Chapter 10
Restoration Plan

Introduction

Degraded areas from the Inventory and Analysis have been identified including those with impaired ecosystem processes and ecological functions. Of the areas identified those, which have a high potential for restoration opportunities, have been mapped.

In addition to the Inventory and Analysis conducted as part of this SMP update, regional efforts to restore ecosystem functions and values in response to water quality impairments, water conservation, invasive species, and the listing of threatened and endangered species have identified a multitude of sites for restoration and are underway throughout the county by a variety of agencies and organizations. This restoration plan is intended to provide the city of Pateros with general goal and policies, a prioritization, and strategies for implementation and coordination of restoration of shorelines.

Overall Goals and Priorities

The governing principals of the shoreline update guidelines require cities and counties containing shorelines with impaired ecological functions to provide goals and policies to guide the restoration of those impaired shorelines. The regional shoreline staff and advisory committee compiled a list of potential restoration sites using data obtained during the inventory phase of the master program update, which identified impaired shoreline areas. Ongoing restoration efforts were included with the inventoried sites to create a comprehensive list of potential restoration opportunities. General and specific goals and policies have been developed and are listed below to address restoration of these various areas.

Goal

The goal of restoration is to mitigate the negative impacts of past actions, which will likely restore shoreline condition, as needed, to achieve a no net loss standard in shoreline ecological functions of the City’s shorelines. Restoration actions will provide for the timely repair and rehabilitation of impaired shorelines through a combination of public and private programs and actions including conservation.

Objectives
- Restoration projects shall be designed with the intent to achieve no net loss of ecological functions.
• Encourage cooperation between public agencies, private property owners, citizens, local schools and non-profits, volunteer groups for restoration projects.
• Facilitate restoration by expediting and simplifying the shoreline permit process for projects that are conducted solely for restoration purposes, when such projects comply with the statutory authority to grant exemptions.
• Encourage public education of shorelines in conjunction with restoration projects.

Policies

• Development proposals in the shoreline shall be evaluated as to their potential for voluntary ecological restoration and conservation in context to regional priorities on behalf of the property owner. The jurisdiction shall provide guidance and, where appropriate, administrative assistance in voluntary restoration projects.
• Restoration and enhancement of shorelines should be designed using principles of landscape and conservation ecology and should restore or enhance shoreline ecological functions and values at local and watershed scales.
• The Administrator should coordinate and facilitate restoration efforts on behalf of development proposals as they relate to local plans and policies such as recreation and economic development plans.
• The jurisdiction shall seek funding from state, federal, private and other sources to implement restoration, enhancement, and acquisition projects and where appropriate serve as agency sponsors for restoration plans that affect shorelines and water quality of shorelines, especially shorelines of statewide significance.
• The Administrator shall develop review guidelines that will streamline the review of restoration only projects. Exemption guidelines or criteria need to be developed.
• Educate public and private shoreline owners of the benefit of using native, noninvasive wildlife, fish and plants in shoreline areas.
• Ensure that long-term maintenance and monitoring of mitigation requirements are included in the original permitting of the project.
• Allow for the use of tax incentive programs, mitigation banking, restoration grants, land swaps, or other programs, as they are developed to encourage restoration of shoreline ecological functions and protect habitat for fish, wildlife and plants.
• Jurisdictions shall pursue the development of an incentive based rating system that incorporates public benefit gained from the restoration of the shoreline.
• Jurisdictions shall develop educational materials that promote the stewardship of shoreline functions including information on permitting and regulations.
• Encourage agricultural property owners to work closely with agencies, such as the Natural Resource Conservation Service and Okanogan Conservation District, with expertise in agricultural practices and restoration to improve degraded shoreline functions.

1 Jurisdictions shall provide administrative services for restoration projects as local budgets allow.
Shoreline administrator shall participate in local, regional or national efforts as needed to coordinate restoration efforts in the jurisdiction.

