Lewis County
Multi-Jurisdictional Hazard Mitigation Plan
Did You Sign In?

Name, Agency, Email Address, and Telephone #
Agenda

► Introduction
► Website & Survey
► Goals and Objectives
► Mitigation Strategies
► Next Meeting(s):
  ▪ June 1\textsuperscript{st} 10-11:30 am in Centralia (Kitchen #1)
  ▪ June 1\textsuperscript{st} 6-7:30 pm in Centralia (Kitchen #1)
  ▪ May 7\textsuperscript{th} 6-7:30 pm at Randle FD
Website and Survey

► The LC Hazard Mitigation website has worksheets, instructions, powerpoints, draft plan, forms. [www.cityofcentralia.com](http://www.cityofcentralia.com) (front page)

► Take the online public survey (link) over 509 people have taken it.
Terms

► The Plan – means Lewis County Multi-Jurisdictional Hazard Mitigation Plan
► EMD – Washington State Emergency Division
► FEMA – Federal Emergency Management Agency
► HIVA – Hazard Identification and Vulnerability Analysis
► Stakeholders – taxing districts or governmental agencies or interested parties
Assess the 2010 Goals – Step 6

GOALS AND OBJECTIVES
Goal 1: Reduce the vulnerability of Lewis County communities to natural disasters

Objective 1: To achieve this goal, the Plan participants will develop, implement and maintain reasonable and cost-effective activities or programs to:

1. Maintain and update hazard and disaster data.
2. Protect existing development, infrastructure, and facilities from natural hazards.
3. Reduce repetitive losses.
4. Minimize the vulnerability of new development to natural hazards (e.g., through comprehensive land use planning etc.).
5. Educate citizens as well as private and public sector organizations regarding:
   - Natural hazards.
   - Techniques to minimize vulnerability to those hazards.
   - Resources available to assist in implementing potential hazard mitigation measures.
6. Monitor the effectiveness of natural hazard mitigation activities/programs
7. Regularly update activities/programs based on new information and lessons learned.
Objective 2: To achieve this goal, the Plan participants will coordinate local and regional activities/programs as appropriate to cost-effectively minimize disaster vulnerability for Lewis County communities.
Goal 3: Ensure the communities continued capability to initiate and sustain emergency response operations during and after disasters

Objective 3: To achieve this goal, the Plan participants will strive to:

1. Develop and maintain the capability of emergency services organizations to detect emergency situations and promptly initiate emergency response operations.
2. Cost-effectively protect critical public facilities from natural hazard impacts.
3. Ensure that emergency services facilities and their associated utility and communications systems are capable of withstanding the impacts of disasters.
4. Ensure access to key health care facilities and designated evacuation routes and shelters remain open and operable before, during, and after disaster events.
5. Retrofit and/or relocate shelters or structures for vehicles and equipment needed for emergency services operation to withstand disaster impacts.
Goal 4: Maintain continuity of local governments during and after disasters

Objective 4: To achieve this goal, the Plan participants will strive to:

1. Prepare and maintain plans to guide decision-making, resource allocation, and reestablishment of local government operations after a disaster.
2. Protect important local government records, documents, and information systems from the impacts of disasters.
3. Reduce the disaster vulnerability of buildings and facilities used for routine government operations.
Goal 5: Maximize available resources for hazard mitigation activities and disaster recovery

Objective 5: To achieve this goal, the Plan participants will:

1. Comply with state and federal requirements to ensure continued eligibility of participating jurisdictions for federal pre-disaster and disaster-relief funding.

2. Work co-operatively to identify and pursue hazard mitigation grant and funding opportunities.

3. Share and disseminate information regarding hazard mitigation grant and funding opportunities with public agencies, not-for-profit organizations, business and industry.
1. Hazard assessment:
Estimating the geographic extent, intensity, and likelihood of natural events

