

3.4 PLANTS AND ANIMALS

The following section compares the probable significant impacts from the Preferred Alternative and the Straight Street Grid Option on plant and animal species and their habitat on and in the vicinity of the New Whatcom site to those analyzed under the Redevelopment Alternatives (Alternatives 1 - 3) in the *2008 New Whatcom Redevelopment Project Draft EIS* (DEIS), and identifies any new or increased impacts and mitigation associated with redevelopment under the Preferred Alternative. This section is based on the October 2008 *Update to the Draft EIS Plants and Animals Report Memorandum* prepared by Grette Associates in **Appendix J** to this SDEIS.

3.4.1 Affected Environment

The DEIS describes existing plant and animal species and their habitat (including upland and aquatic habitat) onsite and in the site vicinity. As indicated in the DEIS, the site presently includes high levels of development and industrialization in both the upland and aquatic environment. Upland habitat onsite is limited to small, discontinuous patches of disturbed area that are dominated by weedy vegetation. Portions of the site contain limited, narrow bands of shoreline vegetation. In general, aquatic habitat in the vicinity of the site consists of Bellingham Bay, Whatcom Waterway, I & J Waterway and Whatcom Creek. Habitat in the Bay and the I & J Waterway is typical of nearshore marine habitat. Whatcom Waterway is at the mouth of Whatcom Creek and forms an estuary where fresh water from the Creek enters the Bay. The estuary provides important habitat for aquatic species. The New Whatcom site includes over 2.5 miles of shoreline, the majority of which is urban habitat with bulkheads, over-water piers, wharfs, riprap, or combinations of these (see Section 3.4.1 and Appendix H to the DEIS for a detailed description of existing plant and animal species and their habitat). No changes to the information provided in the DEIS are warranted.

Additional investigations of eelgrass in the site area have been made since issuance of the DEIS as part of ongoing remediation efforts. These investigations determined that sparse eelgrass is present in a few scattered locations in the New Whatcom site area. Eelgrass has been identified in the I & J Waterway along the north side of the existing ASB, along the south side of the ASB, in the Log Pond area, and along the eastern shore of the Cornwall Beach Area. Other scattered patches of eelgrass are possibly present onsite. The upper extent of the eelgrass is approximately -1.5 ft. Mean Lower Low Water (MLLW). Additionally, documented surf smelt habitat is present in the eastern corner of the Cornwall Beach Area.

3.4.2 Impacts

Draft EIS (Alternatives 1 – 4)

As described in the DEIS, redevelopment under Alternatives 1 - 3 would result in the conversion of upland areas of the site with little to no existing upland habitat to mixed-use redevelopment, including parks and open space (a portion of which would provide upland habitat). Parks/open space on the site would range from 33 acres under Alternative 1 to 15 acres under Alternative 3 by 2026. New riparian habitat would also

be provided, including the restored shoreline along the southern edge of the Whatcom Waterway.

In general, substantial benefits to aquatic habitat in the New Whatcom site area would result from redevelopment under Alternatives 1 - 3. Redevelopment activities would include a reduction in over-water coverage associated with the bulkhead/wharf along the southern edge of the Whatcom Waterway and restoration of a sloped shoreline, removal of creosote-treated piles and extensive riparian and aquatic habitat restoration/enhancement. Intertidal and shallow subtidal over-water coverage in Whatcom Waterway would be reduced by 1.53 acres, approximately 2.4 acres of new sloped shoreline would be provided in place of bulkheads on the southern side of the Waterway, and 4.7 acres of intertidal and shallow subtidal habitat and approximately 20.5 acres of unshaded subtidal habitat would result from the marina proposal. There would be approximately 30 acres of total net new or enhanced habitat.

The DEIS indicates that grading operations and stormwater runoff associated with construction under the DEIS Redevelopment Alternatives could potentially affect water resources in the site area, and their associated habitat. Temporary erosion and sedimentation control measures (BMPs) and accidental spill response measures would be implemented to address these potential impacts. With redevelopment, a stormwater management plan would be implemented. New stormwater facilities would improve the overall quality of water discharged into the Waterway and the Bay, compared to existing conditions (see Section 3.4.2 and Appendices F and G to the DEIS for details on the stormwater management system). New stormwater outfalls would be sited to maximize the provision of treated freshwater to Bellingham Bay to provide additional support to saltmarsh vegetation.

