

PART 3—MITIGATION STRATEGY

CHAPTER 20. REVIEW OF MITIGATION ALTERNATIVES

20.1 “STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND OBSTACLES” SESSIONS

During the initial plan development, the Steering Committee developed a catalog of mitigation alternatives through a facilitated process that looked at the strengths, weaknesses, obstacles, and opportunities within the planning area. Information developed during this session was used to validate catalogs of mitigation alternatives prepared by the planning team. The catalogs represent the comprehensive range of alternatives considered by the planning partnership, in compliance with the requirements specified under 44CFR (Section 201.6.c.3.ii). During the plan update process, the Steering Committee reviewed the catalogs in conjunction with the findings of the public outreach efforts, the risk assessment results and the recommendations of the annual progress reports compiled during the initial performance period of the plan. The catalogs were enhanced based on this review and then used by each planning partners in the selection of hazard mitigation initiatives.

20.2 CATALOGS OF MITIGATION ALTERNATIVES

The catalogs of mitigation alternatives list initiatives that could manipulate a hazard, reduce exposure to a hazard, reduce vulnerability to a hazard, or increase the ability to respond to or be prepared for a hazard. The alternatives are categorized by responsibility for implementation (i.e., who would implement the initiative: individuals, businesses or government). These catalogs represent the comprehensive range of alternatives available for consideration by the planning partners.

The list was not exhaustive or site-specific. Its purpose was to provide each planning partner with a baseline of initiatives that were backed by a planning process, were consistent with the goals and objectives of the planning area, and were within the capabilities of the partnership. Each planning partner could add to the list of alternatives if an initiative they desired was not included. Generally, alternatives in the catalog not selected by a planning partner were rejected based on one of the following:

- The alternative was beyond the jurisdiction’s financial capabilities.
- Their jurisdiction was not vulnerable to the hazard.
- The alternative had already been implemented.

20.2.1 Mitigation Alternatives Catalog—Avalanche

No actions were reviewed for the avalanche hazard other that public education actions, since there is very little development exposed to this hazard within the planning area.

20.2.2 Mitigation Alternatives Catalog—Dam Failure

Table 20-1 is the catalog of mitigation alternatives for the dam failure hazard.

| TABLE 20-1. CATALOG OF RISK REDUCTION MEASURES—DAM FAILURE | | |
|---|---|--|
| Personal Scale | Corporate Scale | Government Scale |
| Manipulate Hazard | | |
| <ul style="list-style-type: none"> • None | <ol style="list-style-type: none"> 1. Remove dams 2. Remove levees 3. Harden dams | <ol style="list-style-type: none"> 1. Remove dams 2. Remove levees 3. Harden dams |
| Reduce Exposure | | |
| <ul style="list-style-type: none"> • Relocate out of dam failure inundation areas. | <ul style="list-style-type: none"> • Replace earthen dams with hardened structures | <ol style="list-style-type: none"> 1. Replace earthen dams with hardened structures 2. Relocate critical facilities out of dam failure inundation areas. 3. Consider open space land use in designated dam failure inundation areas. |
| Reduce Vulnerability | | |
| <ul style="list-style-type: none"> • Elevate home to appropriate levels. | <ul style="list-style-type: none"> • Flood-proof facilities within dam failure inundation areas | <ol style="list-style-type: none"> 1. Adopt higher regulatory floodplain standards in mapped dam failure inundation areas. 2. Retrofit critical facilities within dam failure inundation areas. |
| Increase Preparation or Response Capability | | |
| <ol style="list-style-type: none"> 1. Learn about risk reduction for the dam failure hazard. 2. Learn the evacuation routes for a dam failure event. 3. Educate yourself on early warning systems and the dissemination of warnings. | <ol style="list-style-type: none"> 1. Educate employees on the probable impacts of a dam failure. 2. Develop a Continuity of Operations Plan. | <ol style="list-style-type: none"> 1. Map dam failure inundation areas. 2. Enhance emergency operations plan to include a dam failure component. 3. Institute monthly communications checks with dam operators. 4. Inform the public on risk reduction techniques 5. Adopt real-estate disclosure requirements for the re-sale of property located within dam failure inundation areas. 6. Consider the probable impacts of climate in assessing the risk associated with the dam failure hazard. 7. Establish early warning capability downstream of listed high hazard dams. 8. Consider the residual risk associated with protection provided by dams in future land use decisions. |

