

FINAL

SHORELINE RESTORATION PLAN for Shorelines in the City of Chelan

Project: Comprehensive Shoreline Master Program Update

- **Task 10: Prepare a Restoration Plan**

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This report was funded in part through a grant from the Washington Department of Ecology.

9 October 2012

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CITY OF CHELAN SHORELINE MASTER PROGRAM UPDATE SHORELINE RESTORATION PLAN

1. INTRODUCTION

1.1 Purpose

The primary purpose of the Shoreline Restoration Plan is to plan for “overall improvements in shoreline ecological function over time, when compared to the status upon adoption of the master program” (WAC 173-26-201(2)(f)).

Secondarily, the Shoreline Restoration Plan may enable a jurisdiction to ensure that the minimum requirement of no net loss in shoreline ecological function is achieved on a City-wide basis, notwithstanding any shortcomings of individual projects or activities. By law, activities that have adverse effects on the ecological functions and values of the shoreline must be mitigated (WAC 173-26-201(2)(e)). Proponents of such activities are *individually* required to mitigate for impacts to the subject shoreline areas, or agreed upon off-site areas, to conditions equivalent in ecological function to the baseline levels at the time each activity takes place. However, some uses and developments, either new or ongoing, cannot always be mitigated in kind on an individual project basis, such as a new bulkhead to protect a single-family home, that can be compensated for but not truly mitigated in-kind unless an equivalent area of bulkhead is removed somewhere else. Other impacts may be sufficiently minor on an individual level, such that mitigation is not required, but are cumulatively significant. Additionally, unregulated activities (such as operation and maintenance of existing legal developments) may also degrade baseline conditions.

Finally, the City of Chelan’s Shoreline Master Program (SMP) applies only to activities in shoreline jurisdiction, yet activities upland of shoreline jurisdiction may have offsite impacts on shoreline functions. Thus, assembly of out-of-jurisdiction actions, programs and policies can be essential for understanding how the City fits into the larger watershed context. The latter is critical when establishing realistic goals and objectives for dynamic and highly inter-connected environments. For this reason, information about WRIA 47 conditions and activities are provided in this Restoration Plan.

Together, these different project impacts – out of kind, de minimus, and out of jurisdiction – may result in cumulative, incremental, and unavoidable degradation of the overall baseline condition unless additional restoration of

habitat function is undertaken. Accordingly, the Restoration Plan is intended to be a source of ecological improvements implemented by the City and other government agencies, developers, non-profit groups, and property owners inside and outside of shoreline jurisdiction to ensure no net loss of ecological function, and where possible improvement of ecological function.

1.2 Restoration Plan Requirements

This Restoration Plan has been prepared to meet the purposes outlined above as well as specific requirements of the SMP Guidelines. Specifically, WAC Section 173-26-201(2)(f) of the SMP Guidelines (Guidelines)¹ says:

“master programs shall include goals and policies that provide for restoration of such impaired ecological functions. These master program provisions shall identify existing policies and programs that contribute to planned restoration goals and identify any additional policies and programs that local government will implement to achieve its goals. These master program elements regarding restoration should make real and meaningful use of established or funded non-regulatory policies and programs that contribute to restoration of ecological functions, and should appropriately consider the direct or indirect effects of other regulatory or non-regulatory programs under other local, state, and federal laws, as well as any restoration effects that may flow indirectly from shoreline development regulations and mitigation standards.”

In addition to meeting the requirements of the Guidelines, this Restoration Plan is intended to identify priority focal areas for future restoration and mitigation, support the City’s and other organizations’ applications for grant funding, and to identify the various entities and their roles working within the City to enhance the environment.

1.3 Types of Restoration Activities

Restoration of shoreline areas, in relation to shoreline processes and functions, commonly refers to methods such as re-vegetation, removal of invasive species or toxic materials, and removal of shoreline modifications, such as levees or revetments. Consistent with Ecology’s definition, use of the word “restore,” or any variations, in this document is not intended to encompass actions that

¹ The Shoreline Master Program Guidelines were prepared by the Washington Department of Ecology and codified as WAC 173-26. The Guidelines translate the broad policies of the Shoreline Management Act (RCW 90.58.020) into standards for regulation of shoreline uses. See <http://www.ecy.wa.gov/programs/sea/sma/guidelines/index.html> for more background.

reestablish historic conditions. Instead, it encompasses a suite of strategies that can be approximately delineated into four categories:

- Creation (of a new resource)
- Restoration (of a converted or substantially degraded resource)
- Enhancement (of an existing degraded resource)
- Protection (of an existing high-quality resource).

1.4 Contents of this Restoration Plan

As directed by the SMP Guidelines, the following discussions provide a summary of baseline shoreline conditions, list restoration goals and objectives, and describe existing or potential programs and projects that positively impact the shoreline environment. In total, implementation of the SMP (with mitigation of project-related impacts) in combination with this Restoration Plan (for restoration of lost ecological functions that occurred prior to a specific project) will result in no net loss of ecosystem function, and voluntary actions and partnerships identified in this plan may result in a net improvement in the City of Chelan's shoreline environment in the long term.

2. SHORELINE INVENTORY SUMMARY

2.1 Introduction

The City, in cooperation with the County and other Chelan County cities, completed a comprehensive inventory and analysis of its shorelines (April 2012) as an element of its SMP update. The purpose of the shoreline inventory and analysis was to gain a greater understanding of the existing condition of the City's shoreline environment to ensure the updated SMP policies and regulations will protect local ecological processes and functions. The inventory describes existing physical and biological conditions in shoreline jurisdiction within City limits and the urban growth area and includes recommendations for restoration of ecological functions where they are degraded. The *Shoreline Inventory and Analysis Report* (TWC and Berk 2012) is summarized below to provide context for this Restoration Plan.

2.2 Shoreline Boundaries

As defined by the Shoreline Management Act of 1971, shorelines include certain waters of the state plus their associated "shorelands." At a minimum, the waterbodies designated as shorelines of the state are streams whose mean annual flow is 20 cubic feet per second (cfs) or greater or lakes whose area is greater than

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20 acres. In addition, shorelines of statewide significance are those streams and rivers that meet one or more of the following criteria

- “i. that have either: a mean annual flow of 200 cubic feet per second or more, or;*
- ii. the portion downstream from the first 300 square miles of drainage areas.*

Shorelands are defined as:

“those lands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter... Any county or city may determine that portion of a one-hundred-year-floodplain to be included in its master program as long as such portion includes, as a minimum, the floodway and the adjacent land extending landward two hundred feet therefrom... Any city or county may also include in its master program land necessary for buffers for critical areas... (RCW 90.58.030)”

The City shoreline boundaries have been updated (subject to City Council and Ecology approval) concurrent with the *Shoreline Inventory and Analysis Report* through use of improved stream flow modeling by the United States Geological Survey and improved lake area mapping that resulted in increased accuracy of jurisdiction identification and mapping.