2. Vulnerability Assessment:
Estimating the exposure, sensitivity, and adaptive capacity of things we value

3. Risk analysis:
Estimating the probable damage, injuries and costs of an event
## Mitigation Strategy – 3A

### Ranking Mitigation Strategies: Using STAPLEE - Worksheet 3A

**Agency:**

<table>
<thead>
<tr>
<th>Category Description/Action Items (Mitigation Strategy)</th>
<th>Hazard Addressed (Flood, earthquake, wind, winter, landslide, etc.)</th>
<th>Social (Yes or No)</th>
<th>Technical (Yes or No)</th>
<th>Administrative (Yes or No)</th>
<th>Political (Yes or No)</th>
<th>Legal (Yes or No)</th>
<th>Economical (Yes or No)</th>
<th>Environmental (Yes or No)</th>
<th>Responsible Department/Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example - Continue to enforce the flood ordinance which is based on NFIP model</td>
<td>Flood</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Community Development</td>
</tr>
</tbody>
</table>

**Notes:**
- **Social:** The public must support the overall implementation strategy and specific mitigation actions.
- **Technical:** It is important to determine if the proposed action is technically feasible, will help reduce losses in the long term, and has minimal secondary impacts.
- **Administrative:** Under this part of the evaluation criteria, examine the anticipated staffing, funding, and maintenance requirements for the mitigation action to be implemented.
- **Political:** Understanding how your community and state leadership feels about issues related to the environment, economic development, safety, and emergency management.
- **Legal:** When considering this criterion, determine whether your agency has the legal authority at the state, or local level to implement the action, or if new laws will need to be passed.
- **Economic:** Cost-effective mitigation actions that can be funded in current or upcoming budget cycles are much more likely to be implemented.
- **Environmental:** Evaluate whether, when implementing mitigation actions, there would be negative consequences to environmental assets (wetlands, endangered species, protected resources).
# Mitigation Strategy – 3B

## Mitigation Strategies – Worksheet 3B

<table>
<thead>
<tr>
<th>Category</th>
<th>Description/Action Items (Mitigation Strategy)</th>
<th>Hazard Addressed (flood, earthquake, wind, winter, landslide, etc.)</th>
<th>2010 Plan (yes or no)</th>
<th>Task completed as part of 2010 Plan (yes or no)</th>
<th>Mitigation Identification (Prevention, Property Protection, Public Education &amp; Awareness, Natural Resource Protection, Structural Projects)</th>
<th>Cost-Benefit and Prioritization</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example – Floodplain Management</td>
<td>Continue to enforce the flood ordinance which is based on NFIP model</td>
<td>Flood</td>
<td>Yes (on-going)</td>
<td>Prevention, Property Protection, Public Education &amp; Awareness</td>
<td>3</td>
<td>3</td>
<td>High</td>
</tr>
</tbody>
</table>

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**Notes**

- **2010 Plan:** Rate task(s) if it was in the 2010 Plan.
- **Cost Estimate:** A very rough estimate of cost of implementing task.
- **Administrative Responsibility:** Who will accomplish the task.
## Mitigation Strategy – 3C

### Critical Facilities Mitigation Strategies - Worksheet 3C

<table>
<thead>
<tr>
<th>Facility</th>
<th>Mitigation Strategy</th>
<th>Hazard Addressed (All, flooding, landslide, earthquake, volcanic, etc...)</th>
<th>2010 Plan</th>
<th>Mitigation Identification (Prevention, Property Protection, Public Education &amp; Awareness, Natural Resource Protection, Structural Projects)</th>
<th>Cost-Benefit and Prioritization</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example-Station #1</td>
<td>Assess building for structural integrity to determine strength in withstanding an earthquake, or volcanic ash fallout on roof</td>
<td>Earthquake, volcanic</td>
<td>Yes</td>
<td>Prevention, property protection</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

### Notes
- Facility: Critical facility
- Mitigation Strategy: description of mitigation or task
- 2010 Plan: rate task(s) if it was in the 2010 Plan
- Timeline: give approximate timeframe of completing this task
- Cost Estimate: a very rough estimate cost of implementing task
- Administrative Responsibility: who will accomplish the task
Worksheets - Homework

- We will need every agency to **FILL OUT OR UPDATE** the worksheets and return them to the City of Centralia.
  - **DEADLINE MAY 29TH at 5 pm**

- Send the redline forms:
  - Send as a PDF, JPEG, or in Word
  - Snail mail

- Blank forms on the Hazard Mitigation website in Word format or in PDF
What do we need from the Stakeholder Agencies

► IF you can attend the Stakeholder meetings
► Fill out all worksheets and forms
► If you can’t make a meeting please let me know and I will get you the materials.
► Ask questions!!!! If you don’t understand something let me know.
Mitigation Strategy

