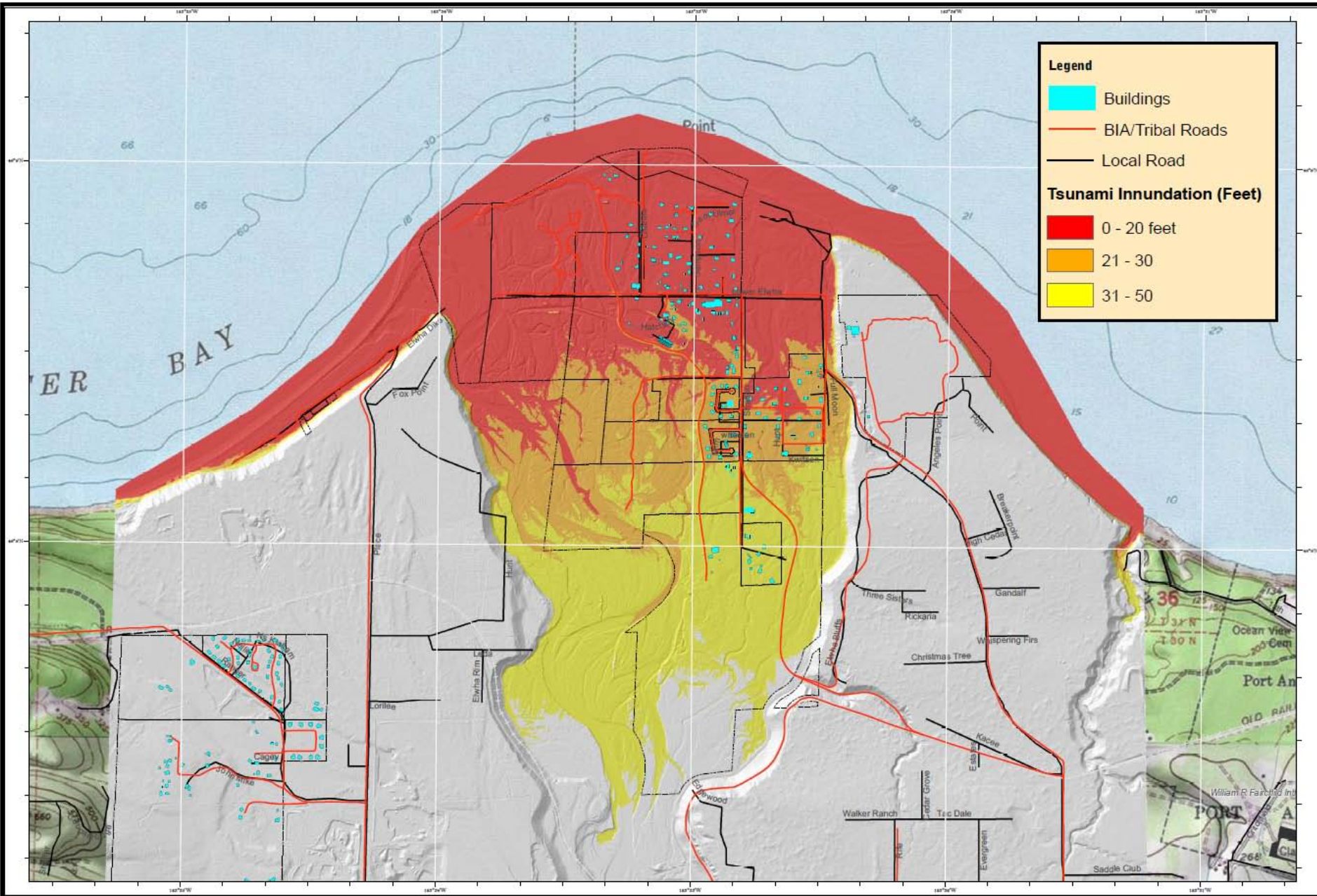
### Tsunami Exposure:

- 148 Structures below 20 ft elevation; 60% are Residential
- 257 Structures below 50 ft elevation; 73% are Residential

