From:	Juniper Nammi
To:	Lisa Basher
Subject:	FW: 2014 Wetland Categories Narrative Descriptions
Date:	Thursday, September 17, 2015 12:07:04 PM

Another Agency comment.

Juniper Nammi, AICP
Associate Planner
P: (206) 801-2525

From: McGraner, Patrick (ECY) [mailto:patrick.mcgraner@ecy.wa.gov]
Sent: Tuesday, June 09, 2015 2:16 PM
To: Juniper Nammi
Cc: Bunten, Donna (ECY); Blair, Misty (ECY)
Subject: 2014 Wetland Categories Narrative Descriptions

Hi Juniper,

As discussed. Here is some language that you can consider placing into your code for general descriptions of the wetland categories.

Category I. Category I wetlands are: (1) relatively undisturbed estuarine wetlands larger than 1 acre; (2) wetlands of high conservation value that are identified by scientists of the Washington Natural Heritage Program/DNR; (3) bogs; (4) mature and old-growth forested wetlands larger than 1 acre; (5) wetlands in coastal lagoons; (6) interdunal wetlands that score 8 or 9 habitat points and are larger than 1 acre; and (7) wetlands that perform many functions well (scoring 23 points or more). These wetlands: (1) represent unique or rare wetland types; (2) are more sensitive to disturbance than most wetlands; (3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or (4) provide a high level of functions.

Category II. Category II wetlands are: (1) estuarine wetlands smaller than 1 acre, or disturbed estuarine wetlands larger than 1 acre; (2) interdunal wetlands larger than 1 acre or those found in a mosaic of wetlands; or (3) wetlands with a moderately high level of functions (scoring between 20 and 22 points).

Category III. Category III wetlands are: (1) wetlands with a moderate level of functions (scoring between 16 and 19 points); (2) can often be adequately replaced with a well-planned mitigation project; and (3) interdunal wetlands between 0.1 and 1 acre. Wetlands scoring between 16 and 19 points generally have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.

Category IV. Category IV wetlands have the lowest levels of functions (scoring fewer than 16 points) and are often heavily disturbed. These are wetlands that we should be able to replace, or in some cases to improve. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and should be protected to some degree.

Patrick McGraner
Wetlands Specialist
Department of Ecology/NWRO
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Bellevue, WA 98008

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From: Juniper Nammi
To: Lisa Basher
Subject: FW: Aquifer Recharge Data and Regulations - City of Shoreline
Date: Thursday, September 17, 2015 12:08:58 PM
Attachments: Discussion Ilwaco Critical Aquifer Recharge Areas.msg

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I believe this is the earliest agency communication that was used to shape the CAO updates.

Juniper Nammi, AICP
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P: (206) 801-2525

From: Morgan, Laurie (ECY) [mailto:lmor461@ECY.WA.GOV]
Sent: Thursday, December 18, 2014 2:59 PM
To: Juniper Nammi
Cc: Martin, Christopher (ECY)
Subject: RE: Aquifer Recharge Data and Regulations - City of Shoreline

Greetings,
Mainly, Shoreline does not seem to be dependent on groundwater for drinking water supply, and there are no groundwater users within this highly urbanized city. It would be hard to argue that Critical Aquifer Recharge Areas must be designated under the GMA.
In similar cases I usually have the following advice:

1) Consider whether groundwater would be a backup or emergency supply for the City.

2) I advise all jurisdictions to give themselves authority to prevent or mitigate contamination, such as spills or other contaminating discharges. Although Shoreline's situation isn't completely analogous to the City of Ilwaco, I'm attaching the email I sent to them because it illustrates the benefits of having the authority to prevent or mitigate contamination. And it provides an example of language from the City of Vancouver.

3) The City can give itself authority to prevent pollution outside of the GMA, doesn't have to be done in the context of a Critical Aquifer Recharge Area. You'll notice that Vancouver also gives themselves authority to prevent contamination of surface water, stormwater and groundwater all together – a very beneficial approach.

4) An additional consideration is whether there are groundwater users near the border of the City who depend on the City for protection of their water supply.

5) Document the reasons for decisions for the record.

Happy to clarify any of this. More simply put, it doesn't look like Shoreline must designate a CARA, but there are advantages to preventing contamination and you can't do that if you don't have authority. If you have further questions, you can also contact Chris Martin, Dept. of Ecology Water Quality Program Hydrogeologist at the Northwest Regional Office, (425) 649-7110. I hope this helps.
Best,

Laurie Morgan, LHG
Hydrogeologist
Water Quality Program

Washington State Dept. of Ecology
(360) 407-6483
Laurie.Morgan@ecy.wa.gov

From: Juniper Nammi [mailto:jnammi@shorelinewa.gov]
Sent: Wednesday, December 17, 2014 11:54 AM
To: Morgan, Laurie (ECY)
Subject: Aquifer Recharge Data and Regulations - City of Shoreline

Laurie,

We spoke before Thanksgiving. I am following up to see if you found any aquifer recharge area data for the City of Shoreline area and/or guidance on what steps we may need to take for our Critical Areas Ordinance update in 2015. As best I can tell the City has not done any specific research into whether there are critical aquifer recharge areas in Shoreline that would be protected as critical areas because we do not have any public water supplies that are sourced in our area.

My colleagues and I will be updating our CAO in 2015 and I am trying to determine what we will be required to do at a minimum for this critical area type. Our current regulations can be found in SMC Chapter 20.80.420 to 20.80.450 online at: http://www.codepublishing.com/wa/shoreline/. To my knowledge we do not have a map for this type of critical area.

Any assistance you or your colleagues can provide would be helpful.

Sincerely,

Juniper Nammi, AICP
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www.shorelinewa.gov

From:	Juniper Nammi
To:	Lisa Basher
Subject:	FW: City of Shoreline - Draft updates to FWHCAs, Flood Hazards, Aquifers, and Streams
Date:	Thursday, September 17, 2015 11:27:03 AM
Attachments:	image001.jpg WDFW comments _ CAO Subchapters FWHCAs-Flood-Aquifer-Streams_July2015.docx

Another one for the desk packet.

Juniper Nammi, AICP
Associate Planner
P: (206) 801-2525

From: Heller, Christa H (DFW) [mailto:Christa.Heller@dfw.wa.gov]
Sent: Thursday, July 23, 2015 1:57 PM
To: Juniper Nammi
Cc: Reinbold, Stewart G (DFW)
Subject: RE: City of Shoreline - Draft updates to FWHCAs, Flood Hazards, Aquifers, and Streams

Hi Juniper,

Thanks for giving WDFW the opportunity to comment on your CAO update. I have added a few comments and suggested edits to the attached document.

Feel free to call or e-mail if you have questions or wish to discuss further. I am working remotely today and Monday, so you may contact me on my work cell phone at 425.628.0490. I will be on vacation leave tomorrow.

Best,

Christa Heller

Habitat Biologist
Washington Department of Fish and Wildlife
Region 4 – Issaquah Field Office
((425) 313-5681 (office)
* christa.heller@dfw.wa.gov

From: Juniper Nammi [mailto:jnammi@shorelinewa.gov]
Sent: Friday, July 10, 2015 1:26 PM
To: Blair, Misty (ECY); Boscolo, Anthony (COM); Heller, Christa H (DFW); Morgan, Laurie (ECY); Martin, Christopher (ECY)
Subject: City of Shoreline - Draft updates to FWHCAs, Flood Hazards, Aquifers, and Streams

Attached is the next set of draft changes to the City of Shoreline's CAO. Included here are changes to the subchapters for Fish and Wildlife Habitat Conservation Areas, Flood Hazard Areas, Aquifer Recharge Areas, and Streams. No substantive changes are proposed to Flood Hazards or Aquifers at this time. Flood Hazards were updated in 2012 for compliance with the Federal mandate to comply with the ESA. The City of Shoreline has no known aquifer recharge areas in the City that are used (or identified for use) as public drinking water supply. The full staff report for the July 16 Planning Commission to discuss these sections is available online at: http://shorelinewa.gov/home/showdocument?id=21349. We will be finishing the General Provisions subchapter in the next couple week and plan on sending our official 60-day and SEPA noticing out the first week in August.

Any early feedback you are able to provide would be extremely welcome. Thank you for your time and attention to these preliminary draft changes.

Sincerely,

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Title 20

DEVELOPMENT CODE

Division I. Unified Development Code

Chapter 20.20

Definitions*

Sections:

*Code reviser's note: Ordinance 238 provided all of the definitions initially set out in this chapter. History notes following definitions indicate amending ordinances only.

20.20.010 A definitions.

Anadromous Fish	Fish that spawn and rear in freshwater and mature in the marine environment. While Pacific salmon die after their first spawning, adult char (bull trout) can live for many years, moving in and out of saltwater and spawning each year. The life history of Pacific salmon and char contains critical periods of time when these fish are more susceptible to environmental and physical damage than at other times. The life history of salmon, for example, contains the following stages: upstream migration of adults, spawning, inter-gravel incubation, rearing, smoltification (the time period needed for juveniles to adjust their body functions to live in the marine environment), downstream migration, and ocean rearing to adults.
Aquifer	A geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.
Aquifer Recharge Areas	Areas that, due to the presence of certain soils, geology, and surface water, act to recharge ground water by percolation. Aquifer recharge areas are only designated as critical areas under WAC 365-190-080(2) when they are determined to have a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030(2).

20.20.012 B definitions.

Biologist	A person who has earned at least a Bachelor of Science degree in the biological sciences from an accredited college or university or who has equivalent educational training and experience.
Buffer	A designated area contiguous to and protects a critical area which is required for the continued maintenance, functioning and/or structural stability of a critical area. ~~a steep slope or landslide hazard area intended to protect slope stability, attenuation of surface~~

Comment [jn1]: Added based on definitions in Commerce example code. Useful for distinction between salmonids that migrate verses salmonids that are typically resident populations.