2.2.1 Chelan (WRIA 47)

The Chelan watershed (WRIA 47) as a whole contains 670,080 acres, including 11,160 acres of shorelands along 1,596,517 linear feet (302 miles) of shoreline, distributed among 30 shoreline streams/rivers and 17 shoreline lakes.

2.2.2 City of Chelan

Shorelands in the City of Chelan include only areas within 200 feet of the ordinary high water mark, floodways, portions of their adjacent floodplains, and any associated wetlands within those floodplains. Waters identified within jurisdiction include Lake Chelan, the Chelan River and a very small portion of the Columbia River. Together the City and its UGA have 517 acres and 109,558 linear feet in shoreline jurisdiction.

2.3 Inventory and Analysis Summary

The *Shoreline Inventory and Analysis Report* (TWC and Berk 2012) is divided into seven main sections: Introduction, Current Regulatory Framework Summary,

Elements of the Shoreline Inventory, Shoreline-Specific Conditions, Analysis of Ecological Functions and Ecosystem-wide Processes, Land Use Analysis, and Public Access Analysis. Most of these chapters were subdivided into sections for the County and watershed. The City discussions include each City's UGA. The following inventory is summarized from detailed information presented in the *Analysis Report*.

2.3.1 Chelan WRIA 47 (excluding City of Chelan)

Land Use and Physical Conditions

Approximately 87 percent of WRIA 47 is in federal, state, and local government ownership. The remaining 13 percent is in private ownership. Current land uses in the WRIA as a whole include conservation, recreation, primary and secondary (vacation and second homes) residential, resorts, and agriculture. The upper two-thirds of the watershed can be accessed only by water, foot, horseback or air (floatplane) (Berg 2004). The shoreline land uses include: agriculture, commercial, cultural/recreation/assembly, forestry, government/utility, natural resources, residential, and undeveloped land. The existing land uses vary by individual waterbody, with some shorelines dominated by residential uses (Lake Chelan, Roses Lake, Wapato Lake), commercial uses (Chelan River, Twentyfive Mile Creek), and undeveloped lands (Fish Creek, Dry Lake).

WRIA 47 shorelines contain unincorporated and incorporated lands. Unincorporated lands are primarily used as commercial forest (71%) or residential (20%) lands. Shorelines planned for focused rural development (including rural waterfront development) include Twentyfive Mile Creek, Roses Lake, and Wapato Lake.

Parks and open space are found along numerous shorelines in the unincorporated area. Open space is estimated at approximately 9,417 acres, and park lands total less than 1 acre along Lake Chelan (outside of the City of Chelan). Developed public access points include: trails, campgrounds, and boat launches. The trails are more extensive in the northern and western portion of the WRIA and alongside and between waterbodies. Most trails near Lake Chelan do not parallel the water, and radiate to other destinations away from the lake. Boat launches are numerous along Lake Chelan. View corridors are prominent along Lake Chelan in the vicinity of the City of Chelan. Lake Chelan is the most developed shoreline in WRIA 47, with boating and camping facilities.

Biological Resources and Critical Areas

Shorelines in WRIA 47 contain a combined total of 7,858 acres of priority habitats and habitat features. The most common priority habitats, in order of frequency of occurrence, are those for lynx (found in 28 shorelines), followed by mule deer breeding areas, concentrations, and migratory corridors. Many of the rivers,

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streams and lakes also contain priority fish species. According to the NWI and hydric soils information, as much as 16 percent of the total shoreline area may be wetlands. Floodplains and a few geohazard areas are also documented in the WRIA.

2.3.2 City of Chelan and UGA

The City of Chelan is found along the eastern shore of Lake Chelan. The Chelan community attracts tourists and seasonal residents due to its historic charm, provision of commercial services, and recreational opportunities along Lake Chelan.

Land Use and Physical Conditions

Current land uses along the entire City and UGA shorelines are dominated by residential, commercial, recreation, government, but also include: agriculture, commercial, cultural/recreation/assembly, natural resources, residential, and undeveloped land. Most of the shoreline is developed apart from parklands. Plans for development or redevelopment along Lake Chelan and other public open space will be oriented to tourist, commercial, recreational services, activities, and residential uses (Land Use Element Commercial Policy 18). The City encourages efficient public use of shoreline properties (Land Use Element Urban Growth Area Policy 4), and will allow public and private development for adequate camping, boat launching, docking and moorage facilities, marinas, and other water-related recreational opportunities on Lake Chelan and the Columbia River (Economic Development Element Open Space and Recreation Policy 3).

Land uses have been proposed for all the City's shorelines, and may include: high density commercial, highway service commercial, waterfront commercial, public lands and facilities, single-family residential, multi-family residential, special use district, tourist accommodations, and warehousing and industrial land uses. Potential growth could occur on properties that are vacant or that do not have structures, as well as on lands the City has identified for further development in its plans.

Lake Chelan shorelines contain some water-oriented uses including parks (about 18 acres), agriculture (about than 2 acres), recreational activities (about 2 acres), resorts and group camps (about 8 acres), marine craft transportation (more than 1 acre), and eating/drinking places (more than 1 acre). The Chelan River has about 7 acres in shoreline jurisdiction for park use. Waterfront commercial and tourist accommodation are also water-oriented land uses found throughout City shorelines.

Public access consists of view corridors, open space and parks. View corridors are prevalent along roadways paralleling the water, and from higher elevations

above the lake. Open space acres in the shoreline jurisdiction total about 47 acres, along the Chelan River (~ 17 acres) and along Lake Chelan (~ 30 acres). Based on the shoreline inventory, there are 17 recreation facilities on Lake Chelan within the City and UGA consisting of boat launches (2), boating facilities (2), community dock/marina (5), and other marinas (3).

Biological Resources and Critical Areas

Shorelines in the City of Chelan and its UGA contain less than 0.1 acre of priority habitat, limited to mule deer habitat in the small area of Columbia River shoreline. All of the City's shorelines contain priority fish species. According to the NWI and hydric soils information, as much as 11 percent of the total shoreline area may be wetlands. Most of these potential wetlands are located in the Chelan River shorelands. The portions of the Chelan River and Columbia River in the City and UGA contain substantial areas identified as geologic hazards.

3. RESTORATION GOALS AND OBJECTIVES

The following subsections discuss restoration goals and objectives previously identified in local WRIA, City and County planning efforts. Discussions are divided between the WRIA and City when applicable. The WRIA discussions do not include information for the City and its UGA. The City discussions include the City's UGA.

Many of the watershed planning and salmon recovery efforts are administered by the Chelan County Natural Resources Department (CCNRD). CCNRD is a partner with the Cascadia Conservation District (CCD) (formerly the Chelan County Conservation District) in the early planning stages of the Lake Chelan (WRIA 47) watershed plan.