- Local Hazard Mitigation Goals
- Identification and Analysis of Mitigation Actions
- Implementation of Mitigation Actions
- Implementation of National Flood Insurance Program (NFIP) – Centralia, Chehalis, Lewis County
- Multi-jurisdictional Mitigation Actions
Goal 1: Reduce future losses from hazard events

- **Objective 1.1** Provide protection for existing structures, future development, critical facilities, services, utilities, and trees to the extent possible
- **Action Item 1.1** Improve or acquire flood prone property
- **Hazard Addressed:** flooding
- **Description:** voluntary, property acquisition
- **Priority:** Medium
- **Responsible Agency:** City of Centralia
- **Cost Estimate:** ~$250,000
- **Potential Funding:** Hazard Mitigation Grant
- **Timeline:** 2 years
Mitigation Strategies
Requirements

The local jurisdiction shall list potential loss reduction actions it has identified in its planning process and analyze various actions that achieve the community’s goals and objectives to reduce or avoid the effects of the identified hazards. Mitigation actions SHALL address EXISTING and NEW buildings and infrastructure. The Plan should describe the process by which the community decides on particular mitigation actions.
Sort Identified Mitigation Actions

► Prevention: Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. Public activities, zoning, building codes, CIP, open space preservation, storm water management programs.
Property Protection: Actions that involve the modification of existing buildings or infrastructure to protect them from a hazard, or removal of a hazard area. Examples include acquisitions, elevation, relocation, structural retrofits, flood proofing, storm shutters, and shatter-resistant glass.

Sort Identified Mitigation Actions
Sort Identified Mitigation Actions

- Public Education & Awareness: Actions to inform and educate citizens, elected officials, and property owners about potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school age and adult education programs.
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.
Sort Identified Mitigation Actions

► Structural Projects: Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include storm water controls (e.g. culverts), floodwalls, seawalls, retaining walls, and safe rooms.
STAPLEE

- Is a technique for identifying, evaluating, and prioritizing mitigation actions based on existing local conditions.
  - Social
  - Environmental
  - Technical
  - Administrative
  - Political
  - Legal
  - Economic

- Jurisdictions should evaluate actions based on local conditions that may impact whether or not the actions identified in the action plan could be accomplished.
Evaluate Mitigation Strategies: STAPLEE Method

► S: Social – the public must support the overall implementation strategy and specific mitigation actions.

► T: Technical – It is important to determine if the proposed action is technically feasible, will help reduce losses in the long term, and has minimal secondary impacts.
Evaluate Mitigation Strategies: STAPLEEE Method

► A: Administrative – Under this part of the evaluation criteria, examine the anticipated staffing, funding, and maintenance requirements for the mitigation action to be implemented.

► P: Political – Understanding how your community and State leadership feels about issues related to the environment, economic development, safety, and emergency management. Needs to be supported....
Evaluate Mitigation Strategies: STAPLEE Method

► L: Legal – When considering this criterion, determine whether your agency has the legal authority at the State, or local level to implement the action, or if new laws will need to be passed.

► E: Economic – Cost-effective mitigation actions that can be funded in current or upcoming budget cycles are much more likely to be implemented.
Evaluate Mitigation Strategies: STAPLEE Method

E: Environmental – Evaluate whether, when implementing mitigation actions, there would be negative consequences to environmental assets (wetlands, endangered species, protected resources).
Implementation of Mitigation Actions

The mitigation strategy section shall include an action plan describing how the actions identified in section (c3ii) will be prioritized, implemented, and administered. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

USE STAPLEE to evaluate the projects
Multi-Jurisdictional Mitigation Actions

► Requirement: For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

- Each participating agencies need mitigation strategies specific to their needs!! Rate them using the STAPLEE method.
- Develop new strategies for your agencies.
Examples

Prevention:

- Flooding: The Floodway and the 100-year Floodplain shall be regulated to protect human life, property and the public health and safety of the citizens; minimize the expenditure of public money; and maintain the city’s flood insurance eligibility while avoiding regulations which are unnecessarily restrictive or difficult to administer.