Comment [jn2]: Aquifer related definitions added for consistent practice of defining critical areas in definitions section. Definitions based on Commerce example code.

Comment [jn3]: Definition simplified based on Commerce example code.

~~water flows and landslide hazards or a designated area contiguous to a stream or wetland intended to protect the stream or wetland and be an integral part of the stream or wetland ecosystem.~~

20.20.014 C definitions.

Contiguous	Next to, abutting, or touching and having a boundary, or portion thereof, in common.
Corridor, Wildlife or Open Space	Wildlife or open space corridor are a series of undeveloped or minimally developed, interconnected public and private lands that supports the successful function of existing natural systems, provide opportunities for passive and active recreation (where appropriate), and enhances opportunities for wildlife mobility.
Critical Areas	An area with one or more of the following environmental characteristics: A. Geologic hazard areas, included but not limited to: 1. Landslide hazard areas, 2. Seismic hazard areas, and 3. Erosion hazard areas; B. ~~Flood hazard areas~~ Fish and wildlife habitat conservation areas; C. ~~Stream areas~~ Wetlands; D. ~~Aquifer recharge areas~~ Flood hazard areas; and E. ~~Wetlands~~ Aquifer recharge areas.~~; and~~ ~~F. Fish and wildlife habitat conservation areas.~~ (Ord. 398 § 1, 2006; Ord. 352 § 1, 2004).

20.20.018 E definitions.

Enhancement	An action which increases the functions and values of a stream, wetland or other sensitive area or buffer.

20.20.020 F definitions.

Fish and Wildlife Habitat Conservation Areas	Areas necessary to maintain species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created as designated by WAC 365-190-080(5).
Fish Habitat	Habitat that is used by fish at any life stage at any time of the year, including potential habitat likely to be used by fish that could be recovered by restoration or management and includes off-channel habitat.
Flood Hazard Areas	Those areas in the city of Shoreline identified as special flood hazard areas and protected areas as defined in Chapter 13.12 SMC, which comprise the regulatory floodplain. (Ord. 641 § 3 (Exh. A), 2012).
Functions and Values	The beneficial roles served by critical areas and their buffers including, but are not limited to, water quality protection and enhancement; fish and wildlife habitat; food chain support; flood storage, conveyance and

Comment [jn4]: Reordered to match organization of Chapter 20.80 SMC, Critical Areas.

Comment [jn5]: Definition added for this critical area type based on WAC 365-190-080. Specific types of areas not included here. Listed in SMC 20.80.270.

Comment [jn6]: Definition added based on Commerce example code because presence or absence of fish habitat changes the classification of a stream.

Comment [jn7]: Term that is important to how mitigation is determined. Definition added based on Commerce example code.

	attenuation; ground water recharge and discharge; erosion control; wave attenuation; protection from hazards; historical, archaeological, and aesthetic value protection; educational opportunities; and recreation. These beneficial roles are not listed in order of priority. Critical area functions can be used to help set targets (species composition, structure, etc.) for managed areas, including mitigation sites.

20.20.024 H definitions.

Habitat Conservation Areas	Areas designated as fish and wildlife habitat conservation areas.
Habitats of Local Importance	These areas include a seasonal range or habitat element with which a given species has a primary association, and which, if altered may reduce the likelihood that the species will maintain and reproduce over the long-term. These might include areas of high relative density or species richness, breeding habitat, winter range, and movement corridors. These might also include habitats that are of limited availability or high vulnerability to alterations such as cliffs, talus, and wetlands.
Hand-held Equipment	Equipment, such as shovels or chainsaws that are compact enough to be used or operated while being held in the hand or hands. Does not include equipment operated on the ground by pushing or self-propulsion such as lawn mowers or rototillers.
Hazardous Substance	Any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical, or biological properties described in WAC 173-303-090 or 173-303-100. ~~as defined in RCW 70.105.010.~~

20.20.032 L definitions.

Lands Covered by Water	All lands underlying the water areas of the state below the ordinary high water mark, including salt waters, tidal waters, estuarine waters, natural water courses, lakes, ponds, artificially impounded waters, and wetlands consistent with WAC 197-11-756.

20.20.038 O definitions.

Ordinary High Water Mark (OHWM)	The mark found by examining the bed and banks of a stream, lake, or tidal water and ascertaining where the presence and action of waters are so common and long maintained in ordinary years as to mark upon the soil a vegetative character distinct from that of the abutting upland. In any area where the ordinary high water mark cannot be found, the line of mean high water shall substitute. In any area where neither can be found, the top of the channel bank shall substitute. In braided channels and alluvial fans, the ordinary high water mark or line of mean high water shall be measured so as to include the entire stream feature.

Comment [jn8]: Habitat definitions added based on Commerce example code.

Comment [jn9]: Definition added for clarification of equipment that can be used when methods are limited to hand-held equipment in some types of critical areas or buffers.

Comment [jn10]: Updated based Commerce example code for clarity.

Comment [jn11]: Add state definition of "lands covered by water" so it is clear when SEPA applies, that alterations in wetlands still require SEPA, though all other critical areas and critical area buffers are now exempt from SEPA.

20.20.040 P definitions.

Priority Habitat	Habitat type or elements with unique or significant value to one or more species as classified by the state Department of Fish and Wildlife. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element.

Comment [jn12]: Definition added based on Commerce example code. Key term for identifying Fish and Wildlife Habitat.

20.20.044 R definitions.

Riparian Habitat	Areas adjacent to aquatic systems with flowing water that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. Widths shall be measured from the ordinary high water mark or from the top of bank if the ordinary high water mark cannot be identified. It includes the entire extent of the floodplain and the extent of vegetation adapted to wet conditions as well as adjacent upland plant communities that directly influence the stream system. Riparian habitat areas include those riparian areas severely altered or damaged due to human development activities.

Comment [jn13]: Definition added based on Commerce example code to support code language in Fish and Wildlife Habitat subchapter.

20.20.046 S definitions.

Salmonid	A member of the fish family salmonidae, including: A. Chinook, coho, chum, sockeye and pink salmon; B. Rainbow, steelhead and cutthroat salmon; C. Brown trout; D. Brook and dolly varden char; E. Kokanee; and F. Whitefish.
Stream Functions	Natural processes performed by streams including functions which are important in facilitating food chain production, providing habitat for nesting, rearing and resting sites for aquatic, terrestrial and avian species, maintaining the availability and quality of water, such as purifying water, acting as recharge and discharge areas for ground water aquifers, moderating surface water and stormwater flows and maintaining the free flowing conveyance of water, sediments and other organic matter.
Streams	Those areas where surface waters produce a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses, unless they are used by salmonids or are used to convey streams naturally occurring prior to construction. A channel or bed need not contain water

	year-round; provided, that there is evidence of at least intermittent flow during years of normal rainfall. (Ord. 398 § 1, 2006).
Submerged Land	Any land at or below the ordinary high water mark.

Chapter 20.80

Critical Areas

Sections:

Comment [jn14]: Stream regulations moved to Subchapter 3. Fish and Wildlife Habitat Conservation Areas consistent with Commerce example code and commonly adopted regulations in neighboring jurisdictions.

Subchapter 3.

Fish and Wildlife Habitat Conservation Areas

20.80.260 FISH AND WILDLIFE HABITAT - ~~Designation~~ Description and purpose.

Comment [jn15]: New text added for consistency with WAC 365-190-130 and to meet GMA requirement for no net loss of FWHCA function and values. Designation is actually located in 20.80.270 following classification.

A. Fish and wildlife habitat conservation areas (or habitat conservation areas) are lands managed for maintaining populations of species in suitable habitats within their natural geographic distribution so that the habitat available is sufficient to support viable populations over the long term and isolated subpopulations are not created. This does not mean maintain all individuals of all species at all times, but it does mean not degrading or reducing populations or habitats so they are no longer viable over the long term. Fish and wildlife habitat conservation areas include nesting and breeding grounds for State and Federal threatened, endangered, critical or priority species listed by the Washington State Department of Fish and Wildlife, including corridors which connect priority habitat, and those areas which provide habitat for species of local significance which have been or may be identified in the City of Shoreline Comprehensive Plan. Fish and wildlife habitat conservation areas

Comment [W16]: FYI - For projects/actions requiring an HPA, WDFW would expect no-net-loss of fish or fish habitat. Regardless of species or season. Consider revising this statement, as it is inconsistent with WDFWs hydraulic code rules.

also include stream areas and buffers which provide important habitat corridors; help maintain water quality, storage and conveyance stormwater and floodwater; recharge groundwater, and serve as areas for recreation, education, scientific study, and aesthetic appreciation.

B. The purpose of fish and wildlife habitat conservation areas shall be to ~~provide opportunities for food, cover, nesting, breeding and movement for fish and wildlife within the City; maintain and promote diversity of species and habitat within the City; coordinate habitat protection with elements of the City's established open space corridors wherever possible; help to maintain air and water quality; control erosion; provide areas for recreation, education and scientific study and aesthetic appreciation; and contribute to the established character of the City~~ protect and conserve the habitat of fish and wildlife species and thereby maintain or increase their populations. The primary purpose of this section is to minimize development impacts to habitat conservation areas and to:

1. Protect federal and state listed habitats and species and give special attention to protection and enhancement of anadromous fish populations; and

2. Maintain a diversity of species and habitat within the City; and

3. Coordinate habitat protection to maintain and provide habitat connections; and

4. Help maintain air and water quality and control erosion.

~~C. The City of Shoreline has given special consideration to the identification and regulation of fish and wildlife habitat conservation areas that support anadromous fisheries in order to preserve and enhance species which are or may be listed as endangered, threatened or priority species by State and Federal agencies.~~ (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 4(A), 2000).

Comment [jn17]: Reorganized purpose statement for clarity.