The CCNRD also supports a regional salmon recovery effort, the Upper Columbia Salmon Recovery Board (UCSRB), and staffs the Chelan County Water Conservancy Board (Chelan County website). The mission statement of the UCSRB, whose planning area includes all of Chelan County except for the Chelan watershed, is:

"To restore viable and sustainable populations of salmon, steelhead, and other at risk species through collaborative, economically sensitive efforts, combined resources, and wise resource management of the Upper Columbia region."

3.1 WRIA 47

WRIA 47 Final Draft Planning Unit Charter Objectives

The Lake Chelan Watershed (WRIA 47) Planning Unit’s vision is to “recognize, inform, educate, monitor, understand and protect the unique water resource that is Lake Chelan; the ecological processes and pathways essential to maintaining this high quality water body, and the ways in which we can live on this lakeshore, enjoy this unique treasure and protect it for generations to come.”

The WRIA 47 Planning Unit has the goal “to implement a management plan for water use and protection that sustains the environmental, educational, economic and recreational values associated with a healthy lakeside community and watershed.” The following objectives were outlined in the *WRIA 47 Final Draft Planning Unit Charter* (2008):

1. Assess water supply, use and projected needs.
2. Develop and implement a comprehensive, long-term monitoring program of key parameters that will ensure water quality sustainability throughout the Lake Chelan Watershed.
3. Address waterbodies with constituents on the State 303(d) list and other parameters of potential concern that threaten lake water quality.
4. Inform and educate local communities and visiting populations about water quality protection.
5. Develop a Water Quality Improvement Plan and Water Quality Management Plan to understand, restore and protect water resources.

WRIA 47 Final Draft Planning Unit Charter Implementation Strategies, Benchmarks, and Funding

Strategies for achieving the plan objectives are summarized as follows in the *WRIA 47 Final Draft Planning Unit Charter* (2008):

1. Fully engage all stakeholders through an open, accessible and collaborative process.
2. Develop clear objectives, decision-making and evaluation processes, and planning products to ensure accountability for implementation.
3. Identify gaps in the understanding of water resource issues within the watershed. Develop a scope of work to address important issues using credible scientific information to understand, protect and restore the most critical aspects of a healthy watershed.

4. Use new and existing information to forge a plan to meet stated objectives.
5. Integrate the watershed planning process and ensuing plan with other programs, initiatives and activities affecting the Lake Chelan Watershed.

As a separate goal, a Watershed Plan is presently being completed and will include restoration goals and recommendations. CCNRD is the lead entity on this project, proposed for draft submittal to the CCNRD in June 2010.

Funding of the efforts will be pursued on a project-by-project basis by various lead entities, including the initiating governments of WRIA 47 under the Watershed Planning Act (RCW Chapter 90.82). These governments are Chelan County, the City of Chelan, and the Lake Chelan Reclamation District. Each of these initiated the watershed planning process by applying for grants from Ecology. Implementation funds for recommended actions will be drawn from a number of grants and other sources, including State grants of up to \$500,000 per WRIA. No timeline is defined for the general goals. A number of them overlap with other plans and activities described in this document.

Lake Chelan Subbasin Plan Objectives

The *Lake Chelan Subbasin Plan* (Berg 2004) established the goal to “restore conditions to a more natural state” by employing “ecosystem-based perspectives that consider multiple species, their life histories, and their inter-relationships.” The Subbasin Plan includes a detailed inventory, and concludes with a number of habitat or biological objectives for key species and key habitats in the basin.

Many of the objectives are to conduct additional species/habitat assessments, “identify and provide biological and social conservation measures to sustain focal species populations and habitats,” and in a number of instances to “[m]aintain and/or enhance habitat function (i.e., focal habitat attributes) by improving silvicultural practices, fire management, weed control, livestock grazing practices, and road management...” Below are terrestrial and aquatic general restoration and conservation strategies suggested in the *Lake Chelan Subbasin Plan* (2004):

Terrestrial

- Improve habitat quantity and quality by emphasizing conservation, protection, and connectivity of large blocks of high quality focal habitat.
- Protect and restore beaver habitat and, where possible, prepare for reintroduction into suitable habitat where natural recolonization may not occur.

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Aquatic

- Increase populations of westslope cutthroat trout by reducing direct harvest impacts and eliminating introductions of, and/or removing, non-native species.
- Reintroduce bull trout to form self-sustaining nonmigratory populations. Measures that support this goal include reducing abundance of non-native fish, maintaining suitable habitat and ecosystem-wide processes, and increasing harvest on competitor or predator fish.
- Increase the abundance and productivity of kokanee to ensure self-sustaining populations by increasing harvest of chinook salmon and lake trout, reducing the abundance of mysids, and planting appropriate numbers of hatchery fish.

Lake Chelan Subbasin Plan Implementation Strategies, Benchmarks, and Funding

The Lake Chelan Subbasin Plan outlines suggested strategies toward achieving the goals listed above. These are summarized for terrestrial and aquatic goals.

Terrestrial

A general strategy to move toward the goal of terrestrial habitat protection and conservation is described in the Subbasin Plan: “Strategies to achieve this goal include promoting local planning and zoning, utilizing governmental plans and programs, implementing habitat stewardship projects with private landowners, and protecting lands through acquisition, conservation easements, and cooperative agreements.”

Another proposed general strategy addresses beaver habitat directly: “Both the fish and wildlife portions of this management plan provide strategies to protect and restore beaver habitat and, where possible, to prepare for reintroduction into suitable habitat where natural recolonization may not occur. The restored habitat would benefit beaver, whose activities would in turn benefit the salmon and steelhead that use the watershed for a portion of their life history... The plan also provides for the maintenance of mule deer populations and ensures their habitat needs are met.”

Strategies and recommendations call for the involvement of government, NGO and/or land managers, or some coordinated effort between these groups.

Specific strategies and suggested timelines include the following actions:

- Identify existing quantity and quality of habitat (2008).
- Survey populations of focal species (2008).
- Utilize existing government and private programs to conserve habitat, with priority for large blocks and high connectivity (2010).

- Develop and implement fire management protocols (protection and prescribed burning), and weed control and road management plans (unspecified/subsequent to 2010 strategies).
- Monitor wildlife focal species (unspecified/subsequent to 2010 strategies).
- Implement federal, state and tribal management and recovery plans (unspecified/subsequent to 2010 strategies).
- Institute beaver protections, including harvest restrictions and reintroduction (unspecified/subsequent to 2010 strategies).

Aquatic

The Subbasin Plan generally calls for promoting self-sustaining kokanee and westslope cutthroat trout through harvest reduction and eliminating non-native species, and for reintroducing bull trout. The following strategies are aimed at achieving the aquatic goals of the Subbasin Plan.

