

CITY OF NOOKSACK
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CITY OF NOOKSACK
SHORELINE MASTER PROGRAM UPDATE

CUMULATIVE IMPACTS ANALYSIS

TASK 4.2

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CUMULATIVE IMPACTS ANALYSIS

NOOKSACK SHORELINE MASTER PROGRAM

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1.0 INTRODUCTION

Pursuant to the updated Shoreline Master Program Guidelines, WAC 173-26, shoreline master program updates are required to evaluate and address the cumulative impacts to shoreline functions that may result from future shoreline development. The policies and regulations incorporated into the Nooksack Shoreline Master Program were developed to assure no net loss of ecological function to the shorelines of the state within the City of Nooksack shoreline jurisdiction. These provisions must be evaluated to address possible cumulative impacts and methods to avoid or minimize such impacts. Evaluating cumulative impacts shall be consistent with the guiding principle in WAC 173-26-186(8)(d) and should consider:

- a. Current circumstances affecting the shorelines and relevant natural processes;
- b. Reasonably foreseeable future development and use of the shoreline; and
- c. Beneficial effects of any established regulatory programs under other local, state, and federal laws.

It is recognized that the methods used to determine reasonably foreseeable future development and associated impacts may vary according to local circumstances, including demographic and economic characteristics and the nature and extent of local shorelines.

This evaluation of cumulative impacts shall also consider the effect on the ecological functions of the shoreline that are caused by unregulated activities, development exempt from permitting, effects such as the incremental impact of residential bulkheads, or runoff from newly developed properties. For development projects that may have un-anticipatable or uncommon impacts that cannot be reasonably identified at the time of master program development, the master program policies and regulations shall use the permitting or conditional use permitting processes to ensure that all impacts are addressed and that there is no net loss of ecological function of the shoreline after mitigation.

2.0 EXISTING CONDITIONS

As part of the City of Nooksack Shoreline Inventory completed in 2010, the various areas within the City and urban growth area (UGA) that are within shoreline jurisdiction were divided into a series of reaches based on environmental features, existing development, zoning, and future development plans and potential. The following sections present a summary of the existing conditions in each reach. For more detailed information, refer to the Nooksack Shoreline Inventory and Characterization Report (2010). The locations of the various reaches are shown on the City of Nooksack Shoreline Jurisdiction Vicinity Map.

2.1 REACH 1

Reach 1 is defined as the shoreline of the Sumas River from South Pass Road north to the southern end of the Village of Nooksack subdivision. This reach is characterized by fully developed residential subdivisions set back from the shoreline a distance of 100 to 150 feet on the west (within City limits) and agricultural fields (raspberries) on the east (in the UGA Reserve area).

2.2 REACH 2

Reach 2 is defined as the shoreline of the Sumas River from the southern end of the Village of Nooksack subdivision to E. Madison Street. This reach is characterized by a fully developed residential subdivision set back from the shoreline a distance of 150 to 200 feet on the west (within City limits) plus one residence in the UGA and agricultural fields (raspberries) on the east to the point where the Sumas River is joined by Breckenridge Creek.

2.3 REACH 3 (A & B)

Reach 3 is defined as the shoreline of the Sumas River from E. Madison Street north to the City boundary. This reach is divided into two geographically separate areas – with Reach 3A being located adjacent to E. Madison Street. This reach is characterized by both fallow and active agriculture.

2.4 REACH 4

Reach 4 is defined as Breckenridge Creek within the eastern portion of the UGA and UGA Reserve. This reach includes agricultural fields and a public school adjacent to a well-vegetated riparian corridor.

2.5 REACH 5

Reach 5 is defined as Breckenridge Creek within the western half of the UGA and UGA Reserve. This reach includes a public school and cemetery to the north and agricultural fields (raspberries) to the south adjacent to a well-vegetated riparian corridor.

2.6 REACH 6

Reach 6 is defined as the Nooksack Slough, east of Nooksack Avenue (State Route 9). This reach includes undeveloped areas and fully vegetated areas adjacent to the Nooksack Slough.

2.7 REACH 7

Reach 7 is defined as the Nooksack Slough from Nooksack Avenue to Jackson Street. This reach is characterized by fully developed residential areas adjacent to the Nooksack Slough. A narrow vegetated corridor exists through much of this reach.

2.8 REACH 8

Reach 8 is defined as the Nooksack Slough from Jackson Street to the western terminus of W. Lincoln Street. This reach is characterized by fully developed residential development adjacent to the Nooksack Slough. A narrow but at times wider vegetated corridor exists throughout this reach.

2.9 REACH 9 (A & B)

Reach 9 is defined as the two segments of the Nooksack Slough lying west of the western terminus of W. Lincoln Street that are within City limits. This reach is characterized by agricultural pasture with little or no intact vegetation except in the southernmost segment (Reach 9B) where some riparian vegetation remains intact.

2.10 REACH 10

Reach 10 is defined as the Nooksack Slough from the western terminus of Hayes Street to Nooksack Avenue. This reach is characterized by both fully developed residential areas and undeveloped agricultural areas adjacent to the Nooksack Slough. Some areas of intact vegetation are present within this reach.

