

HAZARDS FACING

Lower Elwha Klallam Tribe

2010 LEKT Tribal Hazard Mitigation Plan



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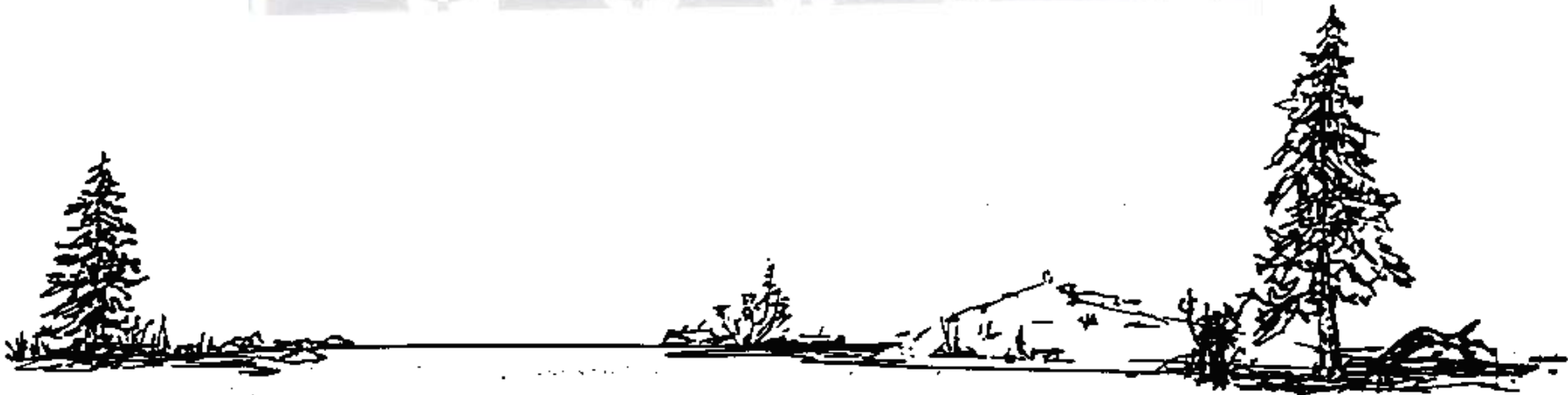
What are hazards?

- A **hazard** is a situation that poses a level of threat to life, health, property, or environment.
- Natural or Man-made
- **Examples?**

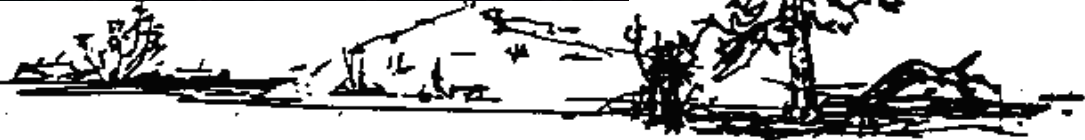


What are hazards? (cont.)

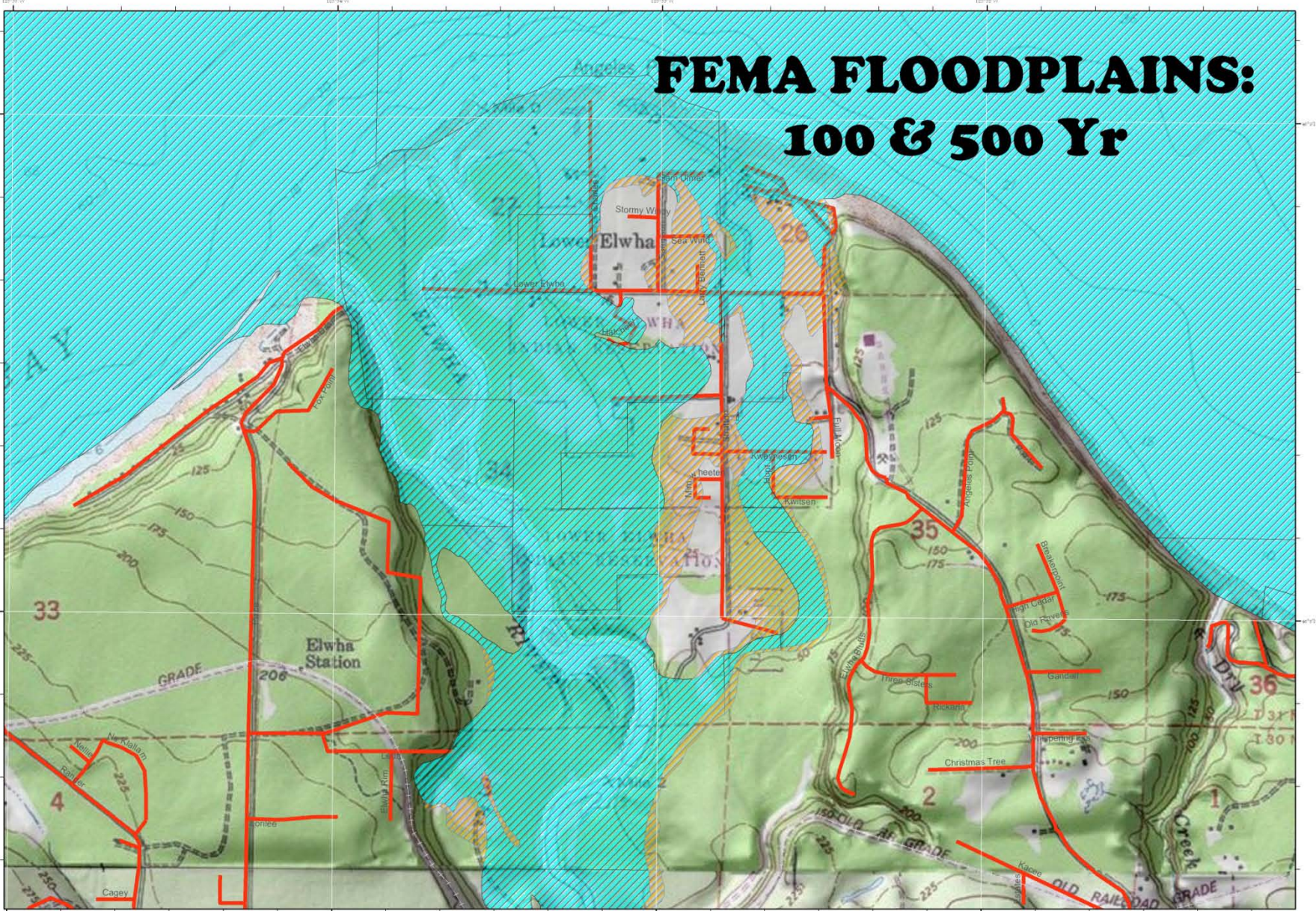
- It is important to note that naturally occurring geological events are not hazards themselves, but only become so when they adversely affect people and their property .