- Eliminate introductions of nonnative species that may impact westslope cutthroat trout by completing a comprehensive stocking plan (complete by 2010).
- Remove cutthroat trout spawning barriers (remove in first year, monitor spawning activity and success in two subsequent years).
- Increase Chinook salmon and lake trout harvest limits (plan for decreased abundance by 2015).
- Remove brook trout and rainbow trout harvest limits (plan for decreased abundance by 2015).
- Identify early life history requirements of cutthroat trout and determine whether kokanee spawning interferes with fry emergence (studies should span 6 to 10 years, with yearly reports).
- Examine life history requirements of other species that may interact with cutthroat trout (studies should be two years in length with draft and final reports).
- Delay fishing season until after cutthroat trout spawning.
- Determine if bull trout are present in the basin through exploration of potential habitat areas (study should be two years in length with draft and final reports).
- Preserve or restore bull trout spawning habitat.
- Reduce abundance of competing introduced fish (2010).
- Determine predator-prey relationships for Chinook salmon and lake trout (Five-year study effort with yearly reports).
- Institute bull trout reintroduction program (2010).

Funding sources for recommended actions are not specified. However, funding for each project could be pursued from a variety of sources, including those specified elsewhere in this document.

3.2 City of Chelan

The *City of Chelan Comprehensive Land Use Plan* (2011) is intended to implement comprehensive land use planning at the local level, maintain local decision making power, and promote desired changes. An element to the Plan is the *Parks and Recreation Comprehensive Plan 2008-14* (2007). The mission of the Chelan Parks and Recreation Department is to “build a great community through people, parks, and programs.” It also includes a commitment to managing and expanding the community’s resources, including conservation of natural resources and support for the City’s economic vitality (City of Chelan Parks and Recreation Department 2007).

The Department established goals and objectives, including priority actions. The environment protection goal is listed below.

PRG 6.0: Protect and preserve as open space areas that: are ecologically significant sensitive areas; provide significant opportunities for restoration buffers between uses and link open space; provide trails and/or wildlife corridors; or enhance fish habitat.

The City of Chelan’s *Strategic Plan 2008-2009* (2008) vision statement includes relevant information “to preserve and improve the quality of life for the citizens of the community and for visitors to the area by achieving/creating....the preservation of natural resources and water quality....and a commitment to maintaining existing city resources/facilities” (City of Chelan 2008). The City of Chelan’s mission statement again mentions the provision of “maintenance and preservation of existing resources/facilities/neighborhoods with a focus on community sustainability....” (City of Chelan 2008). The relevant strategic goal and objectives were defined as follows:

- Goal: To improve the quality of life and environment in the Lake Chelan area;
- Objective: Complete Don Morse Park Master Plan and initiate phased development with a focus on shoreline stabilization, beach enhancement, and reassessment of size of marina;
- Objective: Create a City sustainability plan.

As previously mentioned, the City of Chelan is an initiating government in development of a watershed management plan for the Chelan watershed. Because this plan is still in preparation, there are currently no identified projects or timelines. However, the City is committed to developing and implementing its future actions and/or programs consistent with the already agreed upon goals and objectives. See discussion under 3.1.5 above for more detail.

4. LIST OF EXISTING AND ONGOING PROGRAMS

4.1 WRIA 47 Watershed Plans

The Lake Chelan WRIA 47 Planning Unit assessed 1) water quantity and 2) water quality, by assessing the supply and use in the management area to develop future strategies (RH2 Engineering, Inc. and Geomatrix Consultants 2008 [RH2 and Geomatrix]). The WRIA 47 Planning Unit charter is addressing the recommended strategies detailed in the *Final Draft Planning Unit Charter* (RH2 and Geomatrix 2008).

Management and research, monitoring, and evaluation plans were developed as part of the *Lake Chelan Subbasin Plan* (Berg 2004) to be used by subbasin planners and state salmon recovery personnel to aid in the conservation and restoration of important habitat that will aid in the recovery of focal species. Restoration objectives and strategies that were identified in the plan are underway, in addition to research, monitoring and evaluation. The research, monitoring and evaluation plan consists of a variety of quantitative elements, ranging from scientific wildlife and vegetation surveys, spatial analyses of project location and acreage, to simple enumeration of land use projects/regulations commented upon by cooperating agencies. Details about focal species restoration efforts, research, monitoring and evaluation can be found in the *Lake Chelan Subbasin Plan* (Berg 2004).

4.2 Chelan County Natural Resource Department Efforts

The Chelan County Natural Resource Department (CCNRD) administers watershed planning and salmon recovery efforts in Chelan County. The CCNRD manages a variety of state, federal, and local project and planning grants that assist watershed planning and salmon recovery efforts in Chelan County. Details about CCNRD programs and funding can be found online at http://www.co.chelan.wa.us/nr/nr_main.htm.

The CCNRD's current restoration strategies and efforts primarily stem from those identified in watershed plans and various studies. The CCNRD also implements "need-based" projects as they arise (E. Fonville, personal communication, March 9, 2009), which may consist of native riparian plantings and stream buffer restoration for private land owners in collaboration with the Chelan-Douglas Land Trust (CDLT).

4.3 Comprehensive Plan Policies

This *City of Chelan Comprehensive Land Use Plan* (2011) was prepared by the citizens of the Chelan Planning Area of Chelan County and the City of Chelan to address growth issues in the Chelan Planning Area. It represents their land use policy and plan for growth to the year 2017. Separate documents are also an element of this plan, and include a Comprehensive Sewer Plan, Comprehensive Water Plan, and Parks Plan. In developing the *City of Chelan Comprehensive Land Use Plan* (2011), the Citizen's Advisory Committee found that the Economic Development Element is a leading driver of the entire plan, addressing more of the thirteen goals of the Growth Management Act (GMA).

4.4 Critical Areas Regulations

The *City of Chelan Comprehensive Land Use Plan* (2011) follows the recommendation of the Growth Management Act (GMA) by adopting goals and policies to "protect critical areas," that include wetlands, geologically hazardous areas, aquifer recharge areas, fish and wildlife habitat conservation areas and frequently flooded areas. The City of Chelan established critical area goals and policies that were adopted in 1998 (City of Chelan 2011) as follows:

- Goal 1: Protect water quality
 - Policy 1: Support the —keep it blue and other water quality education programs which inform local citizens and visitors about water quality issues and ramifications.
 - Policy 2: Ensure that storm water is not directly discharged into water sources without appropriate treatment that meets federal, state, and city standards.
 - Policy 3: Encourage the appropriate regulatory agencies to actively pursue violators that illegally discharge waste into rivers, lakes and streams.
 - Policy 4: Development along the shoreline shall comply with federal, state, and City guidelines to ensure minimum impact on water quality.
 - Policy 5: Support ongoing measures by the Lake Chelan Reclamation District, Chelan County Conservation District, area orchardists, and other related agencies and groups, as they raise awareness levels, and monitor and mitigate water quality issues related to agriculture.
 - Policy 6: Boat launches should incorporate wash-off stations to remove milfoil off of boats prior to entrance to the Lake. Boaters should be educated about the negative impacts of milfoil to the clarity and quality of Lake Chelan.