- The City shall participate in the Community Rating System to obtain the maximum possible reduction in Flood Insurance Rates from the Federal Emergency Management Agency (FEMA).
Examples

► Prevention: All Hazards

- Utilize Best Available Science (BAS) to develop the Critical Areas Ordinance that will protect, to the greatest extent practical, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural cause or from human activity.
Examples

△ Property Protection:

- The Building Official will continue to require and maintain elevation certificates for permitted development within the floodplain. Elevation certificates are maintained by address.
Examples

► Public Education & Awareness:

- Expand the Public Information program to address other natural hazards where additional public information will be helpful, such as seismic retrofits for homes, how to make your home firewise and other hazard related topics.
- Develop and update on a regular basis a hazard website that provides information and encourage public education about how to be prepared for all potential hazards.
Examples

- Natural Resource Protection:
  - Protect and restore critical areas; plan for flood hazard mitigation, surface water management and pollution control, establishment and maintenance of greenbelts and conservation areas and coordinate with adjoining jurisdictions.
  - Provide habitat for wildlife species, food-fish, and freshwater fish in close proximity to an urban area.
Examples

 ► Structural Projects:

- The Capital Improvement Plan shall be coordinated with the land use, utilities and other relevant plan elements to ensure a balanced program that is adequately funded and responsive to community interest.

- Upgrade all city owned critical facilities to ensure continued operations during identified hazard events.
Structural Inventory - GIS

- Number of Structures in cities/county
- Number of Structures in flood boundary

### Total Structures

<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Number of Structures</th>
<th>Total Value</th>
<th>Value per Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial/Industrial</td>
<td>341</td>
<td>$29,323,352</td>
<td>$85,992</td>
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<tr>
<td>Out Building</td>
<td>85</td>
<td>$425,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>Residential</td>
<td>1,738</td>
<td>$111,942,475</td>
<td>$64,409</td>
</tr>
<tr>
<td>Public/Quasi Public</td>
<td>92</td>
<td>$1,429,802</td>
<td>$15,541</td>
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<tr>
<td>TOTAL STRUCTURES</td>
<td>2,256</td>
<td>$143,120,629</td>
<td>-</td>
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</table>

### Structures in 100-year Flood Boundary

<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Number of Structures</th>
<th>Average Value</th>
<th>Total Value</th>
<th>Approximate Damage Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial/Industrial</td>
<td>42</td>
<td>$85,992</td>
<td>$3,611,664</td>
<td>$722,332</td>
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<tr>
<td>Out Building</td>
<td>26</td>
<td>$5,000</td>
<td>$130,000</td>
<td>$26,000</td>
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<tr>
<td>Residential</td>
<td>424</td>
<td>$64,409</td>
<td>$27,309,416</td>
<td>$5,461,883</td>
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<tr>
<td>Public/Quasi Public</td>
<td>27</td>
<td>$15,541</td>
<td>$419,607</td>
<td>$83,921</td>
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<tr>
<td>TOTAL STRUCTURES</td>
<td>519</td>
<td>-</td>
<td>$31,470,687</td>
<td>$6,294,136</td>
</tr>
</tbody>
</table>
Next Meeting: Mitigation Strategies

► June 1st Centralia (Westside) 10-11:30 am
► June 1th Centralia (Westside) 6-7:30 pm
► June 4th Randle FD (Eastside) 6-7:30 pm
► Making the process easier…..
  ▪ Emailing information back and forth
  ▪ Asking questions
► Please let me know if you do not want to participate in this process!!
Plan Process

- Mitigation Meetings #3 June (If needed)
  - Set (Review) Goals, Objectives, Action Items
  - Attendance required by FEMA for all participating agencies

- Mitigation Meeting #4 – July (If needed)
  - Evaluate/prioritize alternatives, review draft plan (agencies specific), review maps, identify critical facilities, and future trends
  - Attendance required by FEMA for all participating agencies

- Finalize plan – conduct a SEPA
- Submit to EMD and FEMA
- Plan Adoption – each participate to adopt by resolution
Where are we in the Plan Process?

**Project Initiation**
- Review Existing Plan
- Develop worksheets
- Develop Planning Team
- Identify stakeholders

**Public Involvement**
- Planning Team
- Stakeholders
- State Agencies
- County Residents

**Analysis/Draft Plan**
- Data analysis
- Review worksheets
- Risk Assessments
- Develop maps
- Prepare plan
- Draft Plan reviewed by PT & Stake.