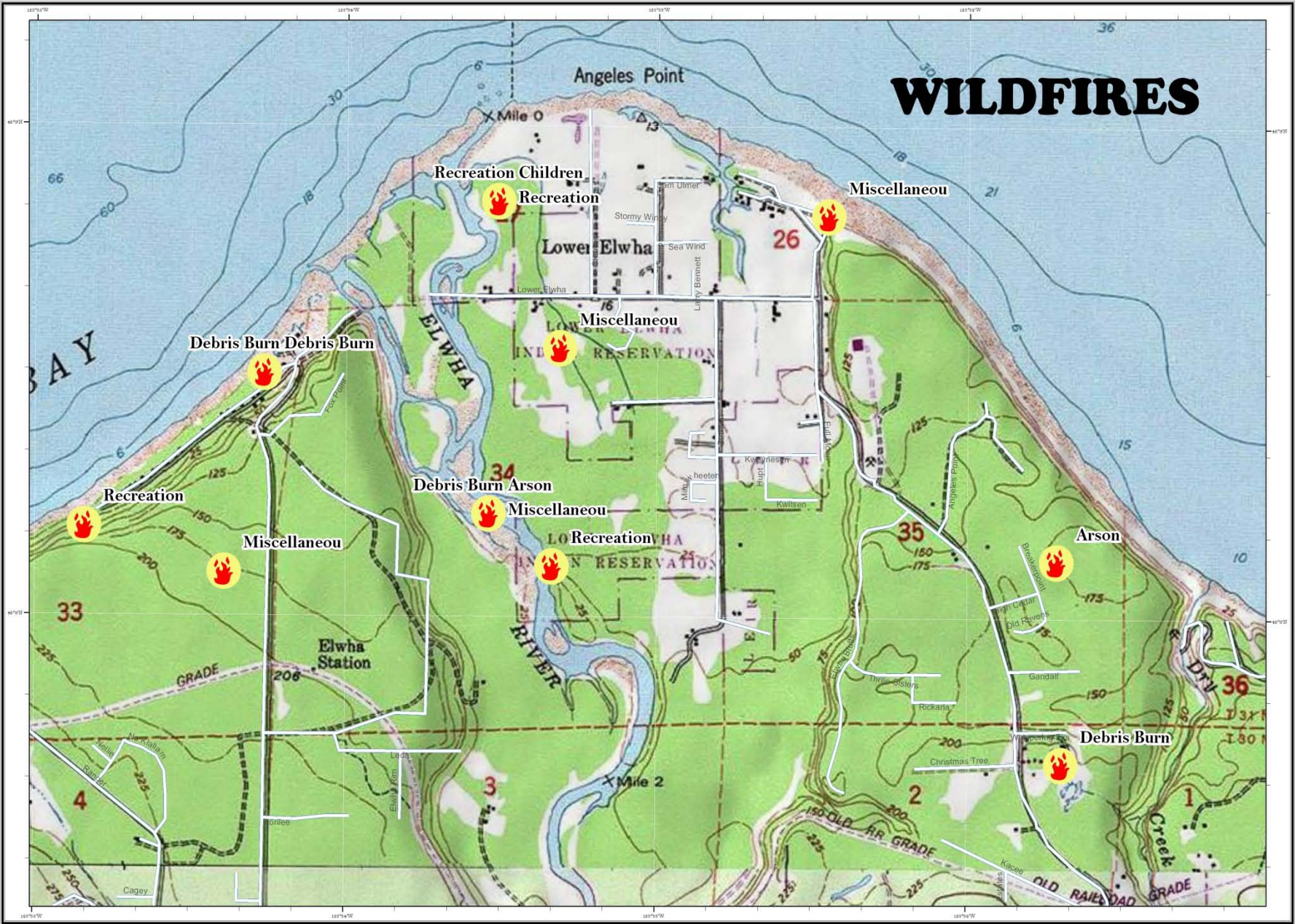
Hazards Affecting Lower Elwha Klallam Tribe:



FEMA FLOODPLAINS: 100 & 500 Yr



WILDFIRES

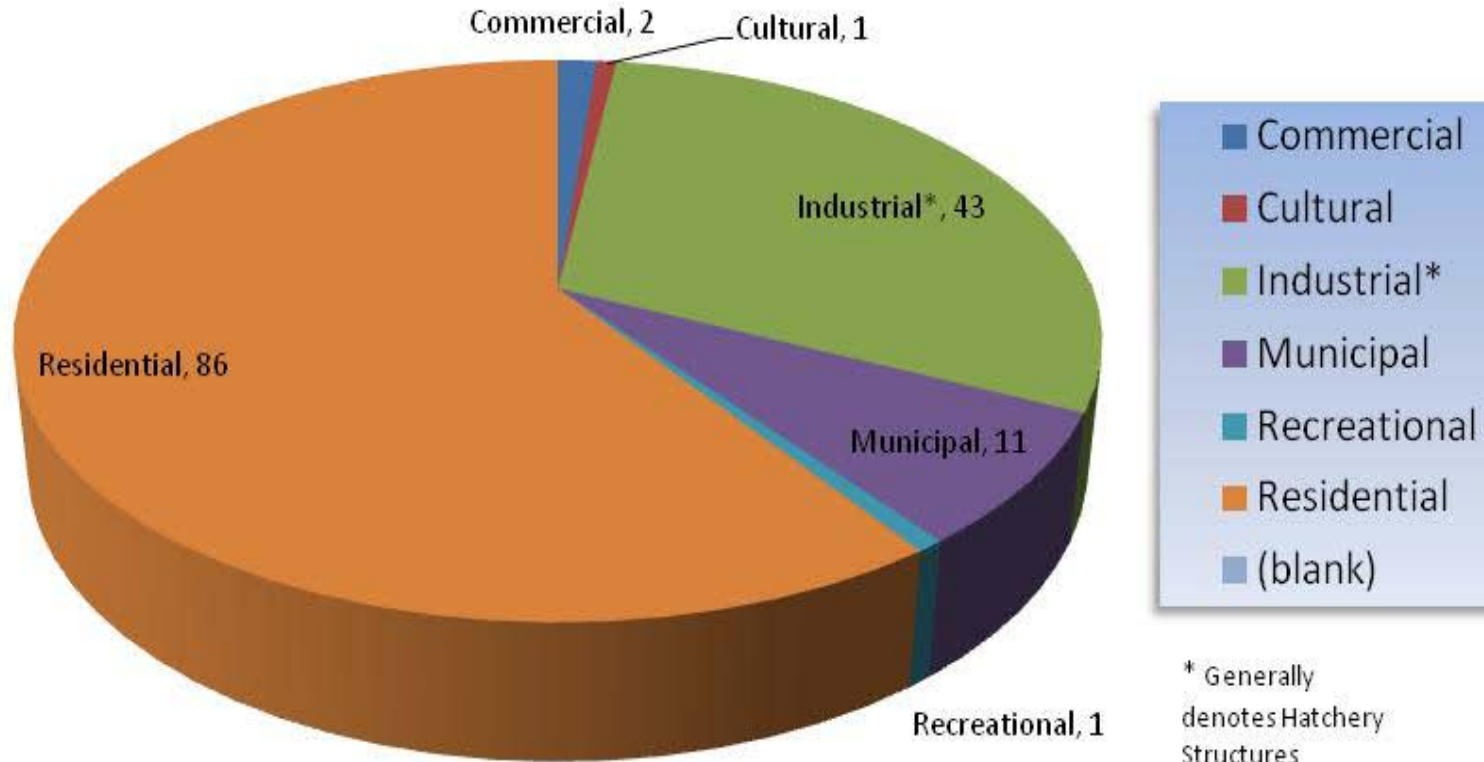


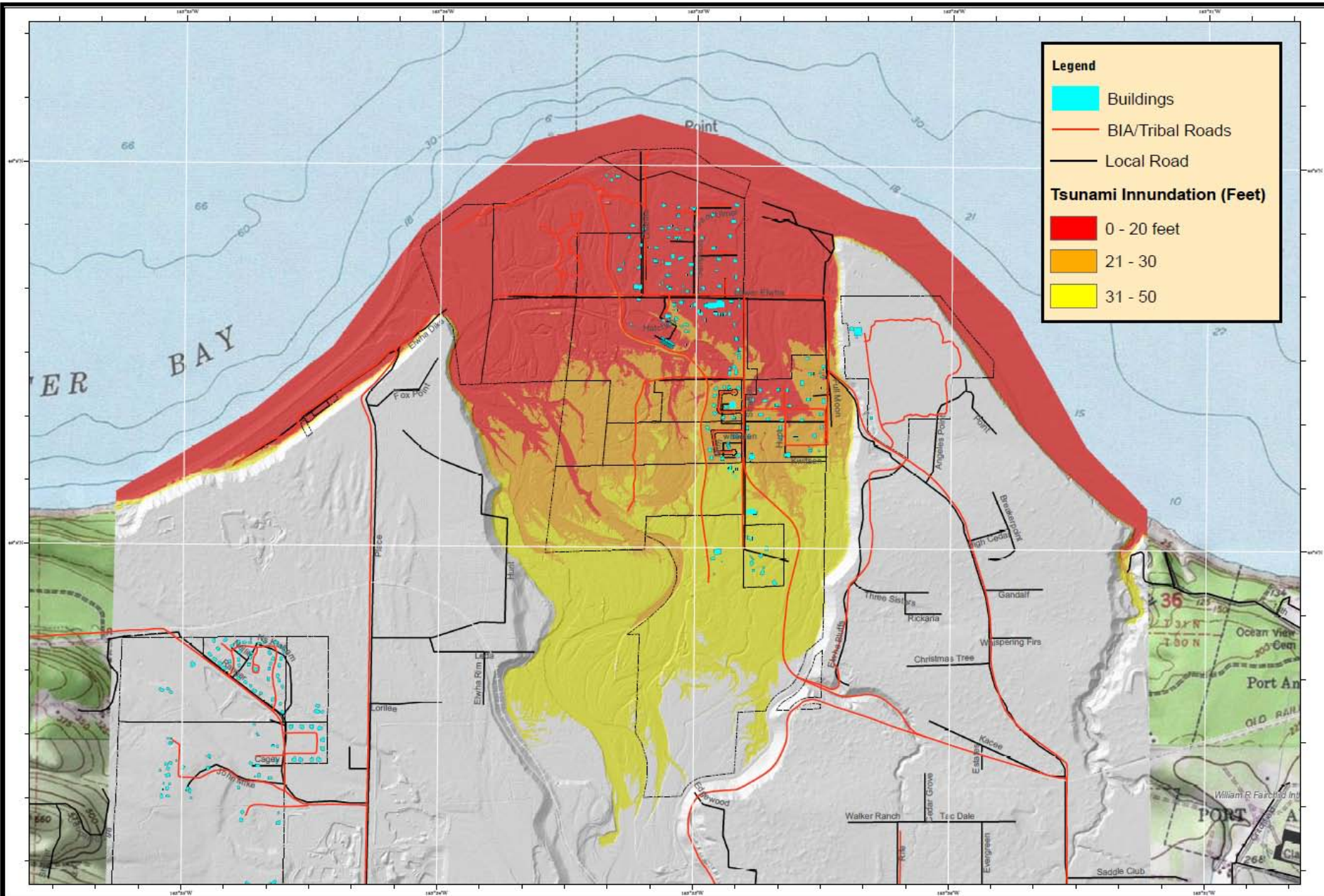


Tsunami Exposure:

- 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





Legend

- Buildings
- BIA/Tribal Roads
- Local Road

Tsunami Inundation (Feet)