20.2.3 Mitigation Alternatives Catalog—Earthquake

Table 20-2 is the catalog of mitigation alternatives for the earthquake hazard.

| TABLE 20-2. CATALOG OF RISK REDUCTION MEASURES—EARTHQUAKE | | |
|---|--|---|
| Personal Scale | Corporate Scale | Government Scale |
| Manipulate Hazard | | |
| None | None | None |
| Reduce Exposure | | |
| <ul style="list-style-type: none"> • Locate outside of hazard area (off soft soils) | <ul style="list-style-type: none"> • Locate or relocate mission-critical functions outside hazard area where possible | <ul style="list-style-type: none"> • Locate critical facilities or functions outside hazard area where possible |
| Reduce Vulnerability | | |
| <ol style="list-style-type: none"> 1. Retrofit structure (anchor house structure to foundation) 2. Secure household items that can cause injury or damage (such as water heaters, bookcases, and other appliances) 3. Build to higher design | <ol style="list-style-type: none"> 1. Build redundancy for critical functions and facilities 2. Retrofit critical buildings and areas housing mission-critical functions | <ol style="list-style-type: none"> 1. Harden infrastructure 2. Provide redundancy for critical functions 3. Adopt higher regulatory standards |
| Increase Preparation or Response Capability | | |
| <ol style="list-style-type: none"> 1. Practice “drop, cover, and hold” 2. Develop household mitigation plan, such as creating a retrofit savings account, communication capability with outside, 72-hour self-sufficiency during an event 3. Keep cash reserves for reconstruction 4. Become informed on the hazard and risk reduction alternatives available. 5. Develop a post-disaster action plan for your household | <ol style="list-style-type: none"> 1. Adopt higher standard for new construction; consider “performance-based design” when building new structures 2. Keep cash reserves for reconstruction 3. Inform your employees on the possible impacts of earthquake and how to deal with them at your work facility. 4. Develop a Continuity of Operations Plan | <ol style="list-style-type: none"> 1. Provide better hazard maps 2. Provide technical information and guidance 3. Enact tools to help manage development in hazard areas (e.g., tax incentives, information) 4. Include retrofitting and replacement of critical system elements in capital improvement plan 5. Develop strategy to take advantage of post-disaster opportunities 6. Warehouse critical infrastructure components such as pipe, power line, and road repair materials 7. Develop and adopt a Continuity of Operations Plan 8. Initiate triggers guiding improvements (such as <50% substantial damage or improvements) 9. Further enhance seismic risk assessment to target high hazard buildings for mitigation opportunities. 10. Develop a post-disaster action plan that includes grant funding and debris removal components. |

20.2.4 Mitigation Alternatives Catalog—Flood

Table 20-3 is the catalog of mitigation alternatives for the flood hazard.