Policy 7: Where erosion is occurring, and can be found to not be of natural origin, measures should be allowed to amend the situation. Rationale: This helps protect lake water quality, as well as private property.

- Goal 2: Permit development to occur in known natural hazard areas only when sufficient safeguards protecting life and property can be met.
Policy 1: Discourage development in areas of natural hazard such as those susceptible to landslide, flood, avalanche, unstable soils and excessive slopes, unless appropriate safeguards are taken.

Policy 2: Provide slope protection, erosion control, soil stabilization, and fire protection when appropriate.

- Goal 3: Encourage development that takes into consideration significant natural features and protects their integrity.

Policy 1: Encourage preservation and proper maintenance of significant natural drainage ways.

Policy 2: Encourage the conservation or preservation of critical areas, such as wetlands, migratory animal routes, etc., by supporting plans that provide for public and private organizations to purchase these lands.

Policy 3: Allow for recreational development to make use of natural amenities on critical areas when the recreational use has minimal impacts.

- Goal 4: Protect and maintain air quality

Policy 1: Support the wood stove standards recently adopted by the Department of Ecology.

Policy 2: Recognize the potential benefits of public water, rail, electric, alternative fuels, non-motorized and air transportation in helping maintain local air quality.

Policy 3: Ensure that new industrial development meets air quality standards and does not significantly affect adjacent property.

Policy 4: Poor air quality should not degrade the agricultural industry.

The City of Chelan's environmental regulations are found in the *Chelan Municipal Code*, Chapter 14.10. These regulations "establish special standards for the use and development of lands based on the existence of natural conditions and features including geologically hazardous areas, critical aquifer recharge areas, frequently flooded areas, fish and wildlife conservation areas and wetlands."

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The standards and procedures established in Chapter 14 are intended to protect environmentally sensitive areas while accommodating the rights of property owners to the use of their property in a reasonable manner. The following is a direct excerpt from the municipal code, Chapter 14.10:

By regulating development and alterations to critical areas this chapter seeks to:

A. Protect members of the public and public and private resources and facilities from injury, loss of life, property damage or financial losses due to flooding, erosion, landslide, seismic events or steep slope failure;

B. Protect unique fragile and valuable elements of the environment, including ravines and wetlands;

C. Mitigate unavoidable impacts to critical areas by regulating alterations in and adjacent to those areas;

D. Provide city officials with the information and authority to protect critical areas and implement the policies of the State Environmental Policy Act, Chapter 43.21C RCW, the city of Chelan comprehensive plan, and the Growth Management Act of 1990. (Ord. 1397 § 7 (Exh. 6) (part), 2009; Ord. 944 § 1 (part), 1992).

4.5 Stormwater Management and Planning

Adopted as part of the *City of Chelan Comprehensive Land Use Plan* (2011), a limited storm drainage system in Chelan uses a combination of surface and subsurface means to collect and drain stormwater. In most cases, the subsurface drainage system is located under major streets in the present downtown area and is discharged into Lake Chelan. The City of Chelan will develop a stormwater plan to further address existing and future stormwater facilities.

4.6 Public Environmental Education

The City of Chelan shows support for educational activities, such as art, aquatics, athletics, outdoor, cultural, special event, recreation, enrichment, parks, golf, adaptive, health, fitness, wellness, safety and other program areas as stated in the *Parks and Recreation Comprehensive Plan 2008-14* (2007) definition of recreation. The City of Chelan's Riverwalk Park, owned and operated by the Chelan County Public Utilities District, provides a one-mile scenic river loop trail and performing arts pavilion that seasonally hosts regional musicians and performers, benefiting the recreation, education and culture of the community. City of Chelan policies that support education and natural resources can be identified in the *Parks and Recreation Comprehensive Plan* (2007) policies below:

PRP 1.2: Maximize the use of parks, schools, recreation and open space resources within the City by connecting them with a coordinated system of trails.

PRP 4.2: Park, recreation and open spaces which exhibit one or more of the following characteristics shall be designated by the City to be of local or regional significance:

- a) Contains significant recreation or cultural opportunities or facilities, such as marinas, waterfront access, athletic fields, golf courses, Primary trails, urban wildlife habitat, community entrances, etc.;
- b) Contains unusual or special botanical resources;
- c) Contains environmentally sensitive areas that serve a significant role or provide a significant function in the natural systems within the City;
- d) Is associated in a significant way with an historic event, structure, or person with a significant effect upon the City, state or nation; and
- e) Contains public art.

PRG 5.2: Continue to develop and foster partnerships with the Lake Chelan School District to utilize school sites to provide active recreation and cultural facilities. Explore opportunities to co-develop facilities on school property or property adjacent to schools.

4.7 Additional City Efforts

The City of Chelan has completed Shoreline Restoration and Beach Enhancement planning at Don Morse Park. This project's key goals are to stabilize the shoreline, expand sandy beach areas, enhance water-based recreational opportunities, improve views and access to the Lake, increase opportunities for tourism and economic development, address existing safety and accessibility issues, and restore shoreline areas. Plan details can be found online: <http://www.cityofchelan.us/parks/pdfdocs/donmorseparkmasterplanexecsummary.pdf>.

The City also recently received a grant from the Washington Department of Ecology to re-vegetate with native plants a 4,300-square-foot area on the steep bank area up-lake of the Don Morse Park marina. This native planting area will improve habitat for birds, fish and other aquatic species.

4.8 Audubon Society Efforts

The North Central Washington (NCW) chapter of the Audubon Society is dedicated to furthering the knowledge and conservation of the environment of North Central Washington, our Nation, and the World (NCW Audubon website). Chapter president, Mark Oswood, expresses the goals, hopes, aspirations, and plans of the NCW Audubon Society to: promote resource decisions based on the best available data; be honest brokers in environmental conflicts; believe that sustainable economies are the only road into the future; believe in citizen science and life-long learning; act as “outside consultants” – leading field trips, holding outdoor classes, and doing “dirt work”; and watch, count and protect birds, “one of the grandest expressions of life” (NCW Audubon website).

NCW Audubon is a frequent contributor and partner in several area events and programs that educate and foster stewardship within the community, including the annual *Leavenworth Spring Bird Fest* and the *Wenatchee River Salmon Festival*. Both of these are venues for a NCW Audubon Society birding simulation activity for kids and families, called “What’s That Bird?” (M. Oswood, e-mail communication, March 7, 2009). NCW Audubon volunteers assist with outdoor education programs at these events and at events for local students, primarily held at the Barn Beach Reserve (in Leavenworth). The NCW chapter of the Audubon Society also participates in the Wenatchee River Watershed (WRIA 45) Planning effort and the Stemilt-Squilchuck Partnership. The *Wild Phlox*, a NCW Audubon Society newsletter (edited by Teri Pieper), reaches approximately 450 members across the four-county (Chelan, Douglas, Okanogan, Ferry) chapter territory, providing monthly environmental updates and opportunities for Audubon birders and environmental enthusiasts alike. More information about the NCW Audubon Society can be found online at <http://www.ncwaudubon.org>.