Under all DEIS Alternatives, construction of a marina in the ASB (under either Marina Concept A or Concept B under the No Action Alternative) would include the opening of the ASB to Bellingham Bay, by breaching the existing berm and creating approximately 28 acres of new aquatic habitat. The configuration and aquatic habitat features of the two marina concepts would differ in that fewer slips would be provided under Concept A (up to 460 slips compared to up to 600 slips under Concept B), and more in-water habitat would be placed waterward of the breakwater under Marina Concept A than under Concept B (200,000 cubic yards of fill for new habitat would be required versus 20,000 cubic yards under Concept B).

Potential impacts to aquatic resources associated with removal of bulkhead/wharf features and construction of the marina/moorage floats would include noise from pile/bulkhead removal or pile driving and operation of construction machinery, temporary turbidity from pile removal or pile driving and the potential for spills of materials from construction machinery. With implementation of the proposed mitigation measures to minimize the potential for water quality and noise impacts during construction, significant impacts to aquatic resources would not be anticipated under Alternatives 1 - 3.

The use of the marina and new transient moorage floats in the Whatcom Waterway under Alternatives 1 - 3 would result in the potential for operational impacts associated with small recreational boat traffic, including potential for spills of harmful materials in Bellingham Bay and Whatcom Waterway, and potential for disturbance of Southern Resident orca whale population in Puget Sound. The marina would be operated consistent with the guidelines in the Department of Ecology *Resources Manual for*

Pollution Prevention in Marinas, and together with other proposed mitigation would be expected to preclude significant impacts from spills and other water pollution associated with recreational boats. The increase in small recreational boats would be offset by a decrease in large vessels associated with prior industrial uses, and a significant increased risk or disturbance to the orca population would not be expected.

Recreational boats using the marina and transient moorage facilities would also produce wakes as they enter and exit the Waterway. Boat wakes could create the potential to disturb sediments in intertidal and shallow subtidal areas, and create the potential for shoreline erosion; these wakes could potentially affect the restored sloped shoreline edge of the Waterway. However, the increase in small recreational boat traffic within the Waterway would be offset by a decrease in large vessels associated with prior industrial operations, and wakes produced by recreational boats are typically substantially smaller than natural wave fluctuations. Therefore, significant impacts to subtidal and shoreline areas from boat wakes would not be anticipated.

The No Action Alternative assumes future redevelopment consistent with existing industrial zoning, with no new upland park/open space (upland habitat) or restored shoreline habitat assumed. Marina Concept B under this alternative would provide up to 600 slips (versus 460 slips under Concept A), 3.7 acres of intertidal/shallow subtidal habitat (versus 4.7 acres under Concept A), and no park or open space along the top of the breakwater berm. Approximately 21.1 acres of new unshaded subtidal habitat would be created (versus 20.5 acres under Concept A). The No Action Alternative assumes minor improvements at the Bellingham Shipping Terminal, which could result in potential impacts to aquatic resources. With implementation of identified mitigation measures, significant impacts to aquatic resources would not be anticipated.

Preferred Alternative

Upland Habitat

Levels of redevelopment under the Preferred Alternative would be within the range of redevelopment assumed in the DEIS under Alternatives 1 - 3; the proposed redevelopment would mix and match elements of Alternatives 1 and 2. Approximately 33 acres of parks/open space (a portion of which would provide upland habitat) would be provided under the Preferred Alternative by 2026, similar to Alternative 1. Riparian habitat would also be provided, including the restored shoreline along the southern edge of the Whatcom Waterway. Proposed redevelopment would result in an improvement in upland habitat relative to existing conditions, similar to under Alternatives 1 - 3.