**Finalize Plan**
- Public Hearings by adopting agencies
- Conduct SEPA

**Adopt/FEMA Approval**
- Lewis County
- Municipalities
- Stakeholders
- EMD and FEMA Review
Contact Information

► Emil Pierson, Centralia Community Development Director
► Telephone: 360-330-7662
► Email: epierson@cityofcentralia.com
► Address: P.O. Box 609
Centralia, WA 98531-0609
Questions?
Risk Assessment: Estimating Potential Losses

- The Plan should describe vulnerability in terms on an estimate of the potential dollar losses to vulnerable structures.

- County GIS: HAZUS-MH
Risk Assessment: Analyzing Development Trends

The Plan should describe vulnerability in terms of providing a general of land uses and development trends within the community.
Risk Assessment: Multi-jurisdictional Risk Assessment

- For Multi-jurisdictional plans, the risk assessment must assess each jurisdiction’s risks where they vary from the risks facing the entire planning area.

County-wide vs. Localized
Plan Implementation and Maintenance

► Monitoring, Evaluating, and Updating the Plan
  ▪ Updating by FEMA every 5 years

► Incorporation into Existing Planning Mechanisms
  ▪ Comprehensive Plan
  ▪ Capital Improvement Plan
  ▪ Zoning Ordinance
  ▪ School District Plan

► Continued Public Involvement
  ▪ Planning Team
  ▪ Stakeholders
    ▶ Implement, Evaluate, Prioritize Action Items
Plan Review Crosswalk/ FEMA and EMD will review plan

LOCAL MITIGATION PLAN REVIEW CROSSWALK

LOCAL MITIGATION PLAN REVIEW SUMMARY

The plan cannot be approved if the plan has not been formally adopted. Each requirement includes separate elements. All elements of the requirement must be rated “Satisfactory” in order for the requirement to be fulfilled and receive a score of “Satisfactory.” Elements of each requirement are listed on the following pages of the Plan Review Crosswalk. A “Needs Improvement” score on elements shaded in gray (recommended but not required) will not preclude the plan from passing. Reviewer’s comments must be provided for requirements receiving a “Needs Improvement” score.

<table>
<thead>
<tr>
<th>Prerequisite(s) (Check Applicable Box)</th>
<th>NOT MET</th>
<th>MET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adoption by the Local Governing Body: §201.6(c)(3) OR</td>
<td></td>
<td></td>
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<tr>
<td>2. Multi-Jurisdictional Plan Adoption: §201.6(c)(5) AND</td>
<td></td>
<td></td>
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<tr>
<td>3. Multi-Jurisdictional Planning Participation: §201.6(c)(3)</td>
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<tr>
<td>Planning Process</td>
<td></td>
<td></td>
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<tr>
<td>4. Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)</td>
<td>N</td>
<td>S</td>
</tr>
<tr>
<td>Risk Assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Identifying Hazards: §201.6(c)(2)(i)</td>
<td></td>
<td></td>
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<tr>
<td>6. Profiling Hazards: §201.6(c)(2)(ii)</td>
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<tr>
<td>7. Assessing Vulnerability: Overview: §201.6(c)(2)(iii)</td>
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<td>8. Assessing Vulnerability: Addressing Repetitive Loss Properties, §201.6(c)(2)(iv)</td>
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<td></td>
</tr>
<tr>
<td>10. Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(vi)(A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(vii)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Multi-Jurisdictional Risk Assessment: §201.6(c)(2)(vii)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SCOREING SYSTEM

Please check one of the following for each requirement.

N – Needs Improvement: The plan does not meet the minimum for the requirement. Reviewer’s comments must be provided.

S – Satisfactory: The plan meets the minimum for the requirement. Reviewer’s comments are encouraged, but not required.

Mitigation Strategy

13. Local Hazard Mitigation Goals: §201.6(c)(3)(i)
14. Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)
15. Identification and Analysis of Mitigation Actions: NFRP Compliance, §201.6(c)(3)(iii)
16. Implementation of Mitigation Actions: §201.6(c)(3)(iv)
17. Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(v)

Plan Maintenance Process

18. Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)
19. Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)
20. Continued Public Involvement: §201.6(c)(4)(iii)

Additional State Requirements*

Insert State Requirement
Insert State Requirement
Insert State Requirement

LOCAL MITIGATION PLAN APPROVAL STATUS

PLAN NOT APPROVED
See Reviewer’s Comments
PLAN APPROVED

JULY 1, 2008