- 0 - 20 feet
- 21 - 30
- 31 - 50

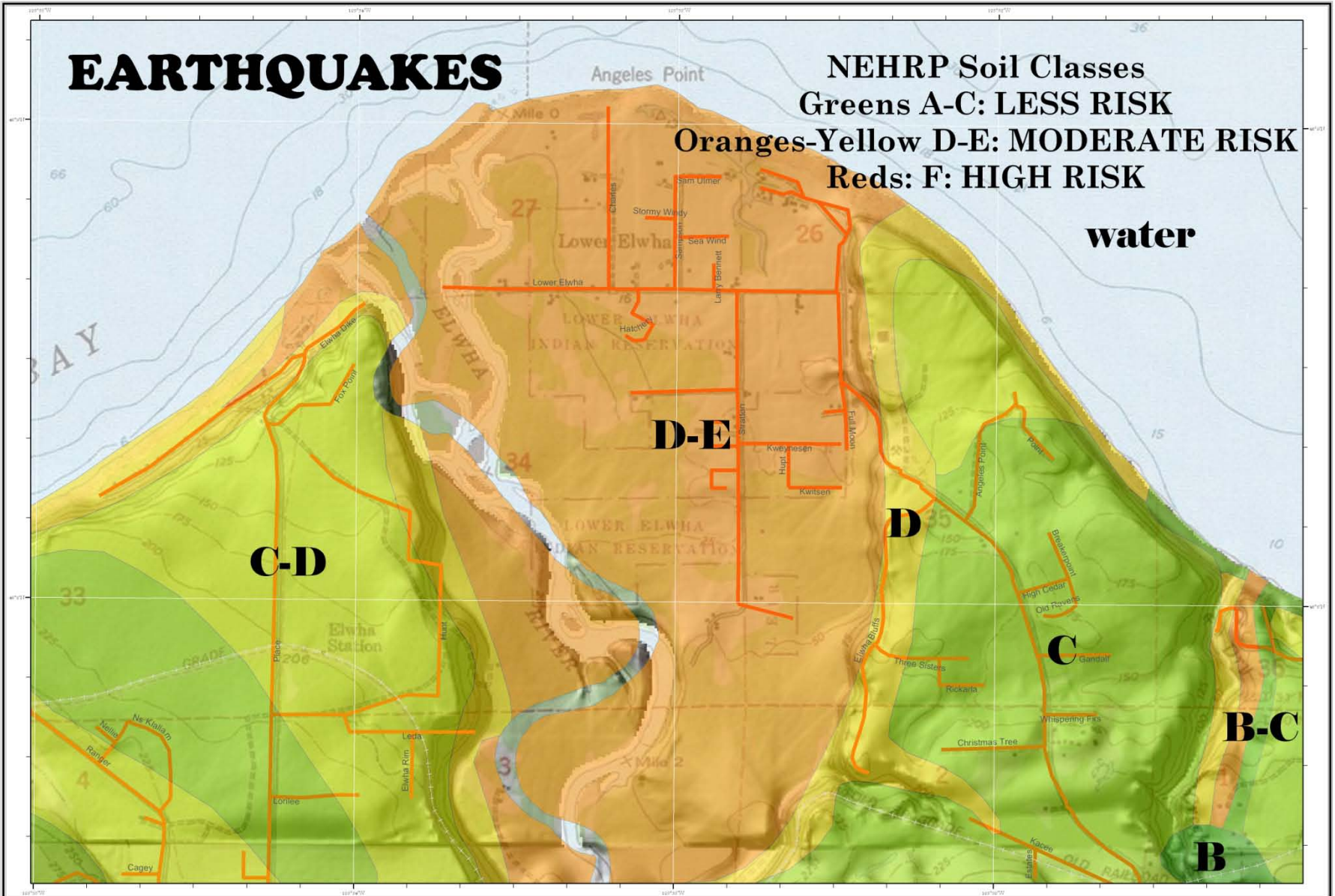
EARTHQUAKES

NEHRP Soil Classes
Greens A-C: LESS RISK

Oranges-Yellow D-E: MODERATE RISK

Reds: F: HIGH RISK

water



C-D

D-E

D

C

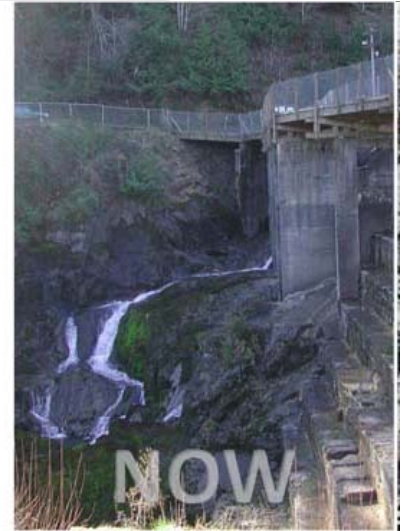
B-C

B



Dams:

Elwha River and Glines Canyon Dams



The Elwha Dam and the Glines Canyon Dam are scheduled to be removed starting in 2011.



Public Health Hazards

H1N1 SWINE Flu

[REPORT TO THE PRESIDENT ON U.S. PREPARATIONS FOR 2009-H1N1 INFLUENZA](#) released Aug 25th. :

The Report notes (p.14):

"Certain populations appear to be at elevated risk of severe outcomes, including Native American groups.