| TABLE 20-3. CATALOG OF RISK REDUCTION MEASURES—FLOOD | | |
|---|---|--|
| Personal Scale | Corporate Scale | Government Scale |
| Manipulate Hazard | | |
| <ol style="list-style-type: none"> 1. Clear stormwater drains and culverts 2. Institute low-impact development techniques on property | <ol style="list-style-type: none"> 1. Clear stormwater drains and culverts 2. Institute low-impact development techniques on property | <ol style="list-style-type: none"> 1. Maintain drainage system 2. Institute low-impact development techniques on property 3. Dredging, levee construction, and providing regional retention areas 4. Structural flood control, levees, channelization, or revetments. 5. Stormwater management regulations and master planning 6. Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff |
| Reduce Exposure | | |
| <ol style="list-style-type: none"> 1. Locate outside of hazard area 2. Elevate utilities above base flood elevation 3. Institute low impact development techniques on property | <ol style="list-style-type: none"> 1. Locate business critical facilities or functions outside hazard area 2. Institute low impact development techniques on property | <ol style="list-style-type: none"> 1. Locate or relocate critical facilities outside of hazard area 2. Acquire or relocate identified repetitive loss properties 3. Promote open space uses in identified high hazard areas via techniques such as: planned unit developments, easements, setbacks, greenways, sensitive area tracks. 4. Adopt land development criteria such as planned unit developments, density transfers, clustering 5. Institute low impact development techniques on property 6. Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff |
| Reduce Vulnerability | | |
| <ol style="list-style-type: none"> 1. Retrofit structures (elevate structures above base flood elevation) 2. Elevate items within house above base flood elevation 3. Build new homes above base flood elevation 4. Flood-proof existing structures | <ol style="list-style-type: none"> 1. Build redundancy for critical functions or retrofit critical buildings 2. Provide flood-proofing measures when new critical infrastructure must be located in floodplains | <ol style="list-style-type: none"> 1. Harden infrastructure, bridge replacement program 2. Provide redundancy for critical functions and infrastructure 3. Adopt appropriate regulatory standards, such as: increased freeboard standards, cumulative substantial improvement or damage, lower substantial damage threshold; compensatory storage, non-conversion deed restrictions. 4. Stormwater management regulations and master planning. 5. Adopt “no-adverse impact” floodplain management policies that strive to not increase the flood risk on downstream communities. |

**TABLE 20-3 (continued).
CATALOG OF RISK REDUCTION MEASURES—FLOOD**

| Personal Scale | Corporate Scale | Government Scale |
|---|---|---|
| Increase Preparation or Response Capability | | |
| <ol style="list-style-type: none"> 1. Buy flood insurance 2. Develop household mitigation plan, such as retrofit savings, communication capability with outside, 72 hr self-sufficiency during and after an event | <ol style="list-style-type: none"> 1. Keep cash reserves for reconstruction 2. Support and implement hazard disclosure for the sale/re-sale of property in identified risk zones. 3. Solicit ‘cost-sharing” through partnerships with other stakeholders on projects with multiple benefits. | <ol style="list-style-type: none"> 1. Produce better hazard maps 2. Provide technical information and guidance 3. Enact tools to help manage development in hazard areas (stronger controls, tax incentives, and information) 4. Incorporate retrofitting or replacement of critical system elements in capital improvement plan 5. Develop strategy to take advantage of post-disaster opportunities 6. Warehouse critical infrastructure components 7. Develop and adopt a Continuity of Operations Plan 8. Consider participation in the Community Rating System 9. Maintain existing data and gather new data needed to define risks and vulnerability 10. Train emergency responders 11. Create a building and elevation inventory of structures in the floodplain 12. Develop and implement a public information strategy 13. Charge a hazard mitigation fee 14. Integrate floodplain management policies into other planning mechanisms within the planning area. 15. Consider the probable impacts of climate change on the risk associated with the flood hazard 16. Consider the residual risk associated with structural flood control in future land use decisions 17. Enforce National Flood Insurance Program 18. Adopt a Stormwater Management Master Plan |

20.2.5 Mitigation Alternatives Catalog—Landslide

Table 20-4 is the catalog of mitigation alternatives for the landslide hazard.