20.80.270 FISH AND WILDLIFE HABITAT – Classification and designation.

Comment [jn18]: Categories of fish and wildlife habitat conservation areas updated for consistency with WAC 365-190-130 and to add and update stream classifications from 20.80.470.

~~A.~~ Fish and wildlife habitat conservation areas are those areas designated by the City based on review of the best available science; input from Washington Department of Fish and Wildlife, Washington Department of Ecology, and other agencies; and any of the following criteria:

~~1~~A. **Areas where State or Federally Designated Endangered, Threatened, and Sensitive Species Have a Primary Association.** ~~The presence of species proposed or listed by the Federal government or the State of Washington as endangered, threatened, critical, or priority; or~~

1. Federally designated endangered and threatened species are those fish and wildlife species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that are in danger of extinction or threatened to become endangered. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service should be consulted for current listing status. Federally designated endangered and threatened species known to be identified and mapped by DFW in Shoreline include but may not be limited to the following:

   a. Chinook *(Oncrhynchus tshawytscha)*;

   b. Coho *(Oncrhynchus kisutch)*;

2. State designated endangered, threatened, and sensitive species are those fish and wildlife species native to the state of Washington identified by the Washington Department of Fish and Wildlife, that are in danger of extinction, threatened to become endangered, vulnerable, or declining and are likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats. State designated endangered, threatened, and sensitive species are periodically recorded in WAC 232-12-014 (state endangered species) and WAC 232-12-011 (state threatened and sensitive species). The state Department of Fish and Wildlife maintains the most current listing and should be consulted for current listing status. State designated endangered, threatened, and

sensitive species known to be identified and mapped by DFW in Shoreline include but may not be limited to the following:

a. Northern goshawk *(Accipiter gentilis)*;

b. Osprey *(Pandion haliaetus)*;

c. Purple martin *(Progne subis)*;

~~2~~B. **State Priority Habitats and Areas Associated With State Priority Species.** ~~The presence of heron rookeries or raptor nesting trees; or~~ Priority habitats and species are considered to be priorities for conservation and management. Priority species require protective measures for their perpetuation due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority habitats are those habitat types or elements with unique or significant value to a diverse assemblage of species. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element. Priority habitats and species are identified by the State Department of Fish and Wildlife (DFW). Priority habitats and species known to be identified and mapped by DFW in Shoreline include but may not be limited to the following:

1. Biodiversity areas and corridors at Boeing Creek Park and Innis Arden Reserve Park;

2. Chinook/Fall Chinook *(Oncrhynchus tshawytscha)*;

3. Coho *(Oncrhynchus kisutch)*;

4. Dungeness crab;

5. Estuarine intertidal aquatic habitat;

6. Geoduck;

7. Northern goshawk *(Accipiter gentilis)*;

8. Pacific sand lance *(Ammodytes hexapterus)*;

9. Purple martin *(Progne subis)*;

10. Resident coastal cutthroat *(Oncrhynchus clarki)*;

11. Surf smelt *(Hypomesus pretiosus)*;

12. Waterfowl concentrations at Ronald Bog;

13. Wetland aquatic habitats; and

14. Winter steelhead *(Oncrhynchus mykiss)*.

~~3~~C. **Commercial and Recreational Shellfish Areas.** These areas include all public and private tidelands or bedlands suitable for shellfish harvest, including shellfish protection districts established pursuant to Chapter 90.72 RCW.

D. **Kelp and Eelgrass Beds and Herring and Smelt Spawning Areas.**

E. **Waters of the State.** Waters of the state include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington, as classified in WAC 222-16-030.

Comment [W19]: Note: This does may include watercourses modified by humans.

F. **Wetlands.** All wetlands as designated and classified in SMC 20.80.320.

G. **Streams** ~~and wetlands and their associated buffers that provide significant habitat for fish and wildlife~~. Those areas where surface waters produce a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses, unless they are used by salmonids or are used to convey streams naturally occurring prior to construction. A channel or bed need not contain water year-round; provided that there is evidence of at least intermittent flow during years of normal rainfall. Streams shall be classified in accordance with the Washington Department of Natural Resources water typing system (WAC 222-16-030) hereby adopted in its entirety by reference and summarized as follows:

1. **Type S:** streams inventoried as "shorelines of the state" under Chapter 90.58 RCW and the rules promulgated pursuant to Chapter 90.58 RCW;

2. **Type F:** streams which contain fish habitat;

3. **Type Np:** perennial nonfish habitat streams;

4. **Type Ns:** seasonal nonfish habitat streams; and

5. **Piped stream segments:** those segments of streams, regardless of their type, that are fully enclosed in an underground pipe or culvert.

6. Not all streams that are known to exist with fish habitat support anadromous fish populations, or have the potential for anadromous fish occurrence because of obstructions, blockages or access restrictions resulting from existing conditions. Therefore, in order to provide special consideration of and increased protection for anadromous fish in the application of development standards, Shoreline streams shall be further classified as follows:

   a. **Anadromous fishbearing streams.** These streams include:

      i. Streams where naturally recurring use by anadromous fish populations has been documented by a government agency;

      ii. Streams that are fish passable or have the potential to be fish passable by salmonid populations, including those from Lake Washington or Puget Sound, as determined by a qualified professional based on review of stream flow, gradient ~~and~~ and natural barriers and criteria for fish passability established by the Washington Department of Fish and Wildlife; and

      iii. Streams that are planned for restoration in a six-year capital improvement plan adopted by a government agency or planned for removal of the private dams that will result in a fish passable connection to Lake Washington or Puget Sound; and

   b. **Nonanadromous fishbearing streams.** Streams which contain existing or potential fish habitat, but do not have the potential for anadromous fish use due to natural barriers to fish passage with no plans for their removal per SMC 20.80.270(G)(6)(a). Includes streams that contain resident or isolated fish populations.

   The general areas and stream reaches with access for anadromous fish are indicated in the City of Shoreline Stream and Wetland Inventory and Assessment (2004) and basin plans. The potential for anadromous fish access shall be confirmed in the ~~filed~~ field by a qualified professional as part of a critical area report to be consistent with Washington state law RWC 77.57.030..

B. The City designates ~~the following fish and wildlife habitat conservation~~ all areas that meet one or more of the above criteria, regardless of any formal identification, as critical areas and as such they are subject to the provisions of this Title. They shall be managed consistent with best available science; including the

Comment [jn20]: Stream classifications updated to state types based BAS. Recommended because it takes into consideration all types of fish habitat, not just salmonids.

Comment [W21]: Washington law requires that human made fish passage barriers be removed or maintained in such a way to allow for unrestricted fish passage (RCW 77.57.030). WDFW has fish passage barrier map and inventory of drainages across the state. Information can be found online at http://wdfw.wa.gov/conservation/habitat/fish_passage/data_maps.html. Detailed inventory reports of protocol barrier surveys can be obtained by contacting a WDFW habitat biologist.

Comment [W22]: i.e. water fall, bedrock chute, etc. that exceeds jumping height for salmonids.

Washington State Department of Fish and Wildlife's Management Recommendations for Priority Habitat and Species. The following fish and wildlife habitat conservation areas are specifically designated and this designation does not preclude designation of additional areas as provided in subsection (A) of this section:

1. All regulated streams and wetlands and their associated buffers as determined by a qualified specialist.

2. The waters, bed and shoreline of Puget Sound up to the ordinary high water mark. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 4(B), 2000).

20.80.272 FISH AND WILDLIFE HABITAT - Mapping.

Comment [jn23]: Added to facilitate critical area identification and transparency.

A. **Mapping.** The approximate location and extent of fish and wildlife habitat areas are shown in the following maps and inventories herby adopted:

1. Washington Department of Fish and Wildlife Priority Habitat and Species maps;

2. Washington State Department of Natural Resources, Official Water Type Reference maps, as amended;

3. Washington State Department of Natural Resources Puget Sound Intertidal Habitat Inventory maps;

4. Washington State Department of Natural Resources Shorezone Inventory;

5. Washington State Department of Natural Resources Natural Heritage Program mapping data;

6. Washington State Department of Health Annual Inventory of Shellfish Harvest Areas;

7. Anadromous and resident salmonid distribution maps contained in the Habitat Limiting Factors reports published by the Washington Conservation Commission;

8. Washington State Department of Natural Resources State Natural Area Preserves and Natural Resource Conservation Area maps; and

9. Fish and Wildlife habitat data layers, such as stream and wetland data, maintained in the City of Shoreline geographic information system (GIS).

The inventories and cited resources are to be used as a guide for the City of Shoreline, project applicants, and/or property owners, and may be continuously updated as new fish and wildlife habitat conservation areas are identified or critical area reports are submitted for known habitat conservation areas. They are a reference and do not provide a final critical area designation.

20.80.274 FISH AND WILDLIFE HABITAT - General development standards.

Comment [jn24]: Section added based on Commerce example code. Replaces 20.80.290 in part.

A. Activities and uses shall be prohibited in fish and wildlife habitat conservation areas and associated buffers, except as provided for in this subchapter. Unless specifically exempted under SMC 20.80.030 and 20.80.040 or allowed under subsection C below or SMC 20.80.276, development activities and uses that result in alteration of fish and wildlife habitat conservation areas shall be subject to the critical area reasonable use and special use provisions of SMC 20.30.333 and 20.30.336 or subject to the provisions of the Shoreline Master Program where located within the shoreline jurisdiction.

B. Any proposed alterations permitted, consistent with special use or reasonable use review, to fish and wildlife habitat conservation area shall require the preparation of a habitat management plan, consistent with the requirements of the Washington State Department of Fish and Wildlife Priority Habitat Program. The habitat management plan shall be prepared by a qualified professional and reviewed and approved by the City.

Comment [jn25]: Provision moved from SMC 20.80.290 Alterations.