4.9 Cascadia Conservation District Efforts

Land Owner Assistance Program

Primarily the CCD works with private landowners to enhance riparian areas while providing fish-friendly conveyance to irrigation ditches, thereby reducing annual instream disturbance from diversion maintenance. By installing instream log cross vanes, LWD (with intact rootwads) and boulder clusters, irrigation pools are allowed to form (with fish screens), minimizing diversion impacts to fish and stream habitat. The CCD continues to assist local landowners and watersheds.

Water Metering

In an effort to encourage voluntary compliance with state metering requirements, the CCD has partnered with the Washington State Department of Ecology to provide cost-share funding to assist Chelan County diversion owners with the installation of adequate metering equipment.

Education and Outreach

Cascadia Conservation District participates in the *Kids in the Creek* program that was developed by local volunteers. This program won First Place for 2006 Environmental Education Curriculum from the National Association of Interpretation Media. The objectives of the program show how streams and watersheds work. Students walk away with an understanding of how their actions can affect stream health. They learn about watersheds, stream habitat, water quality, riparian areas, and macroinvertebrates. More information about the *Kids in the Creek* program can be found online:

<http://www.bpa.gov/corporate/KR/ed/kidsinthecreek/homepage.htm>

For more details, contact the Cascadia Conservation District by phone (509) 664-9370 or look them up on the internet at <http://www.cascadiacd.org>.

4.10 Chelan-Douglas Land Trust Efforts

Land Protection

The Chelan-Douglas Land Trust (Land Trust) protects lands throughout the County, either through conservation easements or acquisition (B. Bugert, e-mail correspondence, February 13, 2009). Land is eligible for Land Trust protection based on the following qualifying criteria:

- Is it habitat for endangered, threatened or rare species?
- Does it contain exemplary natural ecosystems such as old-growth forests or migratory waterfowl staging/wintering areas?
- Does it include shoreline and riparian areas?
- Does it include wetlands, floodplains, or other lands important for the protection of water quality?
- Is it undeveloped land in close proximity to urban development?
- Does it have important recreational opportunities?
- Does it include parcels that could be connected to greenbelt corridors between privately protected or publicly held properties?
- Does it include unique local scenic viewpoints or outstanding physiographic features that help define the character of our locale and enhance our community's sense of place?
- Is it valuable for timber or agricultural production?
- Is it a heritage site of historic and or prehistoric value?

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- Does it include ecosystems of educational or scientific value?
- Is the landowner amenable to the conservation goals of the land trust?

Education and Outreach

- *Chelan County Good Neighbor Handbook*
To promote community stewardship, the Land Trust publishes the *Chelan County Good Neighbor Handbook* as a tool to ensure people do their part in keeping the County a special place to live. The handbook is available online at:
<http://www.cdlandtrust.org/Good%20Neighbor%20HB%20for%20web.pdf>
- *Workshops*
The Land Trust is working to make the case that land conservation is a good investment for local communities. They believe that, “we do not need to choose between a healthy economy and healthy landscapes” (Chelan-Douglas Land Trust website). As part of this effort, the Land Trust partners with several local organizations to present workshops on various topics ranging from the economy to the environment. Recent workshops cover noxious weeds, sustainable landscaping and insects.
- *Conservation Roundtable, Ag and Environment Dialog, Environmental Film Series*
The Land Trust works closely with a wide variety of landowners, conservation groups, farmers, and resource agencies to develop innovative approaches to natural resource management. The Conservation Roundtable seeks to facilitate communication and collaboration among conservation groups. This dialog fosters understanding and collaboration among farmers, agriculture groups, and environmental groups to promote sustainable, productive, and profitable farms in the region. The Land Trust sponsors a monthly environmental film series (Chelan-Douglas Land Trust website).

The Land Trust is able to work quickly and creatively with local citizens, helping to preserve the unique character of the region and enhance the quality of life for residents, visitors, and future generations. For more details, contact the Chelan-Douglas Land Trust by e-mail: info@cdlandtrust.org or phone: (509) 667-9708.

4.11 Chelan County Public Utility District Efforts

FERC Licensing

As part of the requirements for their FERC relicensing (T. Larson, e-mail communication, March 11, 2009), the Chelan PUD is working on the following projects in WRIA 47:

1. Chelan River projects: Reach 4 and tailrace habitat enhancement, Low level outlet, and Pump Station, and the
2. Lake Chelan tributary barriers removal and restoration.

For more information about the above projects, contact Jeff Osborn at jeff.osborn@chelanpud.org

The PUD has begun an extensive recovery effort that includes year-round discharge at the Chelan Dam and stream restoration along the Chelan River's lowest reach (Reach 4), near the dam's powerhouse (in the town of Chelan Falls). Year-round flow (minimum 80cfs) will be restored to the Chelan River via a new low-level outlet structure, allowing continuous flow, even when the lake level is below the 1087-foot Chelan Dam elevation (J. Osborn, personal communication, March 17, 2009). With this low-level outlet structure, flow will be provided to the river down to the lakes lowest elevation of 1079 feet (J. Osborn, personal communication, March 17, 2009).

The Reach 4 enhancement includes construction of a new side channel, along the river's right bank. LWD and gravels will be added instream to provide fish refugia and spawning areas, and develop pool/riffle habitats ideal for refuge during the spring high flows (4,000-6,000 cfs) and overwintering habitat for juvenile salmonids. A pump station will also be constructed to pump water from the tailrace upstream into this new side channel, in addition to the guaranteed minimum 80 cfs year-round flow, to provide additional spawning and rearing habitat (J. Osborn, personal communication, March 17, 2009). Native vegetative cover along the new side channel will be improved, adding habitat complexity and contributing to LWD and residual fish recruitment. Additionally, approximately 1.75 acres of new spawning habitat for chinook salmon and steelhead has been created in the tailrace. Appropriate sized gravel was placed instream during the summer of 2008, and were used heavily by salmon during the fall spawning period. Monitoring and evaluation of this restoration project and future opportunities will continue. Restoration attention could be focused on the section of the Chelan River downstream of City limits in the 3.9 miles (6.3 km) of steep, rocky gorge downstream of the Chelan Dam.

The PUD has identified various migration barriers (depth, velocity, gradient) for Westslope cutthroat to Lake Chelan tributary streams in the Lucerne basin. Site reconnaissance and site-specific restoration plans are currently being developed for removing these remote alluvial barriers and restoring upstream passage for adult spring spawning cutthroat trout. The PUD plans to start on-the-ground restoration in 2011, addressing two tributaries per year over a five-year period.