Aquatic Habitat

Overall, substantial benefits to aquatic habitat in the New Whatcom site area would result from redevelopment under the Preferred Alternative as a rebuilt of shoreline restoration and enhancement, similar to under DEIS Alternatives 1 - 3. Redevelopment activities would include a reduction in over-water coverage, removal of creosote-treated piles, reduction of steel piles, conversion of bulkhead or rip/rap to sloped shoreline, and extensive riparian and aquatic habitat restoration/enhancement. The amount of aquatic habitat improvement under the Preferred Alternative would be generally similar to under Alternatives 1 - 3.

Similar to under Alternatives 1 - 3, temporary erosion and sedimentation control measures (BMPs) and accidental spill response measures would be implemented to address potential impacts to water resources and aquatic habitat during construction under the Preferred Alternative. A stormwater management plan would be implemented to control water resource/aquatic habitat impacts during operation of the project (see **Section 3.4.3** and **Appendices H** and **I** to the SDEIS for details). Measures would also be taken to prevent pollution from boat traffic in the proposed marina.

Several features of the Preferred Alternative relevant to habitat issues would differ from or expand upon the features assumed under Alternatives 1 - 3 (i.e. the shoreline habitat plan, wave attenuator systems, bulkhead/rip/rap slope removal, boat launch in the marina, and fill placement in intertidal/shallow subtidal areas). Following is more information on these features and their potential impacts to aquatic habitat in the site area.

Shoreline Habitat Plan

Since issuance of the DEIS, ongoing master planning has resulted in more specific definition of a shoreline habitat plan for the New Whatcom site (see **Chapter 2** of this SDEIS for details). Based on the more specific shoreline habitat plan, fill would be placed along portions of the shoreline at the site. Two general types of habitat would be created: nearshore habitat and fringe habitat. Within both types, a range of configurations is proposed; these habitats are described and their comparative values assessed below (see **Appendix J** to this SDEIS for details).

Nearshore habitat would be created along the shoreline of portions of the Marine Trades, Downtown Waterfront, Log Pond and Cornwall Beach Areas, and would occur below the Ordinary High Water Mark (OHWM). Nearshore habitat areas with lower slopes and finer substrate would generally be of higher quality than similar habitats with steeper slopes and coarser substrate.

Four types of fringe habitat would be created landward of the nearshore habitat, between the OHWM and approximately elevation 12.5 ft. MLLW: Marina Breakwater Habitat (at the marina breakwater; this habitat would be the lowest quality of the fringe habitats); Rocky Shoreline Habitat (in the southern portion of the Cornwall Beach Area; this habitat would provide low to moderate shoreline habitat function); Terraced Shoreline Habitat (in the Downtown Waterfront Area and northern portion of the Log Pond Area; this habitat would provide moderate habitat function); and, Beach Habitat (in the southern portion of the Log Pond Area and northern portion of the Cornwall Beach Area; this habitat would be the highest quality of the fringe habitats) (see **Figures 2-7** through **2-13** in **Chapter 2** of this SDEIS for representative cross-sections of these habitat types).

Shoreline improvements under the Preferred Alternative would substantially benefit intertidal/shallow subtidal habitat, as much of the proposed shoreline habitat would replace existing low quality habitat, such as bulkheads, piers, and rip/rap (see **Appendix J** to this SDEIS for further information).

Wave Attenuator Systems

Wave attenuator systems are proposed on both the north and south side of Whatcom Waterway under the Preferred Alternative in association with the proposed transient moorage facilities. Each system would include a deep draft float with a possible public ramp from the upland, and a rock groin. Guide piles would be required to anchor each wave attenuator float (see **Chapter 2** of this SDEIS for further description of these systems).

The wave attenuators would increase over-water coverage by a total of 0.22 acre, 0.02 acre of which would occur over intertidal/shallow subtidal habitat, with the balance over subtidal habitat. This would result in a total net reduction of shaded intertidal/shallow subtidal habitat of 1.51 acres, as compared to 1.53 acres expected in the DEIS.