## Number of Structures by Usage below 20 ft. Elevation



# Tsunami Inundation Areas: Lower Rez



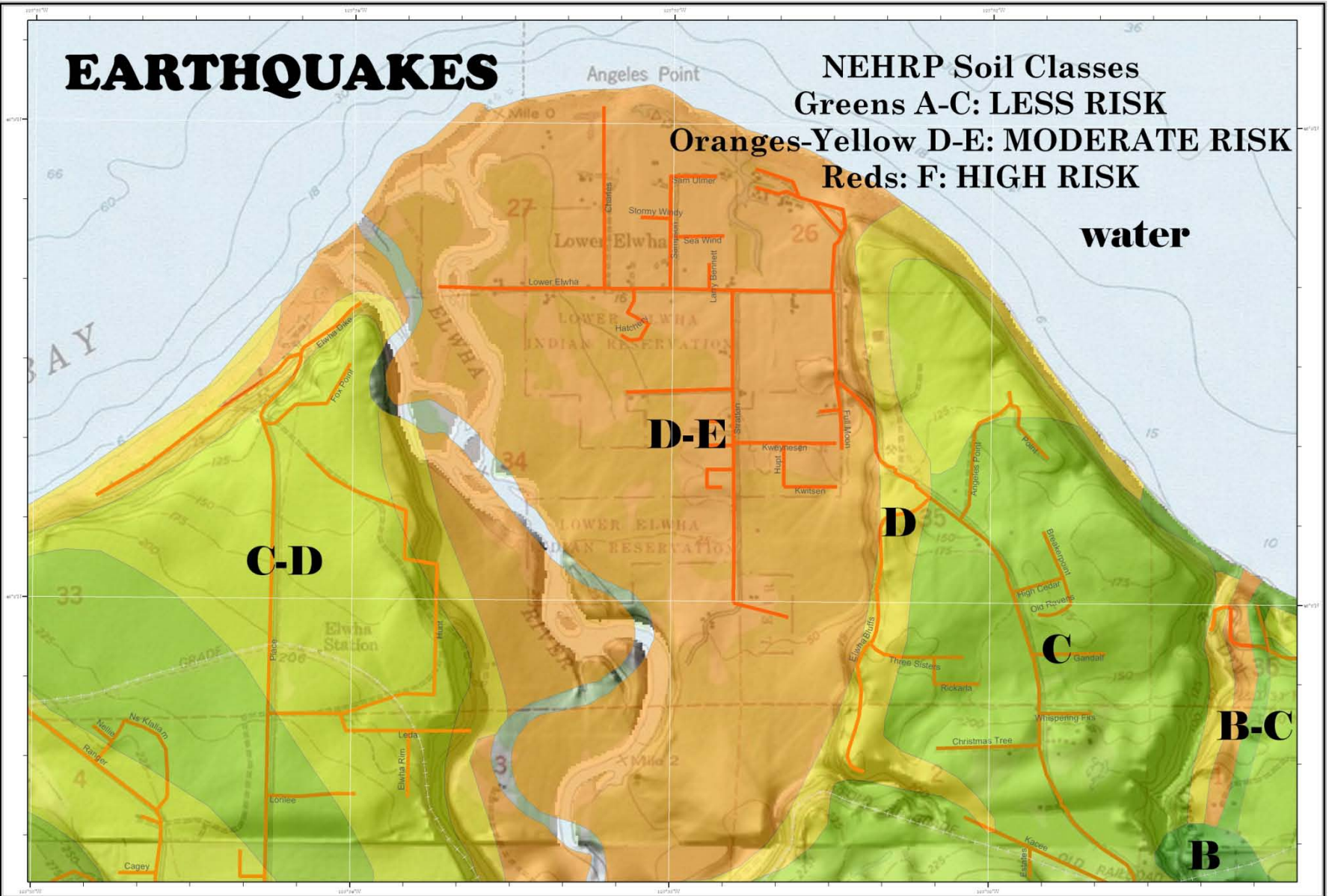
# EARTHQUAKES

NEHRP Soil Classes  
Greens A-C: LESS RISK

Oranges-Yellow D-E: MODERATE RISK

Reds: F: HIGH RISK

water



# 2011 LEKT Tribal Hazard Mitigation Plan

## PLAN STATUS MAY 2011

- Draft completed and submitted to Tribe for Review
- Can be found online at:  
[http://nwtemc.org/LEKT\\_HMP.aspx](http://nwtemc.org/LEKT_HMP.aspx)
- Need Community feedback and prioritization of Proposed Mitigation Strategies



# DRAFT GOALS & OBJECTIVES

## Goals and objectives:

1. Protect people, property and the natural environment
  - Regulate and/or Purchase hazard-prone areas for conservation and risk reduction
  - Retrofit and/or Relocate structures located in high-risk hazard areas
  - Reduce human-caused Coastal Erosion and its effects
2. Ensure continuity of critical economic and public facilities and infrastructure
  - Support redundancy of critical government functions
  - Retrofit or build to highest standards, critical facilities and infrastructure
3. Promote and protect Tribal sovereignty and identity
  - Protect culturally and historically significant Tribal sites, places and materials
  - Increase mitigation and emergency management capabilities for the Lower Elwha Klallam Tribe
  - Enable the Lower Elwha Klallam Tribe to be self-sufficient for at least 14 days after a disaster
4. Increase public awareness of natural hazards and involvement in hazards planning
  - Encourage organizations, businesses, and tribal/local governmental agencies within the Port Angeles area community and greater Clallam to develop partnerships
  - Implement hazard awareness, preparedness and reduction programs



# DRAFT GOALS & OBJECTIVES

## Goals from Comprehensive Flood Hazard Management Plan:

**Short-term Goal:** Acquisition and removal of the Elwha dams

**Long-term Goal:** Restoration of the Elwha River ecosystem

**Goal:** To prevent or reduce flooding and flood-related hazards that affect Tribal land and threaten life and property, while protecting natural floodplain processes and ecosystem functions.