Other Projects

The Chelan Wildlife Area currently consists of approximately 32,540 acres of WDFW-owned and -managed lands (WDFW website). Primarily in eastern Chelan County, subunits of the Wildlife Area include the Chelan Butte, Entiat, Swakane and White River subunits. The PUD provided WDFW with funding to purchase 20,397 acres within the Chelan Butte, Entiat, and Swakane subunits (J. Osborn, personal communication, March 17, 2009). These lands have been impacted by past land uses; therefore, the PUD will be restoring 1,400 acres of the Wildlife Area as shrub steppe habitat for the bighorn sheep, mule deer, upland game birds, and numerous other wildlife species that inhabit the area (J. Osborn, personal communication, March 17, 2009). These restored lands may also be utilized for recreation by the community.

The PUD also develops and maintains a number of parks within the County. Several of these parks include boat launches, short-term boat moorage, parking, extensive day use facilities, overnight camping, picnic shelters, restrooms, showers, shoreline trails, tennis courts, playground equipment, and swimming areas. More information about Chelan County PUD habitat and restoration projects can be found online at <http://www.chelanpud.org/habitat-restoration-protection.html>.

4.12 Trout Unlimited Efforts

The mission of the Washington Council of Trout Unlimited and the Icicle Chapter is to, "CONSERVE, PROTECT AND RESTORE" cold water fisheries, their watersheds and ecosystems, as a means of maintaining our quality of life!" Trout Unlimited has been on the forefront of fisheries restoration work at the local, state and national levels. Their website explains that they remain committed to applying "the very best information and thinking available" to conservation work and have developed cutting-edge tools to help direct efforts toward those fish populations most in need of protection or restoration.

4.13 United States Fish and Wildlife Service Efforts

The USFWS has been involved in numerous restoration projects and activities in Chelan County. The USFWS also provides funding for restoration activities through the Western Native Trout Initiative, the National Fish Passage Program (NFPP), Partners for Fish and Wildlife and the Fisheries Restoration and Irrigation Mitigation Program. More information about the USFWS involvement in these programs can be found online at http://www.fws.gov/pacific/Fisheries/sp_habcon/index.html.

4.14 United States Forest Service Efforts

Restoration

The USFS is responsible for vegetation/fuel and road management and is an active participant in watershed-level restoration efforts throughout Chelan County. The Leavenworth Ranger District may assist in watershed planning efforts in addition to the research and monitoring programs for fish and wildlife species of the watershed, including participation in the ISEMP.

Education and Outreach

The USFS is implementing its *Respect the River* program that educates recreational users about riparian protection, managing and restoring riparian vegetation, reducing stream bank erosion, and improving floodplain water storage (Chelan County Conservation District 2006).

4.15 Lake Chelan In Lieu Fee Program

An in lieu fee program is under development for the lower Lake Chelan basin. The program is intended to enable larger scale, off-site mitigation efforts that address key limiting factors in the lake. By enabling a larger scale approach to mitigation for incremental impacts, the program is expected to result in improved mitigation effectiveness.

5. LIST OF ADDITIONAL PROJECTS AND PROGRAMS TO ACHIEVE LOCAL RESTORATION GOALS

Additional restoration opportunities, not previously mentioned in WRIA and other watershed planning efforts, were identified in the *Analysis Report* (TWC and J&S 2009) as follows:

Riverwalk Park: Coordinate with the PUD to reduce shoreline armoring, improve streambank stabilization, remove non-native plantings, and add native vegetation and LWD.

City of Chelan Parks (Don Morse and Lakeside Parks): Reduce shoreline armoring, create a shoreline buffer that includes non-native vegetation, and improve shoreline stabilization. Don Morse Park is currently in the design process for updated facilities, including a substantial restoration component.

General: Many residential shoreline properties throughout the City's Lake Chelan shoreline have the potential for improvement of ecological functions

through: 1) reduction or modification of shoreline armoring, 2) reduction of overwater cover and in-water structures (grated pier decking, pier size reduction, pile size and quantity reduction, moorage cover removal), 3) improvements to nearshore native vegetative cover, and/or 4) reductions in impervious surface coverage. A combination of native revegetation and bioengineering techniques could be provided to secure the shoreline from excessive erosion. Where opportunities for on-site mitigation and restoration are not available, projects could explore and consider opportunities for enhancing any of the water-conveyance swales that enter Lake Chelan and drain areas developed for orchard, vineyard, or other uses. Enhancements of these corridors would improve wildlife habitat and increase the ability of these vegetated pathways to filter and treat pollutants originating from upslope uses.

6. PROPOSED IMPLEMENTATION TARGETS AND MONITORING METHODS

As previously noted, the shoreline areas in Chelan County occupy industrial, commercial, agricultural, multi- and single-family residences, and public recreation/open space areas. Therefore, efforts should be made to improve and retain shoreline ecological function through the promotion of restoration and healthy practices at all levels, from large-scale industrial users to single-family property owners. Chelan County and the City of Chelan already have very active environment-focused communities with a strong restoration and education focus. Continued improvement of shoreline ecological functions along the many shorelines requires a comprehensive watershed approach, which combines all planning and implementation efforts.

The following table outlines possible schedules and funding sources for implementation of a variety of efforts that could improve shoreline ecological function, and are described in previous sections of this report.

Table 1. Implementation Schedule and Funding for Restoration Projects, Programs and Plans.

Restoration Project/Program	Schedule	Funding Source or Commitment
4.1 WRIA 47 Participation	1) WRIA 47 Final Draft Unit Charter: ongoing 2) Lake Chelan Subbasin Plan: implementation is ongoing	1) Water quantity and quality tasks have been completed, but further recommendations have been made for additional investigation. These recommendations may be implemented as funds are available. 2) Restoration opportunities identified in the plan are underway in addition to ongoing research, monitoring and

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Restoration Project/Program	Schedule	Funding Source or Commitment
		evaluation. Responsible entities and anticipated funding sources have been identified in the plan. Many of these entities include: USFS, CCPUD, DNR, WDFW or the Lake Chelan Sportsman's Association.
4.2 Chelan County Department of Natural Resources	Ongoing	Continue with implementation of actions as guided by watershed plans as funding and grants are available.
4.3 Comprehensive Plan Policies	Amended 2011	The City makes substantial staff time commitments in the course of project and program reviews to determine consistency and compliance with the recently updated comprehensive plans.
4.4 Critical Areas Regulations	Amended 2009	The City makes substantial staff time commitments in the course of project and program reviews to determine consistency and compliance with the recently updated critical areas regulations.
4.5 Stormwater Management and Planning	Ongoing	Drainage systems will be updated as new development occurs. The City makes substantial staff time commitments in the course of multi-agency drainage studies, management and planning efforts.
4.6 Public Education	Ongoing	Education is identified as essential to the region in several park/recreation and comprehensive plans. City staff time and materials are provided in developing and planning for public education and outreach opportunities.
4.7 City Efforts	Restoration and Education/Outreach projects: Ongoing - as funds and opportunities allow	Staff time, materials and assorted funds support these efforts, in addition to the project specific partners and grant/funding arrangements.
4.8 Audubon Society Efforts	Ongoing	NCW Audubon will continue to contribute and partner in planning efforts and education/outreach opportunities as funding and volunteer time allows.
4.9 Cascadia Conservation District Efforts	Ongoing	The CCD will continue to lead, contribute and partner in planning efforts, project implementation, and education/outreach opportunities as state and grant funding allows.
4.10 Chelan-Douglas Land Trust Efforts	Ongoing	The Land Trust will continue to lead land protection efforts and contribute and partner in planning efforts, project implementation, and education/outreach opportunities as state and grant funding allows.
4.11 Chelan County	Ongoing	CCPUD is committed to achieving goals