2.11 REACH 11

Reach 11 is defined as the Nooksack Slough from Nooksack Avenue to the northern terminus of E. Third Street. This reach is characterized by undeveloped agricultural fields and a few residences adjacent to the Nooksack Slough. Very limited intact vegetation is present within this reach.

2.12 REACH 12

Reach 12 is defined as the Nooksack Slough from the northern terminus of E. Third Street to the city boundary near Gilies Road. This reach is characterized by undeveloped agricultural fields adjacent to the Nooksack Slough with pockets of intact vegetation.

3.0 INTENT OF ENVIRONMENT DESIGNATIONS TO MITIGATE IMPACTS

3.1 AQUATIC

As specified in the draft Nooksack Shoreline Master Program, the Aquatic designation allows only a very limited number of activities to take place within the areas waterward of the ordinary high water mark. This designation will serve to protect, restore, and manage the unique characteristics and resources of the water bodies within Nooksack's shoreline jurisdiction. This designation is intended to promote no net loss of shoreline ecological functions and wise use of the natural features and resources of shorelines of the state. Except for habitat restoration projects, no development is anticipated in the Aquatic area, and any activity with the potential to adversely impact shoreline functions in this reach would require approval of a shoreline conditional use permit.

3.2 NATURAL

Reaches proposed to be included in the Natural shoreline environment should not see any future impacts that result in a net loss of ecological functions. Those portions of reaches designated Natural will remain untouched by development. The existing native vegetation in these areas will be allowed to mature to help restore the existing ecological functions. Enhanced restoration efforts, such as the planting of native vegetation, will also be encouraged in areas under this designation. A Natural designation serves to protect and repair shoreline areas at specific locations within the Nooksack shoreline area. This designation requires that only very low intensity uses be allowed in order to maintain the ecological functions and ecosystem-wide processes and to support restoration over time.

3.3 SHORELINE RESIDENTIAL

Areas designated as Shoreline Residential include those areas in the Nooksack UGA Reserve planned for single-family residential development. The intent of this designation

is to accommodate residential development that is consistent with shoreline goals while protecting and restoring ecological functions by minimizing shoreline modifications. As growth continues to occur in the area, the City of Nooksack will need locations for additional residential development in proximity to the shoreline. By designating areas Shoreline Residential under this master program, the City can accommodate future development that will serve not only to enhance the local economy, but also that will ensure the long-term protection of the shoreline environment. Areas where the Shoreline Residential designation has been proposed include a future zoning designation of Cluster Residential to allow residential development to be clustered away from the shoreline area, in many cases avoiding the shoreline jurisdictional area entirely.

3.4 URBAN CONSERVANCY

The intent of the Urban Conservancy designation is to protect and restore ecological functions in all systems including fish and wildlife habitat conservation areas, open space, and other sensitive lands where they exist in urban and developed settings. This designation provides opportunity for a mixture of different uses that are all regulated to include the protection of the ecological functions and to provide ecological restoration when necessary.

3.5 URBAN CONSERVANCY - SLOUGH

The intent of the Urban Conservancy-Slough designation is to protect and restore ecological functions in all systems including fish and wildlife habitat conservation areas, open space, and other sensitive lands where they exist in urban and developed settings, specifically where adjacent to the Nooksack Slough. This designation provides opportunity for a mixture of different uses that are all regulated to include the protection of the ecological functions and to provide ecological restoration when necessary.

4.0 POTENTIAL FUTURE IMPACTS

4.1 REACH 1

No new development is anticipated in that portion of Reach 1 located to the west of the Sumas River due to the fully developed character of this reach. The eastern portion of Reach 1 is planned for cluster residential development that will most likely be located well back from the ordinary high water mark to avoid any development in proximity to the Sumas River where sediments containing naturally occurring asbestos could pose a risk to the health of future residents. It is likely that access to the immediate shoreline edge will also be limited, so development of pedestrian trails to allow access to the shoreline within this reach will also likely be prohibited. Existing developed conditions and planned setbacks from the shoreline will ensure no net loss of shoreline ecological functions within this reach. Although the toxic components contained in the sediments carried and deposited by the Sumas River make large-scale restoration projects unlikely, some restoration of ecological functions over time is possible based on limitations on human disturbance.

4.2 REACH 2

Little or no new development is anticipated in that portion of Reach 2 located to the west of the Sumas River due to the fully developed character of this reach. A few new residences may be possible immediately adjacent to East Madison Street if re-mapping of the FEMA-designated floodway reduces the area mapped as floodway. However, setbacks of 150 feet will ensure no net loss of shoreline ecological function and setbacks reduced to 100 feet would require ecological restoration sufficient to ensure no net loss of shoreline functions. The portion of Reach 2 located to the east of the Sumas River is planned for cluster residential development that will most likely be located well back from the ordinary high water mark to avoid any development in proximity to the Sumas River where sediments containing naturally occurring asbestos could pose a risk to the health of future residents. Development may be required to avoid the entire 100-year floodplain, which would preclude development within the full width of shoreline jurisdiction in this area. It is likely that access to the immediate shoreline edge will also be limited, so development of pedestrian trails to allow access to the shoreline within this reach will also likely be prohibited. Existing developed conditions and planned setbacks from the shoreline will ensure no net loss of shoreline ecological functions within this reach. Although the toxic components contained in the sediments carried and deposited by the Sumas River make large-scale restoration projects unlikely, some restoration of ecological functions over time is possible based on limitations on human disturbance.