**Goal:** initiate a comprehensive community development planning process to address future development and transportation needs of the growing Tribal community. Ensure that adequate facilities are provided to protect water resources, manage storm water, and protect floodplain and ecosystem functions.

**Goal:** Provide the Tribal community with safe and efficient transportation facilities on Reservation and Trust lands. These facilities must ensure that the hazards related to vehicular traffic and natural hazards (e.g. flooding) are minimized.

**Goal:** Manage the Tribal Community Forest to protect floodplain functions, fisheries and wildlife habitat, and water resources for future generations. Preserve river character and maintain the river's varied uses.

**Goal:** Invasive species control





# Mitigation Actions: Examples

Mitigation actions can be grouped into six broad categories:

- 1. Prevention.** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and storm water management regulations.
- 2. Property Protection.** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- 3. Public Education and Awareness.** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.



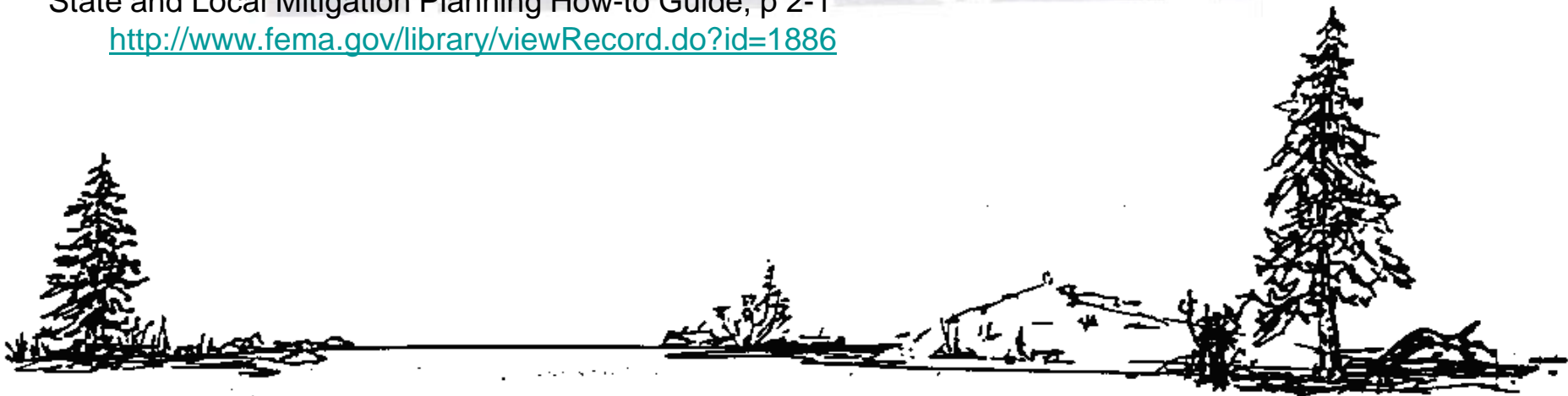
# Mitigation Actions: Examples

Mitigation actions can be grouped into six broad categories:

- 4. Natural Resource Protection.** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- 5. Emergency Services.** Actions that protect people and property during and immediately after a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.
- 6. Structural Projects.** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, levees, floodwalls, seawalls, retaining walls, and safe rooms.

State and Local Mitigation Planning How-to Guide, p 2-1

<http://www.fema.gov/library/viewRecord.do?id=1886>



# 2011 LEKT

## Tribal Hazard Mitigation Plan

Proposed Mitigation Activities:

See worksheet, handout



# Next Steps?

- Finalize Goals and Objectives
- Develop, Prioritize and Approve Mitigation Actions
- Complete Risk update of Hazard Maps, develop loss estimates
- Council Adoption, FEMA adoption
- Implementation of Mitigation Actions
- Yearly Review
- 5-Year Update



# Questions?

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NW Tribal Emergency Mgmt. Council

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**Questions regarding Hazard Mitigation Plan:**

*PLEASE* contact Glenn, Lynda or

Matt Beirne

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