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Restoration Project/Program	Schedule	Funding Source or Commitment
Public Utilities District Efforts		and opportunities identified in the HCP tributary program in addition to projects required as part of their FERC relicensing. CCPUD will continue to support community education and park/recreation opportunities.
4.12 Trout Unlimited Efforts	Ongoing	Trout Unlimited will continue to lead and partner in fish protection and conservation efforts throughout the region as funding and volunteerism allows.
4.13 United States Fish and Wildlife Service Efforts	Ongoing	The USFWS will continue to lead and partner in restoration, conservation and education/outreach opportunities throughout the region. Project specific funding sources may vary over time.
4.14 United States Forest Service Efforts	Ongoing – limited projects	Staff time, materials and assorted funds may be available to support restoration, research, monitoring and education/outreach opportunities and partnerships.
4.15 Lake Chelan In Lieu Fee Program	Under development	Once complete, the program will be funded by fees collected for purchased credits.

City planning staff will track all land use and development activity, including exemptions, within their respective shoreline jurisdictions, and will incorporate actions and programs of other departments as well. Reports will be assembled by each jurisdiction that provides basic project information, including location, permit type issued, project description, impacts, mitigation (if any), and monitoring outcomes as appropriate. Examples of data categories might include square feet of non-native vegetation removed, square feet of native vegetation planted or maintained, reductions in chemical usage to maintain turf, linear feet of eroding stream bank stabilized through plantings, linear feet of shoreline armoring removed or modified levees, changes to square footage of over-water cover, or number of fish passage barriers corrected.

The report would also recommend or describe relevant updates to WRIA and City goals and implementation plans, and outline current and ongoing implementation of various programs and restoration actions (by local government or other groups) that relate to watershed health.

The staff reports will be assembled to coincide with Comprehensive Plan updates and will be used, in light of the goals and objectives of the Shoreline Master Program, to determine whether implementation of the SMPs is meeting the basic goal of no net loss of ecological functions relative to the baseline

condition established in the *Shoreline Inventory and Analysis Report* (TWC and Berk 2012). In the long term, each local government should be able to demonstrate a net improvement in their respective shoreline environments.

Based on the results of these assessments, each local government may make recommendations for changes to its SMP.

7. RESTORATION PRIORITIES

This restoration plan, a phase of the Shoreline Master Program update process (consistent with WAC 173-26-201(2)(f)), includes “goals, policies and actions for restoration of impaired shoreline ecological functions.” Restoration opportunities have been “designed to achieve overall improvements in shoreline ecological functions over time, when compared to the status upon adoption of the master program.” This Restoration Plan demonstrates how specific potential projects match and meet regional or County/City-wide goals and objectives of the region, watershed planning entities, and environmental organizations that contribute or could potentially contribute to improved ecological functions of the shoreline. Prioritization of specific projects and project types, implementation strategies, and schedules will be based on information found in watershed or basin plans.

The process of prioritizing actions that are geared toward restoration of the City shoreline areas involves balancing ecological goals with a variety of site-specific constraints. Briefly restated, the City environmental protection and restoration goals include 1) protecting watershed processes, water quality and quantity; and 2) protecting open/recreational space and the habitats for fish and wildlife. Constraints that are specific to the City of Chelan include 1) the community’s diverse past and present land uses and desires, 2) altered hydrologic regimes, and 3) the highly developed and armored shorelines along Lake Chelan. While much of the County lands offer good ecological functions (generally the upper basins and forest/wild lands of each drainage), opportunities have been recognized to further enhance ecological functions, conservation and education of these shorelands. Goals and constraints were used or will be used in the various watershed plans and implementation plans to develop shoreline restoration actions and a ranking prioritization of projects, programs, or sub-basins specific to WRIA 47 and the City of Chelan.

Although restoration project/program scheduling has been suggested and summarized in each watershed and entity planning effort identified in Chapters 3 and 4, the actual order of implementation may not always correspond with the priority level assigned to that project/program. This discrepancy is caused by a variety of obstacles that interfere with efforts to implement projects in the exact order of their perceived priority. Some projects, such as those associated with

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riparian planting, are *relatively* inexpensive and easy to permit and should be implemented over the short and intermediate term despite the perception of lower priority than projects involving extensive shoreline restoration or large-scale capital improvement projects. Projects with available funding will be initiated immediately for the worthwhile benefits they provide and to preserve a sense of momentum while permitting, design, site access authorization, and funding for the larger, more complicated, and more expensive projects are under way.

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9. LIST OF ACRONYMS AND ABBREVIATIONS

BLM	U.S. Bureau of Land Management
BOCC.....	Board of County Commissioners
BOR.....	Bureau of Reclamation
CCCD	Chelan County Conservation District
CCD	Cascadia Conservation District
CCNRD	Chelan County Natural Resource Department
CCPUD.....	Chelan County Public Utilities District
CDLT	Chelan Douglas Land Trust
cfs	cubic feet per second
CMZ.....	channel migration zone
DIP	Detailed Implementation Plan
DPS	Distinct Population Segment
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
EWPU.....	Entiat Watershed Planning Unit
FEMA	Federal Emergency Management Agency
FERC.....	Federal Energy Regulatory Commission
FRO.....	Fisheries Resource Office
FWHCA	Fish and Wildlife Habitat Conservation Area
GIS	Geographic information systems
HFEP.....	Habitat Farming Enterprise Program
IRIS	Initiative for Rural Innovation and Stewardship

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ISEMP	Integrated Status and Effectiveness Monitoring Project
LWD	Large Woody Debris
NEPA.....	National Environmental Policy Act
NFH	National Fish Hatchery
NOAA Fisheries.....	National Marine Fisheries Service
NPDES.....	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
OHW/M	ordinary high water/mark
PUD	Public Utility District
RCW	Revised Code of Washington
SMA	Shoreline Management Act
SMP	Shoreline Master Program
UCRTT	Upper Columbia Regional Technical Team
UCSRB.....	Upper Columbia Salmon Recovery Board
UGA.....	Urban Growth Area
USFS	United States Forest Service
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW.....	Washington Department of Fish and Wildlife
WDNR.....	Washington Department of Natural Resources
WRIA.....	Watershed Resource Inventory Area
WWMP	Wenatchee Watershed Management Plan
WWPU	Wenatchee Watershed Planning Unit