| TABLE 20-4. CATALOG OF RISK REDUCTION MEASURES—LANDSLIDE | | |
|---|--|---|
| Personal Scale | Corporate Scale | Government Scale |
| Manipulate Hazard | | |
| <ol style="list-style-type: none"> 1. Stabilize slope (dewater, armor toe) 2. Reduce weight on top of slope 3. Minimize vegetation removal and the addition of impervious surfaces. | <ol style="list-style-type: none"> 1. Stabilize slope (dewater, armor toe) 2. Reduce weight on top of slope | <ol style="list-style-type: none"> 1. Stabilize slope (dewater, armor toe) 2. Reduce weight on top of slope |
| Reduce Exposure | | |
| <ul style="list-style-type: none"> • Locate structures outside of hazard area (off unstable land and away from slide-run out area) | <ul style="list-style-type: none"> • Locate structures outside of hazard area (off unstable land and away from slide-run out area) | <ol style="list-style-type: none"> 1. Acquire properties located in high-risk landslide areas. 2. Adopt land use policies that prohibit the placement of habitable structures in high-risk landslide areas. |
| Reduce Vulnerability | | |
| <ul style="list-style-type: none"> • Retrofit home. | <ul style="list-style-type: none"> • Retrofit at-risk facilities. | <ol style="list-style-type: none"> 1. Adopt higher regulatory standards for new development within unstable slope areas. 2. Armor/retrofit critical infrastructure against the impact of landslides. |
| Increase Preparation or Response Capability | | |
| <ol style="list-style-type: none"> 1. Institute warning system, and develop evacuation plan 2. Keep cash reserves for reconstruction 3. Educate yourself on risk reduction techniques for landslide hazards. | <ol style="list-style-type: none"> 1. Institute warning system, and develop evacuation plan 2. Keep cash reserves for reconstruction 3. Develop a Continuity of Operations Plan 4. Educate employees on the potential exposure to landslide hazards and emergency response protocol. | <ol style="list-style-type: none"> 1. Produce better hazard maps 2. Provide technical information and guidance 3. Enact tools to help manage development in hazard areas: better land controls, tax incentives, information 4. Develop strategy to take advantage of post-disaster opportunities 5. Warehouse critical infrastructure components 6. Develop and adopt a Continuity of Operations Plan 7. Educate the public on the landslide hazard and appropriate risk reduction alternatives. |

20.2.6 Mitigation Alternatives Catalog—Severe Weather

Table 20-5 is the catalog of mitigation alternatives for the severe weather hazard.

| TABLE 20-5. CATALOG OF RISK REDUCTION MEASURES—SEVERE WEATHER | | |
|---|--|---|
| Personal Scale | Corporate Scale | Government Scale |
| Manipulate Hazard | | |
| None | None | None |
| Reduce Exposure | | |
| None | None | None |
| Reduce Vulnerability | | |
| <ol style="list-style-type: none"> 1. Insulate house 2. Provide redundant heat and power 3. Insulate structure 4. Plant appropriate trees near home and power lines (“Right tree, right place” National Arbor Day Foundation Program) | <ol style="list-style-type: none"> 1. Relocate critical infrastructure (such as power lines) underground 2. Reinforce or relocate critical infrastructure such as power lines to meet performance expectations 3. Install tree wire | <ol style="list-style-type: none"> 1. Harden infrastructure such as locating utilities underground 2. Trim trees back from power lines 3. Designate snow routes and strengthen critical road sections and bridges |
| Increase Preparation or Response Capability | | |
| <ol style="list-style-type: none"> 1. Trim or remove trees that could affect power lines 2. Promote 72-hour self-sufficiency 3. Obtain a NOAA weather radio. 4. Obtain an emergency generator. | <ol style="list-style-type: none"> 1. Trim or remove trees that could affect power lines 2. Create redundancy 3. Equip facilities with a NOAA weather radio 4. Equip vital facilities with emergency power sources. | <ol style="list-style-type: none"> 1. Support programs such as “Tree Watch” that proactively manage problem areas through use of selective removal of hazardous trees, tree replacement, etc. 2. Establish and enforce building codes that require all roofs to withstand snow loads 3. Increase communication alternatives 4. Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors. 5. Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines 6. Provide NOAA weather radios to the public |

20.2.7 Mitigation Alternatives Catalog—Tsunami

Table 20-6 is the catalog of mitigation alternatives for the tsunami hazard.

