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memorandum

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to Nicholas Bond, Planner
Town of Eatonville

from Alex Cohen, ESA

subject Shoreline Master Program Update, No Net Loss Summary

Introduction

The purpose of this memo is to document how the Town of Eatonville Draft Shoreline Master Program (SMP) achieves “no net loss” of shoreline ecological functions. This summary is based on the conclusions of the Town of Eatonville Cumulative Impacts Analysis which was an assessment of the following:

- The analysis of baseline conditions from the Inventory and Characterization Report (July 2010);
- The goals, policies, and regulations of the SMP; together with
- The proposed measures in the Draft Shoreline Restoration Plan (June, 2011).

The integration of the overall SMP was evaluated to assess how ecological functions for shorelines in the Town of Eatonville and its urban growth area might be expected to perform as development occurs over the next twenty years.

The concept of no net loss of shoreline ecological functions has been rooted in the Shoreline Management Act since its enactment by the citizens of the state of Washington in 1971. The Act states that “permitted uses in the shoreline shall be designed and conducted in a manner that minimizes in so far as practical, any resultant damage to the ecology and environment of the shoreline area...” (WAC 173-26-176[2]).

The concept was translated into the goals, policies, and governing principles of Ecology’s guidelines for updating local government SMPs. The guidelines suggest that “no net loss” is achieved primarily through regulatory mechanisms including mitigation requirements but that restoration incentives and voluntary actions are also critical to achieving the “no net loss” goal.

Town Shorelines

Shorelines of the state in Eatonville include the Mashel and little Mashel Rivers and Ohop and Lynch Creeks. The extent of the Town’s shoreline jurisdiction was derived using existing GIS information. The mapped edges of the Mashel River shorelines are assumed to correspond to the approximate location of the OHWM. The mapped edges of the Little Mashel River, Ohop Creek, and Lynch Creek shoreline areas are based on mapped stream centerlines. Therefore, the accuracy of the mapped planning area is limited to the resolution of the centerline mapping sources. These shoreline areas collectively are referred to in the SMP update documents as the shoreline planning areas (SPA).

The SPA covers a total of approximately 3 linear miles within the Town limits and 2.6 miles within the UGA. The SPA encompasses approximately 317 acres, of which approximately 190 acres (60%) is located within the UGA.

Ohop Creek

Ohop Creek flows slightly more than a mile through the Town of Eatonville and its UGA. The general land use pattern in the Town's Ohop Creek shoreline planning area is a mix of rural residential development, agricultural areas, small-scale commercial uses and open space. Agricultural and residential development has altered shoreline vegetation. Shoreline vegetation is currently characterized as sparse in areas with stands that are not of an adequate size and density to provide functional wood development. There are also areas with significant encroachment by invasive species. The Town of Eatonville's stormwater discharge to Lynch Creek has been identified as a source of turbidity in Ohop Creek.

Lynch Creek

Lynch Creek flows into Ohop Creek within the Town's boundary. Approximately 1.9 discontinuous miles of Lynch Creek weave in and out of the Town and UGA. Roughly 0.68 miles of the creek are within the Town. Land use along the western portion of the Town's Lynch Creek shoreline planning area is a mix of rural residential development, agricultural areas and undeveloped areas. Land use in the eastern portion of the planning area (east of Lynch Creek Rd E) includes undeveloped lands, the Eatonville airport, and the Lynch Creek Quarry.

The lack of riparian vegetation along portions of Lynch Creek has reduced shading along the stream, potentially resulting in increased stream temperatures and lowered dissolved oxygen. Lack of larger trees along the stream means less wood in the stream channel. Removal of native riparian vegetation has also increased the opportunity for non-native invasive plants to become established. Problems affecting salmon survival in Lynch Creek include the high sediment load, reduced channel stability and lack of habitat diversity.

Lastly, most of the Town's stormwater runoff is conveyed to an outfall in Lynch Creek. Stormwater runoff has increased turbidity and other pollutants in the stream and increases the "flashiness" of the creek after the rain events.

Little Mashel River

The Little Mashel River is wholly within the Town's UGA, where it flows for approximately a quarter mile to its confluence with the Mashel River. The general land use pattern in the shoreline planning area is single-family residential development. Riparian vegetation is lacking within the shoreline. The lack of riparian vegetation generally reduces shading along the stream, potentially resulting in increased stream temperatures and lowered dissolved oxygen. A lack of larger trees along the stream means less wood in the stream channel. Channelization and in the lower reaches has removed some of the river's natural meander. As a result, hydrology has been altered resulting in channel scour, increased sedimentation, and ultimately decreased fish habitat quality.