## Restoration Techniques

Table 1. The following provides a list of techniques that are available for shoreline restoration by focusing on enhancement of natural functions. Given the City’s location on a large dam controlled body of water, restoration opportunities are primarily limited to maintenance and enhancement of existing riparian areas and working to reduce sediment generation in upland areas.

<table>
<thead>
<tr>
<th>Restoration Goal/Objectives</th>
<th>Function or Value Description</th>
<th>Specific techniques (examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance hydrologic and sediment processes</td>
<td>Enhance natural timing, frequency, and duration of peak flows and low flows, and redirect flows to enhance natural processes. Restores sediment process functions that deliver coarse and fine sediment to the aquatic system.</td>
<td>Road improvement: removal, upgrade stream/culvert crossings, reduce road drainage to stream, use natural systems engineering techniques to protect infrastructure and improve/ enhance habitat and ecosystem function, traffic reduction; decommissioning of forest roads Riparian Enhancement: fencing, re-vegetation, wetland restoration impervious surface reduction</td>
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<tr>
<td>Nutrient enhancement</td>
<td>Primary productivity increases with nutrients and provides multiple benefits to the capacity and diversity of the aquatic food web.</td>
<td>Carcass placement, stream fertilization, LWD and engineered log structures</td>
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<tr>
<td>Riparian habitat enhancement</td>
<td>Over time, riparian buffers will result in improved near shore habitat and properly functioning conditions.</td>
<td>Increased planting densities, storm water management and creative land use can significantly increase the rate of riparian restoration.</td>
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</tbody>
</table>
Prioritization

Shorelines of Statewide Significance

Prioritization is based on a number of factors, including the needs of individual species, locations of refugia, and cost-effectiveness, response time of techniques, and the probability of success (Beechie and Bolton 1999). Those techniques that have a high probability of success, low variability among projects, and relatively quick response time should be implemented before other techniques. In general, reconnect high-quality isolated habitats, then riparian enhancements, and lastly road restoration.

Roni et al., 2002 described a methodology for prioritizing site-specific restoration strategies in a watershed. This methodology describes three key knowledge components needed to prescribe appropriate site-specific restoration, principles of watershed processes, protection of existing high-quality habitats, and the current knowledge of the effectiveness of specific natural system engineering techniques such as placement of engineered log jams and instream channel roughness elements. While the state of the science on the use of this approach is recent, examples from the past three years include work within the Elwha, Yakima, Nooksack, Quinault river systems. It is recommended that shoreline enhancement projects should include a monitoring plan.

Timelines and funding

Multiple entities are responsible for systematically identifying, securing funding, designing, and constructing projects that provide regionally important watershed scale improvements to water quality and habitat improvements. The funding and timing with respect to design and construction of potential restoration projects is a continuous process.

Incentive Programs

Adopt development standards that incorporate restoration in accordance with the performance based development standards. This could encourage development to be preferentially located outside of critical habitat areas to protect them. This program also promotes restoration opportunities, recreation opportunities, and public access opportunities.

The City should evaluate the opportunity to develop a preferential tax incentive through the Public Benefit Rating System administered by the County under the Open Space Taxation Act (RCW 84.34), which would encourage private landowners to preserve and restore shoreline areas for “open space” tax relief. The Department of Ecology has a guidance document for local governments to use any portion of the criteria to tailor their public benefit rating system to the watershed issues they are facing.
The City shall evaluate opportunities to reward creative development proposals where voluntary mitigation clearly restores or enhances existing shoreline ecological functions or contributes to adopted public goals and objectives established by this chapter. Incentives may include relaxation of setbacks, lot density bonus or height restriction reductions.

**Implementation and Monitoring**

In addition to project monitoring required for individual restoration and/or mitigation projects, the cities and the county should conduct system-wide monitoring of shoreline conditions and development activity, to the degree practical, recognizing that individual project monitoring does not provide an assessment of overall shoreline ecological health.