C. **Activities Allowed in Fish and Wildlife Habitat Conservation Areas.** These activities listed below are

allowed in fish and wildlife habitat conservation areas subject to applicable permit approvals. Additional exemptions are listed in the provisions of SMC 20.80.030 and 20.80.040. These activities do not require the submission of a critical area report and are exempt from monitoring and financial guarantee requirements, except where such activities result in a loss of the functions and values of a fish and wildlife habitat conservation area or related buffer. These activities include:

1. Conservation or preservation of soil, water, vegetation, fish, shellfish, and/or other wildlife that does not entail changing the structure or functions of the existing habitat conservation area.

2. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the habitat conservation area by changing existing topography, water conditions, or water sources.

3. Enhancement of a fish and wildlife habitat conservation area or buffer through the select removal of nonnative invasive plant species consistent with all of the following:

   a. Removal of invasive plant species shall be restricted to hand labor and hand-held equipment unless The Washington State or King County Noxious Weed Control Board otherwise prescribe the sue of riding mowers, light mechanical cultivating equipment, herbicides or biological control methods with permit approval from the City for the alternate treatment methods;

   b. Not more than 500 square feet of area may be cleared, as calculated cumulatively over one (1) year, on private property without a permit;

   c. Not more than 3,000 square feet of soil may be exposed at any one time on City owned park property without a permit consistent with SMC 20.50.320;

   d. All removed plant material shall be taken away from the site and disposed of appropriately;

   e. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds or the King County Noxious Weed List must be handled and disposed of according to best practices appropriate to that species and approved by the City when permit review is applicable; and

   f. Revegetation with appropriate native species at natural densities is required in conjunction with removal of invasive plant species.

4. Permitted alteration to a legally constructed structure existing within a fish and wildlife habitat conservation area buffer that does not increase the footprint of the development or hardscape or increase the impact to a fish and wildlife habitat conservation area.

5. Buildings and structures (excluding fences and arbors) are prohibited within the required 10 foot stream buffers for a piped stream segment. Other development activities, such as paving, stormwater facilities, clearing (including tree removal) and grading are allowed if no other critical area or buffer is present.

D. **Non-indigenous Species.** No plant, wildlife, or fish species not indigenous to the region shall be introduced into a fish and wildlife habitat conservation area unless authorized by a state or federal permit or approval.

E. **Mitigation and Contiguous Corridors.** Mitigation sites shall be located to preserve or achieve contiguous wildlife habitat corridors in accordance with a mitigation plan that is part of an approved critical area report to minimize the isolating effects of development on habitat areas, so long as mitigation of aquatic habitat is

Comment [jn26]: Provisions for limited enhancement based on language previously proposed for Wetlands regulations – moved from SMP. Edited here for clarity and consistency with SMC 20.50.310(A)(6).

Comment [W27]: WDFW has specific guidance and rules pertaining to aquatic invasive species. The recently updated (July 1, 2015) pamphlet HPA can be found online at http://wdfw.wa.gov/licensing/aquatic_plant_removal/.

located within the same aquatic ecosystem as the area disturbed.

F. **Approvals of Activities.** The Director shall condition approvals of activities allowed within or adjacent to a habitat conservation area or its buffers, as necessary to minimize or mitigate any potential adverse impacts. Conditions shall be based on the best available science and may include, but are not limited to, the following:

1. Establishment of buffers;

2. Preservation of important vegetation and/or habitat features such as snags and downed wood specific to the priority wildlife species in the habitat conservation area;

3. Limitation of access to the habitat area, including fencing to deter unauthorized access;

4. Seasonal restriction of construction activities;

5. Establishment of a duration and timetable for periodic review of mitigation activities; and

6. Requirement of a performance bond, when necessary, to ensure completion and success of proposed mitigation.

G. **Mitigation and Equivalent or Greater Biological Functions.** Mitigation of alterations to habitat conservation areas shall achieve equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis. Mitigation shall be located on-site except when demonstrated that a higher level of ecological functioning would result from an off-site location. Mitigation shall be detailed in a fish and wildlife habitat conservation area mitigation plan consistent with the requirements of SMC 20.80.300.

Comment [W28]: This is good!

H. **Approvals and the Best Available Science.** Any approval of alterations or impacts to a habitat conservation area shall be supported by the best available science.

I. **Buffers.**

1. **Establishment of Buffers.** The Director shall require the establishment of buffer areas for activities adjacent to habitat conservation areas when needed to protect habitat conservation areas. Buffers shall consist of an undisturbed area of native vegetation or areas identified for restoration established to protect the integrity, functions, and values of the affected habitat. Required buffer widths shall reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby and shall be consistent with the management recommendations issued by the Washington Department of Fish and Wildlife.

2. **Seasonal Restrictions.** When a species is more susceptible to adverse impacts during specific periods of the year, seasonal restrictions may apply. Larger buffers may be required and activities may be further restricted during the specified season.

3. **Habitat Buffer Averaging.** The Director may allow the recommended habitat area buffer width to be reduced in accordance with a critical area report, the best available science, and the management recommendations issued by the Washington Department of Fish and Wildlife, only if:

a. It will not reduce stream or habitat functions;

b. It will not adversely affect salmonid habitat;

Comment [W29]: This doesn't seem consistent with other language in the document. Maybe it should refer to "Fish and Wildlife" habitat.

c. It will provide additional natural resource protection, such as buffer enhancement;

d. The total area contained in the buffer area after averaging is no less than that which would be

contained within the standard buffer; and

e. The buffer area width is not reduced by more than twenty-five percent (25%) in any location.

J. **Signs and Fencing of Habitat Conservation Areas.**

1. **Temporary Markers.** The outer perimeter of the fish and wildlife habitat conservation area or buffer and the limits of those areas to be disturbed pursuant to an approved permit or authorization shall be marked in the field in such a way as to ensure that no unauthorized intrusion will occur and verified by the [director] prior to the commencement of permitted activities. This temporary marking shall be maintained throughout construction and shall not be removed until permanent signs, if required, are in place.

2. **Permanent Signs.** As a condition of any permit or authorization issued pursuant to this Chapter, the Director may require that applicant to install permanent signs along the boundary of a habitat conservation area or buffer, as recommended in a critical are report.

a. Permanent signs shall be made of a metal face and attached to a metal post or another material of equal durability and nonhazardous material. Signs must be posted at an interval of one per lot or every fifty (50) feet, whichever is less and must be maintained by the property owner in perpetuity. The signs shall be worded consistent with the text specified in SMC 20.80.060 or with alternative language approved by the Director.

b. The provisions of subsection (a) of this section may be modified as necessary to assure protection of sensitive features or wildlife.

3. **Fencing.**

a. The Director shall determine if fencing is necessary to protect the functions and values of the critical area as demonstrated in a critical area report. If found to be necessary, the Director shall condition any permit or authorization issued pursuant to this Chapter to require the applicant to install a permanent fence at the edge of the habitat conservation area or buffer, when fencing will prevent future impacts to the habitat conservation area.

b. The applicant shall be required to install a permanent fence around the habitat conservation area or buffer when domestic grazing animals, only as allowed under SMC 20.40.240, are present or may be introduced on site.

c. Fencing installed as part of a proposed activity or as required in this Subsection shall be design so as to not interfere with species migration, including fish runs, and shall be constructed in a manner that minimizes habitat impacts.

K. **Subdivisions.** The subdivision and short subdivision of land in fish and wildlife habitat conservation areas and associated buffers is subject to the following:

1. Land that is located wholly within a habitat conservation area or its buffer may not be subdivided;

2. Land that is located partially within a habitat conservation area or its buffer may be divided provided that the developable portion of each new lot and its access is located outside of the habitat conservation area or its buffer and meets the minimum lot size requirements of SMC 20.50.020.

3. Access roads and utilities serving the proposed subdivision may be permitted within the habitat conservation area and associated buffers only if the applicant's civil engineer demonstrates and the City determines that no other feasible alternative exists and when consistent with this Title.

20.80.276 FISH AND WILDLIFE HABITAT – Specific habitat development standards.

In addition to the provision in SMC 20.80.274, the following development standards apply to the specific habitat types identified below.

A. Endangered, Threatened, and Sensitive Species.

1. No development shall be allowed within a fish and wildlife habitat conservation area or buffer with which state or federally endangered, threatened, or sensitive species have a primary association, except that which is provided for by a management plan established by the Washington Department of Fish and Wildlife or applicable state or federal agency.

2. Whenever activities are proposed adjacent to a fish and wildlife habitat conservation area with which state or federally endangered, threatened, or sensitive species have a primary association, such area shall be protected through the application of protection measures in accordance with a critical area report prepared by a qualified professional and approved by the City. Approval for alteration of land adjacent to the habitat conservation area or its buffer shall not occur prior to consultation with the Washington Department of Fish and Wildlife for animal species, the Washington State Department of Natural Resources for plant species, and other appropriate federal or state agencies.

B. **Anadromous Fish.**

1. All activities, uses, and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of anadromous fish habitat, including, but not limited to, adhering to the following standards:

   a. Subsection A above applies to anadromous fish where those populations are identified as endangered, threatened or sensitive species;

   b. Activities shall be timed to occur only during the allowable work window as designated by the Washington Department of Fish and Wildlife for the applicable species;

   c. An alternative alignment or location for the activity is not feasible;

   d. The activity is designed so that it will not degrade the functions or values of the fish habitat or other critical areas;

   e. Shoreline erosion control measures shall be designed to use bioengineering methods or soft armoring techniques, according to an approved critical area report; and

   f. Any impacts to the functions or values of the habitat conservation area are mitigated in accordance with an approved critical area report.

2. Structures that prevent ~~the~~ migration ~~of salmonids~~ shall not be allowed in the portion of water bodies currently or historically used by anadromous fish. Fish bypass facilities shall be provided that allow the upstream migration of adult fish and shall prevent fry and juveniles migrating downstream from being trapped or harmed.

3. Fills, when authorized by the City and all applicable Joint Aquatic Resource Permit Application approvals, shall not adversely impact anadromous fish or their habitat or shall mitigate any unavoidable impacts and shall only be allowed for a water-dependent use.