The installation of two rock groins would require a total of 5,000 cubic yards of fill over approximately 0.34 acre. The rock groins would convert a small area of finer substrate to a rip/rap substrate, and could convert a small area of subtidal to intertidal/shallow subtidal habitat, resulting in a small habitat benefit. Impacts to benthic/epibenthic invertebrates would not be significant; similarly, potential impacts to salmonids would be minimal due to the small area that would be affected. The proposed wave attenuators and access ramps would result in a slight increase in shading (over-water coverage) of subtidal habitat areas, relative to Alternatives 1 - 3. The attenuators/ramps would result in a net increase in subtidal habitat shading of 0.95 acre under the Preferred Alternative (versus the 0.75 acre increase under Alternatives 1 - 3). These changes would be considered negligible, however, and on an overall basis the Preferred Alternative would result in a substantial overall improvement in over-water coverage, as compared to existing conditions.

The construction of the rock groins would result in minor temporary impacts due to turbidity; impacts would not be expected to be significant.

Noise impacts to aquatic habitat could result from pile driving for the wave attenuator guide piles. The overall number of piles to be driven (18 to 22 piles) would be relatively low, however, and potential impacts would be mitigated through proper construction timing, use of a bubble curtain (should steel piles be driven with an impact hammer), and other BMPs listed in the DEIS.

Bulkhead and Rip/rap Slope Removal

The DEIS described the bulkhead and rip/rap slope that would be removed along the southern Whatcom Waterway as covering 1,890 square feet in area; the correct area should be 18,900 square feet. The removal of this bulkhead/rip/rap would result in a habitat benefit. Therefore, the actual habitat benefit would be greater than stated in the DEIS.

Boat Launch in Marina

The ASB is currently not considered aquatic habitat, since it is isolated from Bellingham Bay by a breakwater. The DEIS indicates that the proposed marina under Alternatives 1 - 3 would result in new aquatic habitat, created when the breakwater is breached (the No Action Alternative would also include a marina). The new marina would include a boat launch and would result in over-water coverage. The boat launch and associated over-water coverage are considered marina-related features that would lower its overall habitat quality. (A boat launch would typically provide lower quality habitat than adjacent habitat due to differences in substrate between the two habitats.)

Under the EIS Alternatives, it was assumed that there would be a 5-lane boat launch in the proposed marina. Under the Preferred Alternative, the boat launch in the marina would be reduced to 2 lanes. It should be noted that the revised 2-lane boat launch would be in addition to the Port's launch facility located within Squalicum Harbor (the DEIS assumes that the new boat launch would replace that facility).

The change in the boat launch configuration under the Preferred Alternative would marginally increase natural or park space in the upland area of the marina relative to the Alternatives 1 - 3. It would also result in a small additional area of higher quality new intertidal/shallow subtidal habitat.

Fill Placement in Intertidal/Shallow Subtidal Areas

Under the Preferred Alternative, fill material would be placed in order to create the proposed nearshore and fringe habitats. This fill placement would generate temporary turbidity in the immediate vicinity. Elevated levels of suspended sediments would be expected to settle out within the mixing zone. Placement of fill would also temporarily impact benthic and epibenthic organism populations in the footprint of the fill. However, these populations would be expected to recover within a few months to pre-construction levels and no significant impacts would result.

Any fill placed in eelgrass beds would eliminate existing eelgrass in the fill footprint and could alter the elevation of the bed such that it would be unsuitable for eelgrass colonization in the future. No fill is proposed in the I & J Waterway along the north side of the existing ASB. Fill in the Log Pond Area would likely occur down to approximately MLLW, whereas eelgrass does not appear to be present above -1.5 feet MLLW. Thus, impacts to eelgrass would not be expected in the Log Pond Area.

Fill below Mean Higher High Water (MHHW) would occur along the south side of the ASB and would be associated with breaching the breakwater. Based on existing information, eelgrass along the south side of the existing ASB consists of small areas of patchy or sparse eel grass, rather than dense beds. To the extent possible, placement of fill in eel grass habitat would be minimized or avoided. During federal and state permitting of the marina project, eelgrass beds would be specifically delineated. If fill must be placed in eelgrass areas, impacts could be mitigated through planting of additional eelgrass.