4.3 REACH 3

No future development is anticipated within Reach 3 based on the presence of the FEMA-designated floodway and the presence of sediments containing naturally occurring asbestos. Although the toxic components contained in the sediments carried and deposited by the Sumas River make large-scale restoration projects unlikely, some restoration of ecological functions over time is anticipated based on limitations on human disturbance.

4.4 REACH 4

Future development within Reach 4 will likely include some residential development to the north of Breckenridge Creek and a combination of light industrial and cluster residential development to the south of Breckenridge Creek. The full width of the naturally vegetated corridor along Breckenridge Creek has been included in the Natural shoreline designation; therefore, no development is anticipated in these ecologically intact areas. Standard minimum buffers and setbacks from the edge of the vegetation conservation area will ensure no net loss of ecological function in this reach.

4.5 REACH 5

No new development is anticipated on the north side of Breckenridge Creek within Reach 5 due to the fully developed nature of the currently existing public school and cemetery. Cluster residential development is planned for the south side of Breckenridge Creek to allow residences to be clustered outside of the shoreline area. In addition a Natural-designated corridor has been identified along the full length of Breckenridge Creek through this reach that will preclude new development. Standard minimum buffers and setbacks from the edge of the vegetation conservation area will ensure no net loss of ecological function in this reach.

4.6 REACH 6

Future development within Reach 6 will be limited to commercial uses that will be required to be situated on the portions of existing lots located outside of shoreline jurisdiction. A Natural shoreline designation has been included for this fully vegetated wetland area. Standard wetland buffers and other protections contained in the City's critical areas ordinance will ensure no net loss of ecological function in this reach.

4.7 REACH 7

Future development is not anticipated within Reach 7 based on the fully developed character of this reach. Standard wetland buffers will require accessory development to locate outside of shoreline jurisdiction and should ensure no net loss of shoreline ecological function in this reach. Some naturally occurring and property owner initiated restoration is anticipated in this reach over time.

4.8 REACH 8

Future development is not anticipated within Reach 8 based on the fully developed character of this reach and public ownership of undeveloped lots. Standard wetland buffers will require accessory development to locate outside of shoreline jurisdiction and should ensure no net loss of shoreline ecological function in this reach. Some naturally occurring and property owner initiated restoration is anticipated in this reach over time.

4.9 REACH 9

Future development within Reach 9 will likely include cluster residential development primarily located between the two segments of the Nooksack Slough. Such zoning will allow new residences to be clustered outside of shoreline jurisdiction. Standard wetland buffers and other protective measures contained in the City's critical areas ordinance should ensure no net loss of ecological function in this reach. Any encroachment into shoreline buffers would require mitigation sufficient to ensure no net loss. Restoration of the full length of the riparian corridor would also be encouraged in conjunction with new development.

4.10 REACH 10

Future development within Reach 10 will likely include some cluster residential development very limited residential infill on a few undeveloped parcels. Standard wetland buffers would require new development to locate outside of the shoreline area. Some naturally occurring and property owner initiated restoration is anticipated in this reach over time.

4.11 REACH 11

Future development within Reach 11 is unlikely due to the limitations on access to undeveloped portions of parcels and the future land management plans expressed by property owners. Standard wetland buffers and other protective mechanisms contained in the City's critical areas ordinance would require development to locate outside of shoreline jurisdiction and to mitigate for any impacts associated with the establishment of a new crossing over the Nooksack Slough. Some property owner initiated restoration is anticipated throughout this reach over time.

4.12 REACH 12

Future development in Reach 12 will likely include a residential subdivision that has already received preliminary plat approval under the existing shoreline program. The design of the subdivision includes undisturbed buffers bordered by stormwater treatment and detention areas along with mitigation for unavoidable impacts associated with improvements to the existing culverted crossing over the Slough. These measures should ensure no net loss of ecological function, and some naturally occurring restoration is anticipated in this reach over time as well.

5.0 ASSURE NO NET LOSS

An important goal of the Nooksack Shoreline Master Program is to assure no net loss of ecological functions to the shorelines of the state located within the City's shoreline jurisdictional area. The goals, policies, and regulations, that together comprise the Nooksack Shoreline Master Program, include development requirements to assure no net loss. The goal of no net loss will be achieved through a number of mechanisms, including development regulations, vegetation conservation areas and buffers, cluster development, avoidance of hazard areas, restoration planning, mitigation requirements, volunteer efforts and conditional use permitting. Although much of the shoreline area within the City has already been developed, new development in Nooksack is inevitable. However, by limiting the location and types of development allowed within the Nooksack shoreline area, the City will be able to ensure no net loss of ecological functions on a project-by-project basis and for the Nooksack shoreline area as a whole.