C. **Wetland Habitats.** All proposed activities within or adjacent to habitat conservation areas containing wetlands shall conform to the wetland development performance standards set forth in SMC Chapter 20.80, Subchapter 4. Wetlands. If non-wetlands habitat and wetlands are present at the same location, the provisions of this subchapter or the Wetlands subchapter, whichever provides greater protection to the habitat, apply.

D. **Streams.** Activities, uses and alterations of streams shall be prohibited subject to the reasonable use provisions (SMC 20.30.336) or special use provisions (SMC 20.30.333), unless otherwise allowed by the exemptions or allowed activities provisions of this Title, or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II. No alteration to a stream buffer shall be permitted unless consistent with the provisions of this title and the specific standards for development outlined below.

1. **Type S and Type F-anadromous streams.** Development activities and uses that result in alteration of Type S and Type F-anadromous streams and their associated buffers shall be prohibited subject to the critical area reasonable use and critical area special use provisions of SMC 20.30.333 and 20.30.336, unless otherwise allowed by the exemptions or allowed activities provisions of this Title, or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II, where the proposed development activity is located within the shoreline jurisdiction.

2. **Type F-nonanadromous and Type Np streams.** Development activities and uses that result in alteration of Type F-nonanadromous and Type Np streams are prohibited subject to the critical area reasonable use and critical area special use provisions of SMC 20.30.333 and 20.30.336, unless otherwise allowed by the exemptions or allowed activities provisions of this Title, or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II, where the proposed development activity is located within the shoreline jurisdiction.

3. **Type Ns streams.** Development activities and uses that result in unavoidable impacts may be permitted in Type Ns streams and associated buffers in accordance with an approved critical area(s) report and compensatory mitigation plan, and only if the proposed activity is the only reasonable alternative that will accomplish the applicant's objectives. Full compensation for the loss of acreage and functions of wetland and buffers shall be provided in compliance with the mitigation performance standards and requirements of these regulations.

4. **Stream Crossing.** Crossing of streams may be permitted based on the findings in a critical area report, subject to the limitation in subsections 1, 2, and 3 above, and consistent with the following:

a. **Bridges.** Bridges shall be used to cross Type S and Type F-anadromous streams. Culverted crossings and other obstructive means of crossing Type S and Type F-anadromous streams shall be prohibited; and

b. **Culverts.** Culverts are allowable for crossing of Type F-nonanadromous, Np, and Ns streams when fish passage will not be impaired and when the following design criteria and conditions are met:

i. Oversized culverts will be installed (i.e. that allow for floodplain and/or associated wetland connectivity;

ii. Culverts will include gradient controls and creation of pools within the culvert for Type F streams where appropriate;

iii. Gravel substrate will be placed in the bottom of the culvert to a minimum depth of one foot for Type F streams;

iv. A maintenance covenant shall be recorded on title with King County that requires the property owner to at all times, keep any culvert free of debris and sediment to allow free passage of water and, if applicable, fish; and

v. The City may require that a culvert be removed from a stream as a condition of approval, unless it is demonstrated conclusively that the culvert is not detrimental to fish habitat or water quality, or removal would be detrimental to fish or wildlife habitat or water quality.

5. **Relocation.** Relocation of a Type S, F, or Np stream may be allowed, subject to the limitation in subsections 1 and 2 above, and only when the proposed relocation is part of an approved mitigation or rehabilitation plan, will result in equal or better habitat and water quality, and will not diminish the flow capacity of the stream. Relocation of a Type Ns stream may be allowed, subject to the limitation in

Comment [jn30]: Alteration of streams currently allowed in SMC 20.80.80 and 20.80.490 currently allows for relocation and stream crossings dependent on the classification of the stream. No mitigation performance standards currently apply to Type IV streams.

The proposed new standards are intended to clarify when alteration of the Streams themselves would be allowed by the City ONLY subject to the reasonable use provisions or simply based on the recommendations of a qualified professional. The current proposal allows alteration of Ns (former Type IV) without requiring reasonable use permit process, but with demonstration by the qualified professional that the impact cannot be avoided and the impacts are mitigated.

Comment [W31]: I suggest removing this statement. It is not consistent with WDFW water crossing design guidelines. It may be better to change to something like "Culverts that are designed for fish passage that will allow natural stream functions/processes to occur (i.e. sediment, wood and debris transport)."

subsections 3 above, and only when the proposed relocation will result in equal or better habitat and water quality and will not diminish the flow capacity of the stream.

6. **Restoring Piped Watercourses.** The City allows the voluntary opening of previously channelized/culverted streams and the rehabilitation and restoration of streams. Restoring piped watercourses may be approved consistent with the following:

a. When piped watercourse sections are restored, a protective buffer shall be required of the stream section. The buffer distance shall be based on an approved restoration plan, regardless of stream classification, and shall be a minimum of 35 to 50 feet, based on a restoration plan at the discretion of the Director, to allow for restoration and maintenance. The stream and buffer area shall include habitat improvements and measures to prevent erosion, landslide, and water quality impacts. Opened channels shall be designed to support fish and wildlife habitat and all uninhibited fish access, unless determined to be unfeasible as demonstrated in a restoration plan reviewed and approved by the City;

b. Removal of pipes conveying streams shall only occur when the City determines that the proposal will result in a new improvement of water quality and ecological functions and will not significantly increase the threat of erosion, flooding, slope stability or other hazards; and

c. Where the buffer of the restored stream would extend onto an adjacent property, the applicant shall obtain a written agreement from the affected neighboring property owner prior to the City approving the restoration of the piped watercourse.

20.80.280 FISH AND WILDLIFE HABITAT - Required buffer areas.

A. Buffer widths for fish and wildlife habitat areas shall be based on consideration of the following factors: species-specific recommendations of the Washington State Department of Fish and Wildlife; recommendations contained in a habitat management plan submitted by a qualified ~~consultant~~ professional; and the nature and intensity of land uses and activities occurring on the land adjacent to the site.

B. Low impact uses and activities which are consistent with the purpose and function of the habitat buffer and do not detract from its integrity may be permitted within the buffer depending on the sensitivity of the habitat area. Examples of uses and activities which may be permitted in appropriate cases include trails that are pervious, viewing platforms, stormwater management facilities such as bio-swales, utility easements and other similar uses and activities; provided, that any impacts to the buffer resulting from such permitted facilities shall be fully mitigated as detailed in an approved critical area report and mitigation plan prepared by a qualified professional.

C. **Standard Required Stream Buffer Widths.** Buffer widths shall reflect the sensitivity of the stream type, the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the stream area. Stream buffers shall be measured from the ordinary high water mark (OHWM) or the top of the bank, if the OHWM cannot be determined. Buffers shall be measured with rounded ends where streams enter or exit piped segments.

1. The following buffers are established for streams based upon the Washington State Department of Natural Resources water typing system and further classification based on anadromous or nonanadromous fish presence for the Type F streams:

Table 20.80.280(1)

Stream Type	Standard Buffer Width (ft)
Type S	150
Type F - anadromous	115

Comment [jn32]: Stream types updated for consistency with the State Water typing system. Only one change to standard buffer widths as current buffer widths are generally consistent with the recommended buffer widths in BAS reports for other jurisdictions in the region. Type Ns buffer increased based on BAS.

The state recommended stream buffer widths range from 75 to 300 feet. BAS memos for other jurisdictions generally conclude that larger buffer widths are not feasible in developed urban areas that characterize suburban cities like Shoreline. As such staff is not recommending increases to the standard buffer widths at this time.

Type F - nonanadromous	75
Type Np	65
Type Ns	45
Piped Stream Segments	10

2. **Increased Stream Buffer Widths.** The recommended stream buffer widths shall be increased, as follows:

   a. When the qualified professional determines that the recommended width is insufficient to prevent habitat degradation and to protect the structure and functions of the habitat area;

   b. When the flood hazard area exceeds the recommended stream buffer width, the stream buffer area shall extend to the outer edge of the flood hazard area;

   c. When a channel migration zone is present, the stream buffer width shall be measured from the outer edge of the channel migration zone;

   d. When the habitat area is in an area of high blowdown potential, the stream buffer width shall be expanded an additional fifty (50) feet on the windward side; or

   e. When the habitat area is within an erosion or landslide hazard area, or buffer, the stream buffer width shall be the recommended distance, or the erosion or landslide hazard area or buffer, whichever is greater.

3. **Stream Buffer Width Averaging with Enhancement.** The Director may allow the recommended stream buffer width to be reduced in accordance with an approved critical area report and the best available science on a case-by-case basis by averaging buffer widths. Any allowance for averaging buffer widths shall only be granted based on the development and implementation of a buffer enhancement plan for areas of buffer degradation consistent with the provisions in subsection 4 below. Only those portions of the stream buffer existing within the project area or subject parcel shall be considered in the total buffer area for buffer averaging. Averaging of buffer widths may only be allowed where a qualified professional demonstrates that:

   a. The width reduction and buffer enhancement plan provides evidence that the stream or habitat functions, including those of nonfish habitat and riparian wildlife, will be:

      i. Increased or maintained through plan implementation for those streams where existing buffer vegetation is generally intact native vegetation; or

      ii. Increased through plan implementation for those streams where existing buffer vegetation is inadequate to protect the functions and values of the stream;

   b. The total area contained in the buffer area of each stream on the development proposal site is not decreased after averaging;

   c. The recommended riparian habitat area width is not reduced by more than twenty-five percent (25%) in any one location; and

   d. The width reduction will not be located within another critical area or associated buffer.