The following approach is suggested:

1. Track information using GIS and the permitting software as activities occur, such as:
   a. New shoreline development, by permit type
   b. Unresolved compliance issues
   c. Mitigation areas
   d. Restoration areas

The county or city may require project proponents to monitor as part of project mitigation, which may be incorporated into this process. Regardless, as development and restoration activities occur in the shoreline area, the municipalities should seek to monitor shoreline conditions to determine whether both project specific and SMP overall goals are being achieved.

2. Periodically review and provide input to the regional ongoing monitoring programs/agencies, such as:
   - Washington Dept of Ecology water quality monitoring
   - Methow Watershed Council
   - Methow Restoration Council
   - Upper Columbia Regional Fisheries Enhancement Group
   - Okanogan Basin Watershed Planning Unit
   - Okanogan Conservation District
   - Washington Department of Fish and Wildlife
   - Upper Columbia Salmon Recovery Board
   - Confederated Tribes of the Colville
   - Yakama Nation

Through this coordination with regional agencies, the municipalities should seek to identify any major environmental changes that might occur.
3. Periodic review of environmental processes and functions at the time of SMP updates to, at a minimum, validate the effectiveness of the SMP. The review should consider what restoration activities actually occurred compared to stated goals, objectives and priorities, and whether restoration projects resulted in a net improvement of shoreline resources. Under the Shoreline Management Act, the SMP is required to result in no net loss of shoreline ecological functions. If this standard is found to not be met at the time of review, county or city will be required to take corrective actions. The goal for restoration is to achieve a net gain in ecological function. The cumulative effect of restoration over the time between reviews should be evaluated along with an assessment of impacts of development that is not fully mitigated to determine effectiveness at achieving a net improvement to shoreline ecological resources.

To conduct a valid reassessment of the shoreline conditions every seven years, it is necessary to monitor, record and maintain key environmental metrics to allow a comparison with baseline conditions. Each jurisdiction needs to establish metrics as part of this plan to measure overall success of SMP. Most of these were measured during the inventory and analysis. Examples:

- Linear feet of harden bank
- Linear feet of shoreline protected by easement or dedication
- Linear feet of shoreline with intact riparian vegetation
- Number of restoration sites
- Number of mitigation sites
- Number of NDPS permits
- Acreage of floodplain accessible
- Number of public access points
- Linear feet of shoreline accessible to public
- Number of structures in Shoreline and uses
- Crossings and culverts
- Stormwater or pollution abatement facilities

Evaluation of shoreline conditions, permit activity, GIS data, and policy and regulatory effectiveness should occur at varying levels of detail consistent with the Regional Shoreline Master Program update cycle and the Comprehensive Plan amendment cycle, which takes place every five years. A complete reassessment of conditions, policies and regulations should be considered every seven years.

**Existing Efforts and Ongoing Programs**

This section lists the programmatic measures within the city of Pateros designed to foster shoreline restoration, achieve a no-net loss in shoreline and upland ecological processes, functions and habitats.

The city of Pateros has developed a list of priority restoration and public access enhancement project that are located throughout the City but primarily on Public Properties. These include the following:
Douglas County PUD lands – The PUD owns nearly all of the waterfront property in Pateros and its Future Service Area. The City will continue working with the PUD to restore and enhance habitat as well as improve opportunities for public access to the shoreline area.

Shoreline Access Inventory – This project is focused on identifying opportunities to improve existing public access areas on public and private property. The primary goal will be to develop a community access inventory to inform the local planning process of community needs and desires and ensure that adequate access is being provided and maintained through the application of this chapter.

Additionally, there are many programs in place that occur in Pateros that are related to Natural Resource Conservation Service or Conservation District programs. The jurisdiction does not anticipate leading most restoration projects or programs. However, the SMP represents an important vehicle for facilitating and encouraging restoration projects and programs that could be led by public, private and/or non-profit entities.