| TABLE 20-6. CATALOG OF RISK REDUCTION MEASURES—TSUNAMI | | |
|--|---|---|
| Personal Scale | Corporate Scale | Government Scale |
| Manipulate Hazard | | |
| <ul style="list-style-type: none"> • None | <ul style="list-style-type: none"> • None | <ul style="list-style-type: none"> • Build wave abatement structures (e.g. the “Jacks” looking structure designed by the Japanese) |
| Reduce Exposure | | |
| <ul style="list-style-type: none"> • Locate outside of hazard area | <ul style="list-style-type: none"> • Locate structure or mission critical functions outside of hazard area whenever possible. | <ol style="list-style-type: none"> 1. Locate structure or functions outside of hazard area whenever possible. 2. Harden infrastructure for tsunami impacts. 3. Relocate identified critical facilities located in tsunami high hazard areas. |
| Reduce Vulnerability | | |
| <ul style="list-style-type: none"> • Apply personal property mitigation techniques to your home such as anchoring your foundation and foundation openings to allow flow through. | <ul style="list-style-type: none"> • Mitigate personal property for the impacts of tsunami | <ol style="list-style-type: none"> 1. Adopt higher regulatory standards that will provide higher levels of protection to structures built in a tsunami inundation area. 2. Utilize tsunami mapping once available, to guide development away from high risk areas through land use planning. |
| Increase Preparation or Response Capability | | |
| <ol style="list-style-type: none"> 1. Develop and practice a household evacuation plan. 2. Support/participate in the Redwood Coast Tsunami Working Group. 3. Educate yourself on the risk exposure from the tsunami hazard and ways to minimize that risk. | <ol style="list-style-type: none"> 1. Develop and practice a corporate evacuation plan. 2. Support/participate in the Redwood Coast Tsunami Working Group. 3. Educate employees on the risk exposure from the tsunami hazard and ways to minimize that risk. | <ol style="list-style-type: none"> 1. Create a probabilistic tsunami map for Del Norte County. 2. Provide incentives to guide development away from hazard areas. 3. Develop a tsunami warning and response system. 4. Provide residents with tsunami inundation maps 5. Join NOAA’s Tsunami Ready program 6. Develop and communicate evacuation routes 7. Enhance the public information program to include risk reduction options for the tsunami hazard |

20.2.8 Mitigation Alternatives Catalog—Volcano

Table 20-7 is the catalog of mitigation alternatives for the volcano hazard.

| TABLE 20-7. CATALOG OF RISK REDUCTION MEASURES—VOLCANO | | |
|---|---|--|
| Personal Scale | Corporate Scale | Government Scale |
| Manipulate Hazard | | |
| None | None | Limited success has been experienced with lava flow diversion structures |
| Reduce Exposure | | |
| Relocate outside of hazard area, such as lahar zones | Locate mission critical functions outside of hazard area, such as lahar zones whenever possible. | Locate critical facilities and functions outside of hazard area, such as lahar zones, whenever possible. |
| Reduce Vulnerability | | |
| None | <ul style="list-style-type: none"> • Protect corporate critical facilities and infrastructure from potential impacts of severe ash fall (air filtration capability) | <ul style="list-style-type: none"> • Protect critical facilities from potential problems associated with ash fall. • Build redundancy for critical facilities and functions. |
| Increase Preparation or Response Capability | | |
| <ul style="list-style-type: none"> • Develop and practice a household evacuation plan. | <ol style="list-style-type: none"> 1. Develop and practice a corporate evacuation plan 2. Inform employees through corporate sponsored outreach 3. Develop a cooperative | <ol style="list-style-type: none"> 1. Public outreach, awareness. 2. Tap into state volcano warning system to provide early warning to Snohomish County residents of potential ash fall problems |

20.2.9 Mitigation Alternatives Catalog—Wildland Fire

Table 20-8 is the catalog of mitigation alternatives for the wildland fire hazard.

| TABLE 20-8. CATALOG OF RISK REDUCTION MEASURES—WILDLAND FIRE | | |
|--|---|--|
| Personal Scale | Corporate Scale | Government Scale |
| Manipulate Hazard | | |
| <ul style="list-style-type: none"> • Clear potential fuels on property such as dry overgrown underbrush and diseased trees | <ul style="list-style-type: none"> • Clear potential fuels on property such as dry underbrush and diseased trees | <ol style="list-style-type: none"> 1. Clear potential fuels on property such as dry underbrush and diseased trees 2. Implement best management practices on public lands. |
| Reduce Exposure | | |
| <ol style="list-style-type: none"> 1. Create and maintain defensible space around structures 2. Locate outside of hazard area 3. Mow regularly | <ol style="list-style-type: none"> 1. Create and maintain defensible space around structures and infrastructure 2. Locate outside of hazard area | <ol style="list-style-type: none"> 1. Create and maintain defensible space around structures and infrastructure 2. Locate outside of hazard area 3. Enhance building code to include use of fire resistant materials in high hazard area. |
| Reduce Vulnerability | | |
| <ol style="list-style-type: none"> 1. Create and maintain defensible space around structures and provide water on site 2. Use fire-retardant building materials 3. Create defensible spaces around home | <ol style="list-style-type: none"> 1. Create and maintain defensible space around structures and infrastructure and provide water on site 2. Use fire-retardant building materials 3. Use fire-resistant plantings in buffer areas of high wildland fire threat. | <ol style="list-style-type: none"> 1. Create and maintain defensible space around structures and infrastructure 2. Use fire-retardant building materials 3. Use fire-resistant plantings in buffer areas of high wildland fire threat. 4. Consider higher regulatory standards (such as Class A roofing) 5. Establish biomass reclamation initiatives |