4. **Stream Buffer Enhancement Measures**. The measures determined most applicable and/or appropriate will be considered in buffer averaging requirements. These include but are not limited to:

a. Removal of fish barriers to restore accessibility to anadromous fish.

b. Enhancement of fish habitat using log structures incorporated as part of a fish habitat enhancement plan.

c. Enhancement of fish and wildlife habitat structures that are likely to be used by wildlife, including wood duck houses, bat boxes, nesting platforms, snags, rootwads/stumps, birdhouses, and heron nesting areas.

d. Additional enhancement measures may include:

i. Planting native vegetation within the buffer area, especially vegetation that would increase value for fish and wildlife, increase stream bank or slope stability, improve water quality, or provide aesthetic/recreational value; or

ii. Creation of a surface channel where a stream was previously underground, in a culvert or pipe. Surface channels which are "daylighted" shall be located within a buffer area and shall be designed with energy dissipating functions or channel roughness features such as meanders and rootwads to reduce future ~~erosion~~bank failures or nearby flooding;

iii. Removal or modification of existing stream culverts (such as at road crossings) to improve fish passage, stream ~~and~~habitat, and flow capabilities; or

iv. Upgrading of retention/detention facilities or other drainage facilities beyond required levels.

D. **Stream Buffer Allowed Uses and Alteration.** Activities and uses shall be prohibited in stream buffers, except as provided for in this title. Stream buffers shall be maintained as undisturbed or restored natural vegetation. No clearing or grading activities are allowed within required stream buffers except as allowed under SMC 20.80.030, 20.80.040, 20.80.274, or consistent with an approved buffer enhancement plan consistent with the provisions of this subchapter. No structures or improvements shall be permitted within the stream buffer area, including buildings, decks, docks, except as otherwise permitted or required under the Shoreline Master Program, SMC Title 20, Division II, or under one of the following circumstances:

1. When the improvements are part of an approved rehabilitation or mitigation plan; or

2. For the construction of new roads and utilities, and accessory structures, when no feasible alternative location exists; or

3. **Trails.** The construction of trails over and in the buffer of piped stream segments, and the construction of trails near other stream segments consistent with the following criteria:

a. Trails should be constructed of permeable or natural (i.e. wood chips, rounded pea gravel, etc.) materials;

b. Trails shall be designed in a manner that minimizes impact on the stream system;

c. Trails shall have a maximum trail corridor width of 8 feet; and

d. Trails should be located within the outer half of the buffer, i.e., that portion of the buffer that is farther away from the stream; or

4. The construction of footbridges that minimize impact to the stream system; or

5. **Informational Signs.** The construction and placement of informational signs or educational demonstration facilities limited to no more than one square yard surface area and four feet high, provided there is no permanent infringement on stream flow; or

6. **Stormwater Management Facilities.** The establishment of stormwater management facilities, limited to

Comment [W33]: What about for non-anadromous fish? It is still a good thing to allow all native fish species to have habitat connectivity (i.e. sculpin and resident trout populations play a vital role in stream ecology too).

Comment [W34]: Erosion is a natural stream process. Most current restoration design seeks to restore natural stream processes. I suggest replacing the term "erosion" with something else….

Comment [W35]: This is good!

outfalls, pipes and conveyance systems, stormwater dispersion outfalls and bioswales, may be allowed within stream buffers; provided that:

a. No other location is feasible;

b. Pipes and conveyance facilities will be in in the outer twenty-five percent (25%) of the standard buffer area as set forth in Table 20.80.280(1);

c. Stormwater dispersion outfalls, bioswales, bioretention facilities, and other low impact facilities may be allowed anywhere within stream buffers when determined by a qualified professional that the location of the facility will enhance the buffer area and protect the stream; and

d. Such facilities are designed consistent with the requirements of SMC 20.70.330.

7. **Development Proposals within Physically Separated and Functionally Isolated Stream Buffers.** Consistent with the definition of "buffers" (SMC 20.20.012), areas that are functionally isolated and physically separated from stream due to existing, legally established roadways, paved trails eight (8) feet or more in width, or other legally established structures or paved areas eight (8) feet or more in width that occurs between the area in question and the stream shall be considered physically isolated and functionally separated stream buffer. Once determined by the Director based on a submitted critical area report to be a physically separated and functionally isolated stream buffer, development proposals shall be allowed in these areas.

~~C. Fish and wildlife habitat conservation areas and their associated buffers shall be placed either in a separate tract on which development is prohibited, protected by execution of an easement, dedicated to a conservation organization or land trust, or similarly preserved through a permanent protective mechanism acceptable to the City. The location and limitations associated with the critical habitat and its buffer shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the King County Department of Records and Elections.~~ (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 4(C), 2000).

~~**20.80.290 Alteration.**~~

~~A. Alterations of fish and wildlife habitat conservation areas shall be avoided, subject to the reasonable use provision section (SMC 20.30.336) or special use permit section (SMC 20.30.333).~~

~~B. Any proposed alterations permitted, consistent with special use or reasonable use review, to fish and wildlife habitat conservation area shall require the preparation of a habitat management plan, consistent with the requirements of the Washington State Department of Fish and Wildlife Priority Habitat Program. The habitat management plan shall be prepared by a qualified consultant and reviewed and approved by the City. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 4(D), 2000).~~

20.80.290 FISH AND WILDLIFE HABITAT - Critical area report requirements.

In addition to the general critical area report requirements of SMC 20.80.110 critical area reports for habitat conservation areas must meet the requirements of this Section. Critical area reports for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

A. **Preparation by a Qualified Professional.** A critical areas report for a habitat conservation area shall be prepared by a qualified professional who is a biologist. Third party review by a qualified professional under contract with the City will be required, at the applicant's expense in any of the following circumstances:

1. The project requires a critical area reasonable use permit, critical area special use permit, or shoreline variance application; or

2. Mitigation is required for impacts to Type S, Type F, or Type Np streams and/or buffers; or

Comment [W36]: Is there a way to encourage/incentivize bio-swales or other types of bio-engineered outfalls and/or facilities? Increasing bio-retention and stormwater infiltration opportunities would help maintain healthy fish and wildlife habitat while reducing flood risk.

Comment [jn37]: This provision is similar to one suggested for wetlands. Buffer science as analyzed by the WA Department of Ecology concludes that buffer areas that are physically separated and functionally isolated for both stream and wetlands do not provide most of the functions and values assumed on contiguous buffers. Protection of these areas would not add to the protection of the critical areas unless the buffer area were reconnected to the critical area.

Comment [jn38]: This provision only applies with subdivisions, binding site plans, and other land use permit process. Provisions are included under provisions for subdivisions or as decision criteria for land use approvals such as binding site plans and master plans.

Comment [jn39]: Replaced with new sections 20.80.274 and 20.80.276.

3. Mitigation is required for impacts to Type Ns streams.

B. **Areas Addressed in Critical Area Report.** The following areas shall be addressed in a critical area report for habitat conservation areas:

1. The project area of the proposed activity;

2. All habitat conservation areas and recommended buffers within three hundred (300) feet of the project area;

3. All shoreline areas, floodplains, other critical areas, and related buffers within two hundred (200) feet of the project area; and

4. A discussion of the efforts taken to avoid and minimize potential effects to these resources and the implementation of mitigation/enhancement measures as required.

C. **Habitat Assessmen**t. A habitat assessment is an investigation of the project area to evaluate the potential presence or absence of designated critical fish or wildlife species or habitat. A critical area report for a habitat conservation area shall contain an assessment of habitats including the following site- and proposal-related information at a minimum:

1. Detailed description of vegetation on and adjacent to the project area and its associated buffer;

2. Identification of any species of local importance, priority species, or endangered, threatened, sensitive, or candidate species that have a primary association with habitat on or adjacent to the project area, and assessment of potential project impacts to the use of the site by the species;

3. A discussion of any federal, state, or local special management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the project area;

4. A detailed discussion of the direct and indirect potential impacts on habitat by the project, including potential impacts to water quality;

5. A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing habitats and restore any habitat that was degraded prior to the current proposed land use activity and to be conducted in accordance with SMC 20.80.080 ; and

6. A discussion of ongoing management practices that will protect habitat after the project site has been developed, including proposed monitoring and maintenance programs.

7. A copy of the site plan sheet(s) for the project must be included with the written report and must include, at a minimum:

   a. Maps (to scale) depicting delineated and surveyed fish and wildlife habitat conservation areas and required buffers on site, including buffers for off-site critical areas that extend onto the project site; the development proposal; other critical areas; grading and clearing limits; areas of proposed impacts to fish and wildlife habitat conservation areas and/or buffers (include square footage estimates);

   b. A depiction of the proposed stormwater management facilities and outlets (to scale) for the development, including estimated areas of intrusion into the buffers of any critical areas. The written report shall contain a discussion of the potential impacts to the fish and wildlife habitat conservation areas associated with anticipated hydroperiod alterations from the project; and

8. A cost estimate for the installation of any required mitigation (including site preparation, plant materials,

and installation, fertilizers, mulch, and stakes) and the proposed monitoring and maintenance work for the required number of years.

D. **Additional Technical Information Requirements for Streams.** Critical area reports for streams must be consistent with the specific development standards for stream in SMC 20.80.276 and 20.80.280 and may be met through submission of one or more specific report types. If stream buffer enhancement is proposed to average stream buffer width, a stream buffer enhancement plan must be submitted in addition to other critical area report requirements of this section. If no project impacts are anticipated and standard stream buffer width are retained, a stream delineation report, general critical areas report or other reports alone or in combination may be submitted as consistent with the specific requirements of this section. In addition to the basic critical area report requirements for fish and wildlife habitat conservation areas provided in subsections (A) through (C) of this section, technical information on streams shall include the following information at a minimum:

1. A written assessment and accompanying maps of the stream and associated hydrologic features within 200 feet of the project area, including the following information at a minimum:

   a. Stream survey showing the ordinary high water mark(s);

   b. Standard stream buffer boundary;

   c. Boundary for proposed stream buffers averaging, if applicable;

   d. Vegetative, faunal, and hydrologic characteristics;

   e. Soil and substrate conditions; and

   f. Topographic elevations, at two-foot contours;

2. A detailed description and functional assessment of the stream buffer under existing conditions pertaining to the protection of stream functions, fish habitat and, in particular, potential anadromous fisheries;

3. A habitat and native vegetation conservation strategy that addresses methods to protect and enhance on-site habitat and stream functions;

4. Proposed buffer enhancement, if needed, including a written assessment and accompanying maps and planting plans for buffer areas to be enhanced, including the following information at a minimum:

   a. A description of existing buffer conditions;

   b. A description of proposed buffer conditions and how proposed conditions will increase buffer functions in terms of stream and fish habitat protection;

   c. Performance standards for measuring enhancement success through a monitoring period of at least five years; and

   d. Provisions for monitoring and submission of monitoring reports documenting buffer conditions as compared to performance standards for enhancement success;

5. A discussion of ongoing management practices that will protect stream functions and habitat value through maintenance of vegetation density within the stream buffer.