The spread of smallpox in the Pacific Northwest

From the late 1700's to 1863

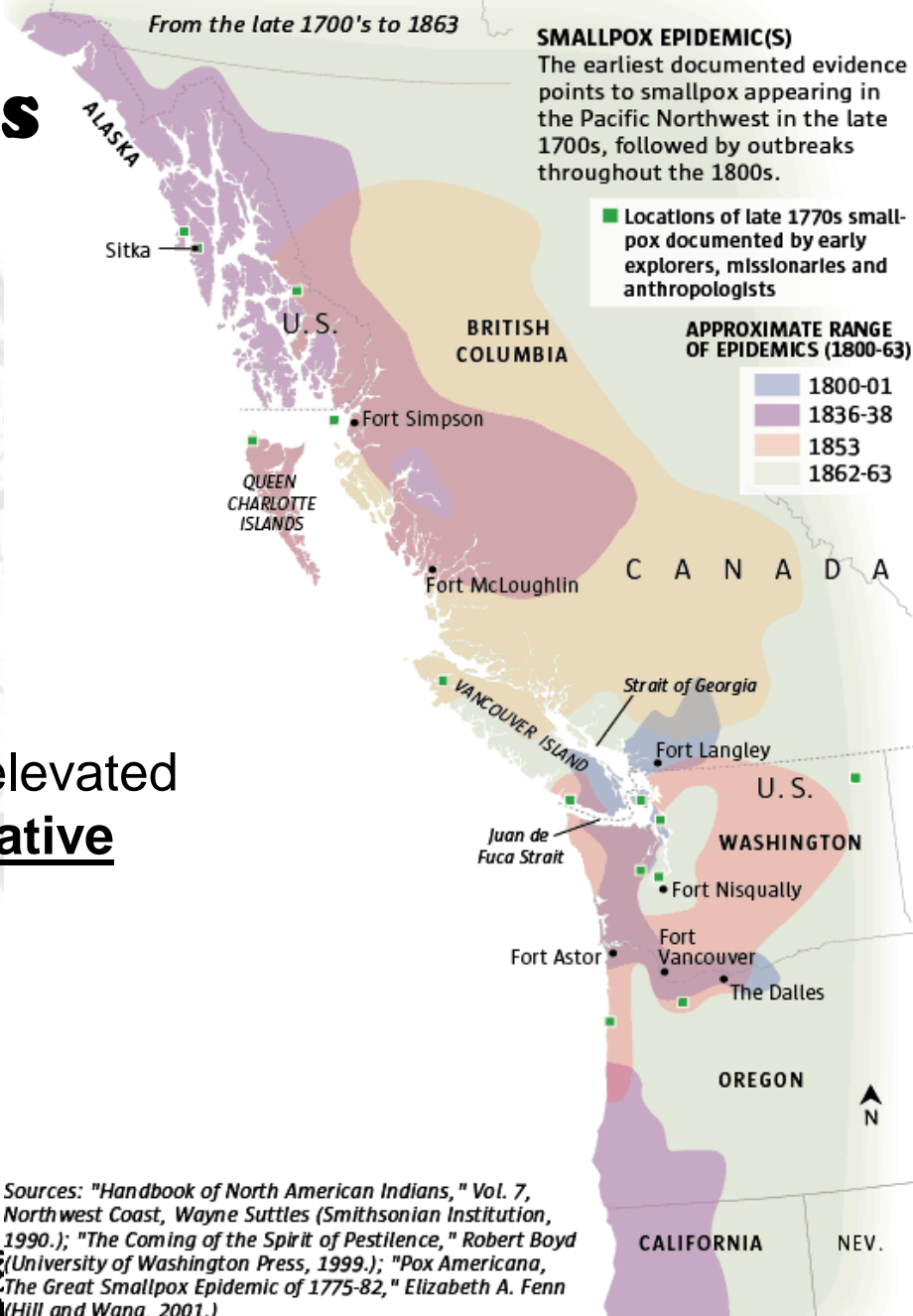
SMALLPOX EPIDEMIC(S)

The earliest documented evidence points to smallpox appearing in the Pacific Northwest in the late 1700s, followed by outbreaks throughout the 1800s.

■ Locations of late 1770s smallpox documented by early explorers, missionaries and anthropologists

APPROXIMATE RANGE OF EPIDEMICS (1800-63)

- 1800-01
- 1836-38
- 1853
- 1862-63



Sources: "Handbook of North American Indians," Vol. 7, Northwest Coast, Wayne Suttles (Smithsonian Institution, 1990.); "The Coming of the Spirit of Pestilence," Robert Boyd (University of Washington Press, 1999.); "Pox Americana, The Great Smallpox Epidemic of 1775-82," Elizabeth A. Fenn (Hill and Wang, 2001.)