**TABLE 20-8 (continued).
CATALOG OF RISK REDUCTION MEASURES—WILDLAND FIRE**

| Personal Scale | Corporate Scale | Government Scale |
|--|--|---|
| Increase Preparation or Response Capability | | |
| <ol style="list-style-type: none"> 1. Employ Firewise techniques to safeguard home 2. Identify alternative water supplies for fire fighting 3. Install/replace roofing material with non-combustible roofing materials. | <ol style="list-style-type: none"> 1. Support Firewise community initiatives. 2. Create /establish stored water supplies to be utilized for fire fighting. | <ol style="list-style-type: none"> 1. More public outreach and education efforts, including an active Firewise program 2. Possible weapons of mass destruction funds available to enhance fire capability in high-risk areas 3. Identify fire response and alternative evacuation routes 4. Seek alternative water supplies 5. Become a Firewise community 6. Use academia to study impacts/solutions to wildland fire risk 7. Establish/maintain mutual aid agreements between fire service agencies. 8. Create/implement fire plans 9. Consider the probable impacts of climate change on the risk associated with the wildland fire hazard in future land use decisions |

CHAPTER 21.

AREA-WIDE MITIGATION INITIATIVES

21.1 SELECTED COUNTY-WIDE MITIGATION INITIATIVES

The planning partners and the Steering Committee determined that some mitigation initiatives in the catalog could be implemented countywide to provide hazard mitigation benefits throughout the planning area. The Steering Committee determined that all county-wide initiatives identified in the initial plan were still relevant to the goals and objectives of the planning partnership, and should be carried over to this updated plan. Table 21-1 lists the recommended countywide initiatives, the lead agency for each, and the proposed timeline. The parameters for the timeline are as follows:

- Short Term = to be completed in 1 to 5 years
- Long Term = to be completed in greater than 5 years
- Ongoing = currently being funded and implemented under existing programs.

21.2 COUNTY-WIDE ACTION PLAN PRIORITIZATION

Table 21-2 lists the priority of each countywide initiative, using the same parameters used by each of the planning partners in selecting their initiatives. A qualitative benefit-cost review was performed for each of these initiatives. The priorities are defined as follows:

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), has benefits that exceed cost, has funding secured or is an ongoing project and meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM). High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, that has benefits that exceed costs, and for which funding has not been secured but that is grant eligible under HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is secured. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—A project that will mitigate the risk of a hazard, that has benefits that do not exceed the costs or are difficult to quantify, for which funding has not been secured, that is not eligible for HMGP or PDM grant funding, and for which the time line for completion is long term (1 to 10 years). Low priority projects may be eligible for other sources of grant funding from other programs.