E. **Additional Information May Be Required.** When appropriate due to the type of habitat or species present or the project area conditions, the Director may also require the habitat management plan to include:

1. Third party review by a qualified professional under contract with the City may be required at the applicants expense of the critical area report analysis and the effectiveness of any proposed mitigating

measures or programs, to include any recommendations as appropriate;

2. A request for consultation with the Washington Department of Fish and Wildlife or the local Native American Indian Tribe or other appropriate agency; and

3. Detailed surface and subsurface hydrologic features both on and adjacent to the site.

20.80.300 FISH AND WILDLIFE HABITAT - Mitigation performance standards and requirements.

Comment [jn40]: Highlighted items need to be reviewed for applicability after revisions to the general provisions are completed. Current text is combined from Fish and Wildlife Habitat provisions and Stream provisions.

A. Relevant performance standards for other critical areas (such as wetlands and ~~streams~~ geologic hazard areas) that may be located within the fish and wildlife habitat conservation area, as determined by the City, shall be incorporated into mitigation plans.

B. The following additional mitigation measures shall be reflected in fish and wildlife habitat conservation area mitigation planning:

1. The maintenance and protection of habitat values shall be considered a priority in site planning and design.

2. Buildings and structures shall be located in a manner that preserves and minimizes adverse impacts to important habitat areas. This may include clustering buildings and locating fences outside of habitat areas.

3. Retained habitat shall be integrated into open space and landscaping.

4. Where possible, habitat and vegetated open space shall be consolidated in contiguous blocks.

5. Habitat shall be located contiguous to other habitat areas, open space or landscaped areas both on- and off-site to contribute to a continuous system or corridor that provides connections to adjacent habitat areas.

6. Native species shall be used in any landscaping of disturbed or undeveloped areas and in any enhancement of habitat or buffers.

7. The heterogeneity and structural diversity of vegetation shall be emphasized in landscaping.

8. Significant trees~~, preferably in groups,~~ shall be preserved~~, consistent with the requirements of Chapter 20.50 SMC, Subchapter 5, Tree Conservation, Land Clearing and Site Grading, and with the objectives found in these standards~~. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 4(E), 2000).

C. **Appropriate Stream Mitigation Sequence and Actions.** Where impacts cannot be avoided, and the applicant has exhausted feasible design alternatives, the applicant or property owner shall seek to implement other appropriate mitigation actions in compliance with the intent, standards and criteria of this section. Mitigation provisions shall be applied through the critical area reasonable use or critical area special use provisions in SMC 20.30.333 and 20.30.336, or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II, where the proposed development activity is located within the shoreline jurisdiction, unless mitigated alterations are specifically allowed by the provisions of this subchapter. In an individual case, these actions may include consideration of alternative site plans and layouts, reductions in the density or scope of the proposal, and/or implementation of the performance standards listed in this section.

D. Significant adverse impacts to stream area functions and values shall be mitigated. Mitigation actions shall be implemented in the preferred sequence: Avoidance, minimization, restoration and replacement. Proposals which include less preferred and/or compensatory mitigation shall demonstrate that:

1. All feasible and reasonable measures will be taken to reduce impacts and losses to the stream, or to avoid impacts where avoidance is required by these regulations; and

2. The restored, created or enhanced stream area or buffer will be available and persistent as the stream or buffer area it replaces; and

3. No overall net loss will occur in stream functions and values.

E. **Location and Timing of Stream Mitigation.**

1. Mitigation shall be provided on-site, unless on-site mitigation is not scientifically feasible due to the physical features of the property. The burden of proof shall be on the applicant to demonstrate that mitigation cannot be provided on-site.

2. When mitigation cannot be provided on-site, mitigation shall be provided in the immediate vicinity of the permitted activity on property owned or controlled by the applicant such as an easement, provided such mitigation is beneficial to the critical area and associated resources. It is the responsibility of the applicant to obtain title to off-site mitigation areas.

3. In-kind mitigation shall be provided except when the applicant demonstrates and the City concurs that greater functional and habitat value can be achieved through out-of-kind mitigation.

4. Only when it is determined by the City that subsections (B)(1), (2), and (3) of this section are inappropriate and impractical shall off-site, out-of-kind mitigation be considered.

5. When stream mitigation is permitted by these regulations on-site or off-site, the mitigation project shall occur near an adequate water supply (stream, groundwater) with a hydrologic connection to the mitigation area to ensure successful development or restoration.

6. Any agreed upon mitigation proposal shall be completed prior to project construction, unless a phased schedule, that assures completion concurrent with project construction, has been approved by the City.

7. Restored or created streams, where permitted by these regulations, shall be an equivalent or higher stream value or function than the altered stream.

F. The performance standards in this section and the relevant performance standards located within the wetland standards of SMC 20.80.350(E)(1) through (17) shall be incorporated into mitigation plans submitted to the City for impacts to fish and wildlife habitat conservation critical areas. The performance standards shall apply to any mitigations proposed within streams or stream buffers within the City.

G. On completion of construction, any approved mitigation project must be signed off by the applicant's qualified professional and approved by the City. Signature of the qualified professional and approval by the City will indicate that the construction has been completed as planned.

H. **Monitoring Program and Contingency Plan.** A monitoring program shall be implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives are being met. The monitoring program will be established consistent with the guidelines contained in SMC 20.80.350(G).

Subchapter 5.

Flood Hazard Areas

20.80.360 FLOOD HAZARD - Description and purpose.

A. A flood hazard area consists of the special flood hazard areas and protected areas as defined in Chapter 13.12 SMC, which comprise the regulatory floodplain.

B. It is the purpose of these regulations to ensure that the City of Shoreline meets the requirements of the National Flood Insurance Program and maintains the City as an eligible community for Federal flood insurance benefits. (Ord. 641 § 5 (Exh. A), 2012; Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 6(A), 2000).

20.80.370 FLOOD HAZARD - Classification.

Flood hazard areas shall be determined pursuant to the requirements of the floodplain management regulations, Chapter 13.12 SMC, which include, at a minimum, all lands identified on the 100-year floodplain designations of the current Federal Emergency Management Agency (FEMA) flood insurance rate map for King County as identified in SMC 13.12.300. (Ord. 641 § 5 (Exh. A), 2012; Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 6(B), 2000).

20.80.380 FLOOD HAZARD - Development limitations.

All development within designated flood hazard areas shall comply with Chapter 13.12 SMC, Floodplain Management, as now or hereafter amended, and is not subject to the regulations of this chapter. (Ord. 641 § 5 (Exh. A), 2012; Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 6(C), 2000).

20.80.390 Zero-rise floodway – Development standards and permitted alterations.

Repealed by Ord. 641. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 6(D), 2000).

20.80.400 FEMA floodway – Development standards and permitted alterations.

Repealed by Ord. 641. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 6(E), 2000).

20.80.410 Flood hazard areas – Certification by engineer or surveyor.

Repealed by Ord. 641. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 6(F), 2000).

Subchapter 6.

Aquifer Recharge Areas

20.80.420 AQUIFER RECHARGE - Description and purpose.

A. Aquifer recharge areas provide a source of potable water and contribute to stream discharge during periods of low flow. Urban-type pollutants may enter watercourse supplies through potential infiltration of pollutants through the soil to ground water aquifers.

B. The primary purpose of aquifer recharge area regulations is to protect aquifer recharge areas by providing for regulation of land use activities that pose a risk of potential aquifer contamination and to minimize impacts through the application of strict performance standards. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 7(A), 2000).

C. At the time of adoption of the updated critical areas ordinance, Chapter 20.80, Critical Areas, in October 2015, there were no identified critical aquifer recharge areas identified within the City of Shoreline.

Comment [jn41]: Provision added to make it clear that there are no designated Critical Aquifer Recharge Areas within the City of Shoreline at this time. Confirm date reference for final ordinance.

20.80.430 AQUIFER RECHARGE - Classification.

Aquifer recharge areas shall be classified based on the soil and ground water conditions and risks to surface water during periods of low hydrology. Classification depends on the combined effects of hydrogeological susceptibility to contamination and contaminant loading potential, and includes upland areas underlain by soils consisting largely of silt, clay or glacial till, upland areas underlain by soils consisting largely of sand and gravel, and wellhead protection areas and areas underlain by soils consisting largely of sand and gravel in which there is a predominantly downward or lateral component to ground water flow. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 7(B), 2000).

20.80.440 AQUIFER RECHARGE - Alteration.

The following land uses and activities shall require implementation of Best Management Practices (BMPs) as established by the Department of Ecology:

A. Land uses and activities that involve the use, storage, transport or disposal of significant quantities of chemicals, substances or materials that are toxic, dangerous or hazardous, as those terms are defined by State and Federal regulations.