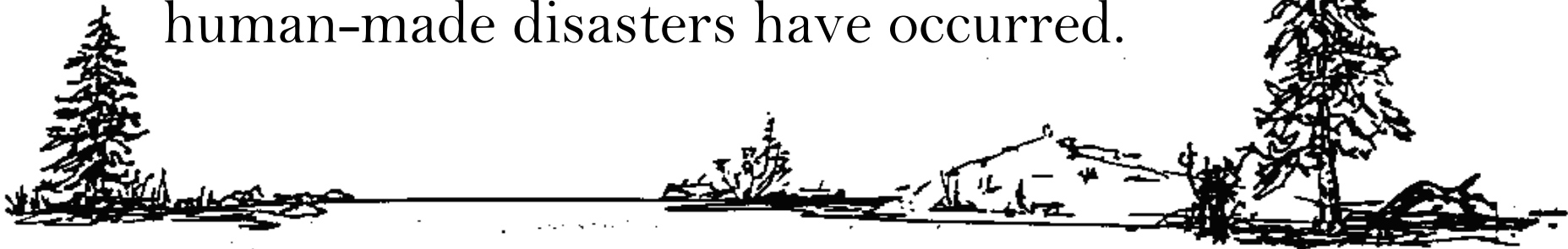
MARK NOWLIN / THE SEATTLE TIMES



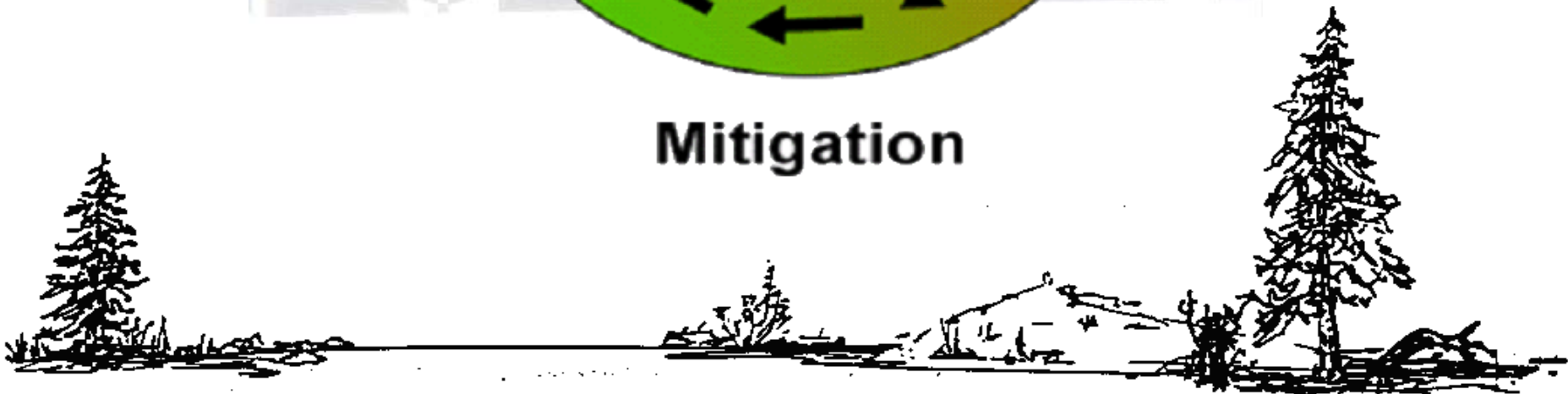
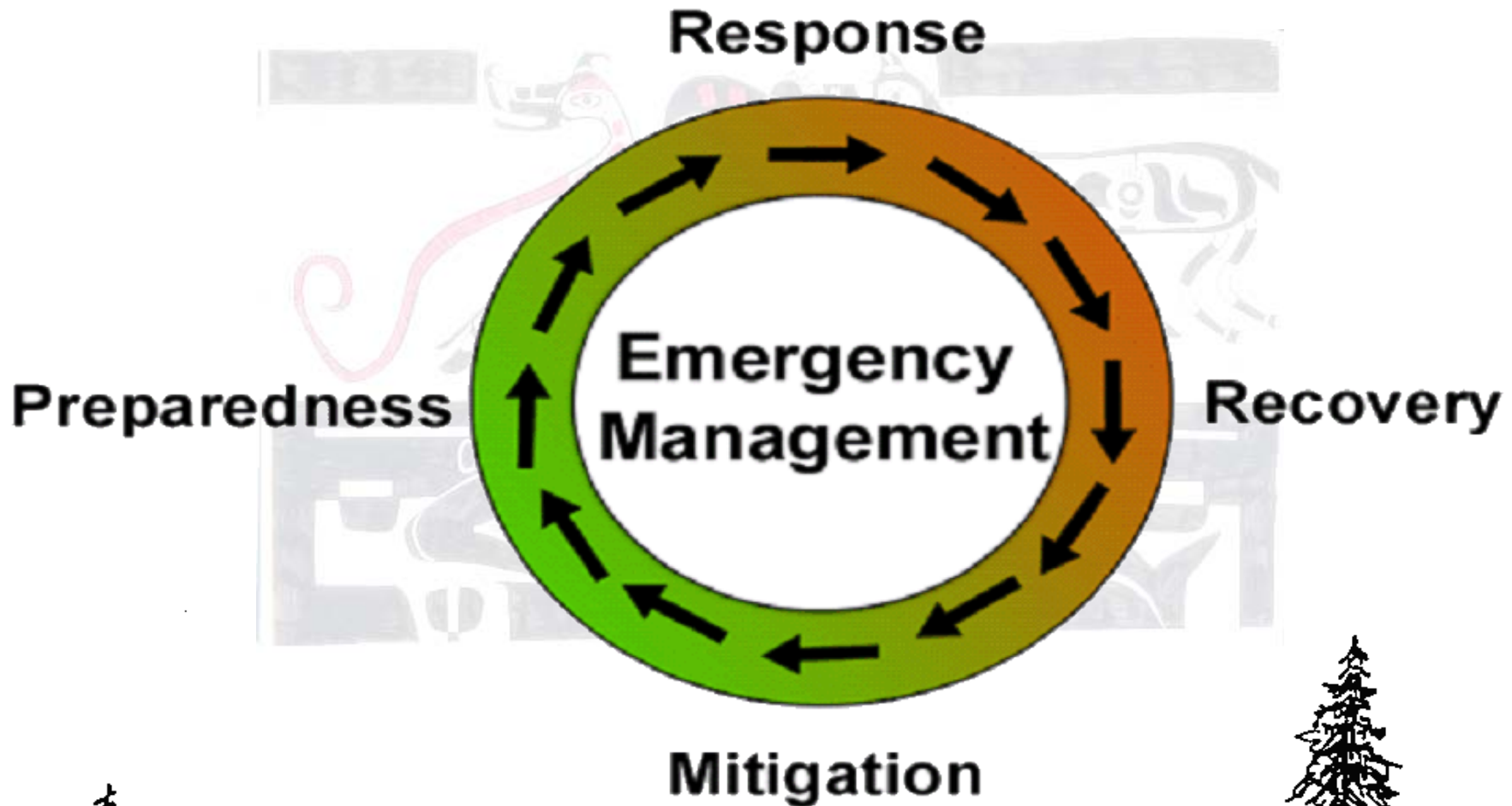
How to reduce the effects of hazards?