Mashel River

The Mashel River is a tributary to the Nisqually River which it joins at RM 39.6. Flow of the river through Eatonville is unregulated except for a diversion for the municipal drinking water system. There are three bridges that influence hydraulic conditions in the river. The general land use pattern in the Town's Mashel River shoreline planning area is a mix of rural residential development, minor agricultural areas, limited small-scale commercial uses and open space. A significant portion of the Mashel River shorelines in the Town's shoreline planning area are publically owned or owned by the Nisqually Land Trust and dedicated for restoration and preservation.

Portions of the shorelines lack of riparian vegetation reducing shading, potentially resulting in increased stream temperatures and lowered dissolved oxygen. A lack of larger trees along the stream means less wood in the stream channel.

Ecological Functions at Risk

Based on the findings of the Shoreline Inventory and Characterization (ICR) (ESA Adolfson, 2010), ecological functions most at risk as a result of future development in shorelines include:

- Riparian habitat;
- Associated wetlands; and
- Salmonid habitat.

Reasonably Foreseeable Future Development

In general the Town's shorelines are largely zoned and planned for low-density residential use with some limited commercial uses allowed as well. Foreseeable future development is limited. Along Ohop, Lynch, the Little Mashel, and portions of the Mashel River, much of the private residentially zoned property has been developed, although at lower than allowed densities. In these areas, future development will consist of redevelopment or subdivisions. There are vacant parcels along all of the shorelines which may be subdivided and/or developed.

Development in the Ohop Creek SPA is limited because of the absence of sewer service. Development in Lynch Creek's shoreline could include some residential. The Town is developing a subarea plan for redevelopment of the area occupied by the Lynch Creek Quarry. Under the draft subarea plan, 86 acres of the quarry would be annexed to the Town and zoned for light industrial uses. Protection and enhancement of the 200-foot shoreline is included in the sub-area plan.

Along the Mashel River, there are two large parcels (41 acres combined) zoned Mixed-use adjacent to the river. Both are currently undeveloped but could accommodate multi-family development at a density of 15 units/acre or mixed use development at 23 units/acre. Future development on these parcels would be required to occur outside the 200-foot critical area buffers, which would leave the shoreline largely undeveloped. The Little Mashel River is wholly in the Town's UGA. A review of Pierce County Assessor's land use data indicates that there are four private properties in the Little Mashel shoreline planning area, all of which are zoned for single-family development and all of which have residences on them.

Cumulative Impacts Assessment

A cumulative impacts assessment (ESA, 2011) was conducted on the Draft SMP. Based on the low level of future development anticipated along with the updates to shoreline environment designations, integration of critical areas standards, use regulations and development standards, shoreline functions such as hydrology, riparian habitat and water quality are likely to be maintained or improve over time. In concert with implementation of restoration actions by the Town and other on-going state, tribal and federal projects and programs, the regulatory provisions of the Draft SMP would serve to maintain the overall condition of shoreline resources in the Town and in certain circumstances improve the overall condition. Cumulative impacts are not anticipated to result from implementation of this Master Program.

Conclusion

The baseline conditions of ecological functions and processes identified in the Inventory and Characterization Report were used as the basis for decisions made throughout the Town's SMP update process. The inventory was integral to the development of the shoreline environment designations, informed goal and policy development, led to the establishment of protective regulations, and shaped the conclusions of the cumulative impact analysis.

All of the Town's shorelines of the state are considered critical areas and subject to the Town's critical areas development standards (which include buffers). The critical areas standards (adopted into the SMP) require the maintenance of a 150 or 200-foot buffers along shorelines of the state. Therefore, while specific uses, subdivisions and development may be allowed by the underlying zoning, most of the Town's shoreline jurisdiction will not be developed without a shoreline variance.

Based upon the anticipated low levels of foreseeable future development in Eatonville's shorelines, and the collective provisions and restorative measures of the Town's Draft SMP, Restoration Plan, and the plans, programs, regulations and projects in place to protect ecological functions, net loss of shoreline ecological functions from existing baseline conditions is not anticipated.

To continue the trend toward improvement of shoreline ecological functions and decrease the likelihood of potential net loss, the Town should continue to develop plans and programs that address the quality, quantity and timing of runoff entering the Lynch Creek stormwater outfall.

Priority and commitment to enforcing the Draft SMP provisions for proposals that are exempt from shoreline permits, particularly with regard to buffer vegetation conservation standards will help to ensure that a conclusion of "no net loss" of shoreline function can be maintained. A commitment to restoration of degraded shorelines townwide is encouraged to continue the trend of improvement of shoreline ecological functions into the future.