The only documented forage fish (i.e. surf smelt) spawning habitat in areas where fill could be placed is at the waterward corner of the boundary between the Shipping Terminal and Cornwall Beach Areas, where beach habitat would be created. Fill placed

in forage fish spawning beds would only be an impact if the fill were placed during a critical spawning period or if fill changes the existing substrate to a substrate unsuitable to forage fish spawning. Existing substrate consists of sand and gravel. Since the proposed beach habitat would also be similar substrate, the fill would not be expected to result in long-term impacts to forage fish spawning habitat. Proposed adherence to work windows that would avoid critical spawning periods would also reduce the potential construction impacts on forage fish from fill placement.

Straight Street Grid Option

The Straight Street Grid Option is assumed to include a mix of land uses, redevelopment density and parks/open space (upland habitat) similar to under the Preferred Alternative, and within the ranges assumed for Alternatives 1 - 3 in the DEIS. The proposed grading, stormwater management plans and marina operation under this Option are assumed to be similar to under Alternatives 1 - 3 as well. As a result, the construction and operational impacts on upland and aquatic resources under the Straight Street Grid Option would be expected to be comparable to those described for Alternatives 1 - 3 and the Preferred Alternative.

3.4.3 Conclusions

Redevelopment under the Preferred Alternative and the Straight Street Grid Option would result in the conversion of upland areas of the site with little to no existing upland habitat to mixed-use redevelopment, including parks/open space (a portion of which would provide upland habitat), similar to under DEIS Alternatives 1 - 3. Riparian habitat would also be provided, including the restored shoreline along the southern edge of the Whatcom Waterway.

Grading operations and stormwater runoff associated with construction under the Preferred Alternative and the Straight Street Grid Option could potentially affect aquatic habitat, similar to under Alternatives 1 - 3. Temporary erosion and sedimentation control measures (BMPs) and accidental spill response measures would be implemented to address potential impacts to water resources and aquatic habitat during construction. A stormwater management plan would be implemented to control water resource/aquatic habitat impacts during operation of the project. Measures would also be taken to prevent pollution from boat traffic in the proposed marina.

Overall, substantial benefits to aquatic habitat in the New Whatcom site area would result from redevelopment under the Preferred Alternative and the Straight Street Grid Option as a result of shoreline restoration and enhancement. Redevelopment activities would include a reduction in over-water coverage associated with removal of a portion of the bulkhead/wharf along the southern edge of the Whatcom Waterway and restoration of a sloped shoreline, removal of creosote-treated piles and extensive riparian and aquatic habitat restoration/enhancement.

Several features of the Preferred Alternative would differ from or expand upon the features assumed under Alternatives 1 - 3 (i.e. the shoreline habitat plan, wave attenuator systems, bulkhead/rip/rap slope removal, boat launch in the marina, and fill placement in proposed nearshore and fringe habitat areas). No substantive changes to

impacts on upland and aquatic habitat would result with these modifications, and in several instances, improvements to aquatic habitat would result.

3.4.4 Mitigation Measures

All mitigation measures identified in the DEIS would also apply to the Preferred Alternative and the Straight Street Grid Option. Additional mitigation measures proposed as part of the Preferred Alternative are listed below.

As part of redevelopment, substantial benefits to aquatic habitat would result due to the reduction in over-water coverage, restoration of a sloped shoreline, removal of creosote-treated piles and extensive riparian and aquatic habitat restoration/enhancement.

- Impacts to eelgrass for fill placement in shoreline areas would be avoided and minimized to the extent possible. Additional eelgrass could be planted to offset any significant impacts. Monitoring would likely occur to ensure success of the mitigation planting.
- In-water construction would occur during approved in-water work windows for salmonids and forage fish. Appropriate work windows would be determined during the permitting process.

3.4.5 Significant Unavoidable Adverse Impacts

The overall result of redevelopment under the Preferred Alternative and the Straight Street Grid Option would be substantial improvements to upland and aquatic habitat on the site and in the site area; significant unavoidable adverse impacts would not be anticipated.

With implementation of the mitigation measures identified in the DEIS (see **Section 3.4.3**) and the additional mitigation identified in this SDEIS (see above and **Section 3.3.4** in this document), significant impacts associated with in-water and over-water construction would not be anticipated.