- **Emergency Management:**

- is the discipline of dealing with and avoiding risks.
- It is a discipline that involves preparing for disaster before it occurs, disaster response (e.g. emergency evacuation, quarantine, mass decontamination, etc.), as well as supporting, and rebuilding society after natural or human-made disasters have occurred.



4 Phases of Emergency Mgmt:



MITIGATION

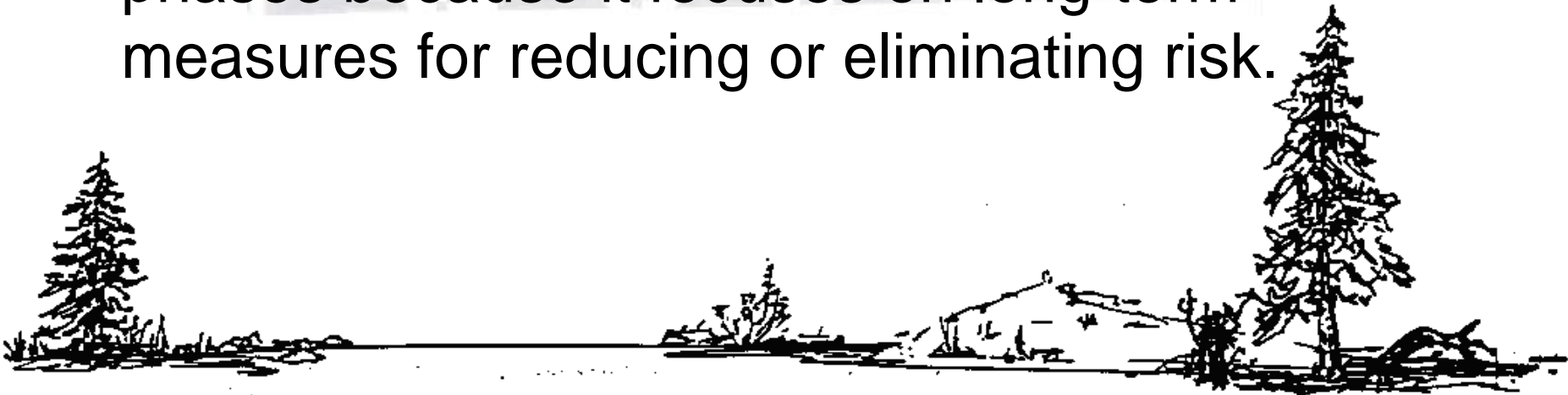
mit·igate

v.tr. To moderate (a quality or condition) in force or intensity; alleviate. See Synonyms at **relieve**.

v.intr. To become milder.

[Middle English mitigaten, from Latin mitigare, mitigat- : mitis, *soft* + agere, *to drive, do*; see **act**.]

- Mitigation efforts attempt to prevent hazards from developing into disasters altogether, or to reduce the effects of disasters when they occur.
- The mitigation phase differs from the other phases because it focuses on long-term measures for reducing or eliminating risk.



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Tribal Hazard Mitigation Plan

- Tribe has received a FEMA grant to develop a Plan that will reduce the effects of hazards to the Tribe in the future
- Need Community Support/Participation to be successful



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Tribal Hazard Mitigation Plan

Plan consists of:

- Identifying Hazards to the Tribal Community
- Develop Strategies & Actions to REDUCE or REMOVE the Risk from these Hazards



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Tribal Hazard Mitigation Plan

EXAMPLE Strategies & Actions to Reduce Risk:

- Build outside of flood prone areas
- Build outside of high earthquake risk areas
- If you can't build outside these areas:
 - Elevate building from Flooding or make flood proof
 - Build Structure to withstand Earthquake Shaking and Sinking into soft soils



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Tribal Hazard Mitigation Plan

Proposed Mitigation Activities:

- Build new development outside hazard areas
- Construct redundant/alternate routes out of hazard areas
- For new development that must remain in hazard areas, build to highest seismic standards and consider vertical evacuation in site plans (taller structures)
- Conduct seismic inventory of critical facilities and infrastructure
- Maintain Office of Emergency Management to coordinate mitigation planning amongst tribal department as well as local/state and federal partners



Questions?

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Questions regarding Hazard Mitigation Plan:

PLEASE contact Glenn, Phil or

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