**TABLE 21-1.
ACTION PLAN—COUNTYWIDE MITIGATION INITIATIVES**

| Hazards Addressed | Lead Agency | Possible Funding Sources or Resources | Time Line ^a | Objectives |
|--|--|--|------------------------|---------------------|
| CW-1 —Provide coordination and technical assistance in the application for grant funding that includes assistance in cost vs. benefit analysis for grant eligible projects | | | | |
| All | DEM and SWM jointly | Existing programs for the two lead agencies | Short term Ongoing | 1, 2, 14 |
| CW-2 —Provide countywide updates to the Hazard Identification and Vulnerability Analysis using best available science and technology as new hazard-specific data becomes available (e.g., avalanche, tsunami, landslide) | | | | |
| All | DEM | Possible DHS grant funding for future enhancements; DEM operational funds | Short term | 4, 5, 9, 10 |
| CW-3 —County to assume lead role in the update/re-study of floodplains as a Cooperating Technical Partner with FEMA under new RiskMAP program for all planning partners. | | | | |
| All | SWM | SWM funding, cost share through FEMA RiskMAP program | Short term Ongoing | 3, 4, 9, 10 |
| CW-4 —Provide basin-specific floodplain information in the form of an informational brochure to all planning partners that request them annually for dissemination to county floodplain residents and identified repetitive loss areas. This outreach project will be designed according to the CRS criteria for outreach projects and will be contingent upon available funding to implement the initiative. | | | | |
| Flood | SWM | SWM funding | Short term Ongoing | 4, 9, 10 |
| CW-5 —Sponsor and maintain a natural hazards informational website to include the following types of information: | | | | |
| <ul style="list-style-type: none"> • Hazard-specific information such as warning, private property mitigation alternatives, important facts on risk and vulnerability • Pre- and post-disaster information such as notices of grant funding availability • CRS creditable information • Links to planning partners’ pages, FEMA and Washington Emergency Management Division • Natural hazard mitigation plan information such as progress reports, mitigation success stories, update strategies, Steering Committee meetings. | | | | |
| All | DEM with support from SWM | DEM operational budget | Short Term | 8, 9, 10 |
| CW-6 —Coordinating with all planning partners, Water Resource Inventory Area planning units and other stakeholders in the County, seek the acquisition of high-risk parcels that could provide significant open space benefits such as the attenuation of the impacts of natural hazards and beneficial environmental functions (e.g., enhancement of habitat for threatened or endangered species). | | | | |
| All | Planning Partner Cities, SWM, Snohomish County Parks Dept. | Grant funding: PDM, HMGP, Flood Control Assistance Account Program, Real Estate Excise Tax, habitat related grants | Long term | 3, 6, 7, 11, 13, 14 |

| TABLE 21-1 (CONTINUED). ACTION PLAN—COUNTYWIDE MITIGATION INITIATIVES | | | | |
|---|--|--|------------------------|------------|
| Hazards Addressed | Lead Agency | Possible Funding Sources or Resources | Time Line ^a | Objectives |
| CW-7 —The Steering Committee will remain as a viable body over time to monitor progress of the plan, provide technical assistance to planning partners and oversee the update of the plan according to schedule. This body will continue to operate under the ground rules established at its inception. | | | | |
| All | DEM to be lead coordinating agency with support from SWM, Planning & Development, Public Involvement & Environmental | No impact on existing funding | Short-term | All |
| CW-8 —All planning partners that committed to the update effort will formally adopt this plan was pre-adoption approval has been granted by Washington Emergency Management and FEMA Region X. Each planning partner will adhere to the plan maintenance protocol identified Chapter 7. All actions under this initiative will be coordinated by DEM | | | | |
| All | DEM | To be funded under existing programs for all planning partners | Short-term | All |
| a. Short term = 1 to 5 years; Long Term= 5 years or greater | | | | |

| TABLE 21-2. PRIORITIZATION OF COUNTYWIDE MITIGATION INITIATIVES | | | | | | | |
|--|-----------------|----------------|------------------------------------|----------------------------|---|----------------------------|--|
| Initiative # | # of Objectives | | Do Benefits equal or exceed Costs? | Is project Grant eligible? | Can Project be funded under existing programs/ budgets? | Priority (High, Med., Low) | |
| | Met | Benefits Costs | | | | | |
| CW-1 | 3 | Medium Low | Yes | Yes | Yes | High | |
| CW-2 | 4 | Medium Medium | Yes | Yes | Yes | High | |
| CW-3 | 4 | High Medium | Yes | Yes | Yes | High | |
| CW-4 | 3 | Medium Medium | Yes | No | Yes | High | |
| CW-5 | 3 | Medium Medium | Yes | No | Yes | High | |
| CW-6 | 6 | High High | Yes | Yes | No | Medium | |
| CW-7 | 14 | Medium Low | Yes | No | Yes | High | |
| CW-8 | 14 | Medium Low | Yes | No | Yes | High | |