B. On-site community sewage disposal systems.

C. Underground storage of chemicals.

D. Petroleum pipelines.

E. Solid waste landfills. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 7(C), 2000).

20.80.450 AQUIFER RECHARGE - Performance standards and requirements.

Any uses or activities located in an aquifer recharge area, as defined within this subchapter, that involve the use, storage, transport or disposal of significant quantities of chemicals, substances, or materials that are toxic, dangerous or hazardous, as those terms are defined by State and Federal regulations, shall comply with the following additional standards:

A. Underground storage of chemicals, substances or materials that are toxic, hazardous or dangerous is discouraged.

B. Any chemicals, substances or materials that are toxic, hazardous or dangerous shall be segregated and stored in receptacles or containers that meet State and Federal standards.

C. Storage containers shall be located in a designated, secured area that is paved and able to contain leaks and spills, and shall be surrounded by a containment dike.

D. Secondary containment devices shall be constructed around storage areas to retard the spread of any spills and a monitoring system should be implemented.

E. A written operations plan shall be developed, including procedures for loading/unloading liquids and for training of employees in proper materials handling.

F. An emergency response/spill clean-up plan shall be prepared and employees properly trained to react to accidental spills.

G. Any aboveground storage tanks shall be located within a diked containment area on an impervious surface. The tanks shall include overfill protection systems and positive controls on outlets to prevent uncontrolled discharges.

H. Development should be clustered and impervious surfaces limited where possible.

I. No waste liquids or chemicals of any kind shall be discharged to storm sewers.

J. All development shall implement Best Management Practices (BMPs) for water quality, as approved by the City, including the standards contained within the ~~City of Shoreline~~ adopted Stormwater ~~Design~~ Manual, such as biofiltration swales and use of oil-water separators, and BMPs appropriate to the particular use proposed. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 7(D), 2000).

Comment [jn42]: Term update for consistency with other sections of SMC.

~~**Subchapter 7.**~~

~~**Stream Areas**~~

Comment [jn43]: Streams regulations combined with Fish and Wildlife Habitat Area regulations for consistency with Commerce example code and current approach taken by many cities in the region. Stream and riparian habitat and salmonid species are the primary fish and wildlife habitats (together with wetlands) present in shoreline that the Fish and Wildlife Habitat regulations are intended to protect. The applicability of the Fish and Wildlife Habitat regulations was left unclear by the separation of these sections.

~~**20.80.460 Designation and purpose.**~~

~~A. Streams are those areas where surface waters produce a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses, unless they are used by salmonids or are used to convey streams naturally occurring prior to construction. A channel or bed need not contain water year-round; provided, that there is evidence of at least intermittent flow during years of normal rainfall.~~

~~B. Stream areas and their associated buffers provide important fish and wildlife habitat and corridors; help to maintain water quality; store and convey stormwater and floodwater; recharge groundwater; and serve as areas for recreation, education and scientific study and aesthetic appreciation.~~

~~C. The primary purpose of the stream area regulations is to avoid impacts to streams and associated riparian corridors and where possible, provide for stream enhancement and rehabilitation. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 8(A), 2000).~~

~~**20.80.470 Streams.**~~

~~A. "Type I streams" are those streams identified as "Shorelines of the State" under the City Shoreline Master Program.~~

~~B. "Type II streams" are those streams that are not Type I streams and are either perennial or intermittent and have one of the following characteristics:~~

~~1. Salmonid fish use; or~~

~~2. Demonstrated salmonid habitat value as determined by a qualified professional.~~

~~C. "Type III streams" are those streams which are not Type I or Type II streams with perennial (year-round) or intermittent flow with channel width of two feet or more taken at the ordinary high water mark and are not used by salmonid fish.~~

D. "Type IV streams," which are not Type I, Type II, or Type III, are those streams with perennial or intermittent flow with channel width less than two feet taken at the ordinary high water mark that are not used by salmonid fish.

E. "Piped stream segments" are those segments of streams, regardless of their type, that are fully enclosed in an underground pipe or culvert.

F. For the purposes of this section, "salmonid fish use" and "used by salmonid fish" is presumed for:

1. Streams where naturally recurring use by salmonid populations has been documented by a government agency;

2. Streams that are fish passable or have the potential to be fish passable by salmonid populations, including those from Lake Washington or Puget Sound, as determined by a qualified professional based on review of stream flow, gradient and barriers and criteria for fish passability established by the Washington Department of Fish and Wildlife; and

3. Streams that are:

a. Planned for restoration in a six-year capital improvement plan adopted by a government agency that will result in a fish passable connection to Lake Washington or Puget Sound.

b. Planned removal of the private dams that will result in a fish passable connection to Lake Washington and Puget Sound. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 8(B), 2000).

20.80.480 Required buffer areas.

A. Required buffer widths shall reflect the sensitivity of the stream type, the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the stream area. Stream buffers shall be measured from the ordinary high water mark (OHWM) or the top of the bank, if the OHWM can not be determined.

B. The following buffers are established for streams:

Table 20.80.480B

Stream Type	Standard Buffer Width (ft)	Minimum Buffer Width (ft)
Type I	150	115
Type II	115	75
Type III	65	35
Type IV	35	25
Piped Stream Segments	10	10

C. The standard buffer width shall be established; provided, that the buffer may be reduced to the minimum buffer listed above if the applicant can demonstrate that a smaller buffer is adequate to protect the stream functions and implements one or more enhancement measures to result in a net improvement to the stream and buffer. The measures determined most applicable and/or appropriate will be considered in reducing buffer requirements. These include but are not limited to:

1. Removal of fish barriers to restore accessibility to anadromous fish.

2. Enhancement of fish habitat using log structures incorporated as part of a fish habitat enhancement plan.

3. Enhancement of fish and wildlife habitat structures that are likely to be used by wildlife, including wood duck houses, bat boxes, nesting platforms, snags, rootwads/stumps, birdhouses, and heron nesting areas.

4. Additional enhancement measures may include:

a. Planting native vegetation within the buffer area, especially vegetation that would increase value for fish and wildlife, increase stream bank or slope stability, improve water quality, or provide aesthetic/recreational value; or

b. Creation of a surface channel where a stream was previously underground, in a culvert or pipe. Surface channels which are "daylighted" shall be located within a buffer area and shall be designed with energy dissipating functions such as meanders to reduce future erosion;

c. Removal or modification of existing stream culverts (such as at road crossings) to improve fish passage and flow capabilities; or

d. Upgrading of retention/detention facilities or other drainage facilities beyond required levels.

D. No structures or improvements shall be permitted within the stream buffer area, including buildings, decks, docks, except as otherwise permitted or required under the City's adopted Shoreline Master Program, or under one of the following circumstances:

1. When the improvements are part of an approved rehabilitation or mitigation plan; or

2. For the construction of new roads and utilities, and accessory structures, when no feasible alternative location exists; or

3. The construction of trails over and in the buffer of piped stream segments, and the construction of trails near other stream segments consistent with the following criteria:

a. Trails should be constructed of permeable materials;

b. Trails shall be designed in a manner that minimizes impact on the stream system;

c. Trails shall have a maximum trail corridor width of 10 feet; and

d. Trails should be located within the outer half of the buffer, i.e., that portion of the buffer that is farther away from the stream; or

4. The construction of footbridges; or

5. The construction and placement of informational signs or educational demonstration facilities limited to no more than one square yard surface area and four feet high, provided there is no permanent infringement on stream flow; or

6. The establishment of stormwater management facilities, such as bio-swales, over and in the buffer of piped stream segments and when located outside of the minimum buffer area for other stream segments as set forth in the Table 20.80.480B.

E. The City may extend the width of the buffer on the basis of site-specific analysis when necessary to comply with an adopted basin plan in accordance with City, County, State or Federal plans to preserve endangered or threatened species.

F. Stream buffer widths may be modified by averaging buffer widths as set forth herein. Buffer width averaging shall be allowed only where the applicant demonstrates to the City:

1. The ecological structure and function of the buffer after averaging is equivalent to or greater than the structure and function before averaging;

2. That the total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging;

3. Buffer averaging shall not result in the buffer width being reduced by more than 25 percent of the required buffer as set forth in the table in subsection (B) of this section and in no case may the buffer be less than the stated minimum width.

4. A habitat survey shall be conducted within the area of concern in order to identify and prioritize highly functional fish and wildlife habitat within the study area.

The City may require buffer averaging to be designed to protect areas of greater sensitivity and function based on the recommendations of a stream report prepared by a qualified professional.

C. Relocation of a Type I, II, or III shall be allowed only when the proposed relocation is part of an approved mitigation or rehabilitation plan, will result in equal or better habitat and water quality, and will not diminish the flow capacity of the stream. Relocation of a Type IV stream shall be allowed only when the proposed relocation will result in equal or better habitat and water quality and will not diminish the flow capacity of the stream.

H. Restoring Piped Watercourses.

1. The City allows the voluntary opening of previously channelized/culverted streams and the rehabilitation and restoration of streams, especially on public property or when a property owner is a proponent in conjunction with new development.

2. When piped watercourse sections are restored, a protective buffer shall be required of the stream section. The buffer distance shall be based on an approved restoration plan, regardless of stream classification, and shall be a minimum of 10 to 25 feet, at the discretion of the Director, to allow for restoration and maintenance. The stream and buffer area shall include habitat improvements and measures to prevent erosion, landslide and water quality impacts. Opened channels shall be designed to support fish access, unless determine to be unfeasible by the City.

3. Removal of pipes conveying streams shall only occur when the City determines that the proposal will result in a new improvement of water quality and ecological functions and will not significantly increase the threat of erosion, flooding, slope stability or other hazards.

4. Where the buffer of the restored stream would extend beyond a required setback on an adjacent property, the applicant shall obtain a written agreement from the affected neighboring property owner. (Ord. 398 § 1, 2006; Ord. 299 § 1, 2002; Ord. 238 Ch. VIII § 8(C), 2000).

20.80.490 Alteration.

A. Bridges shall be used to cross Type I streams. Culverted crossings and other obstructive means of crossing Type I streams shall be prohibited.

B. Culverts are allowable only under the following circumstances:

1. Crossing of Type II, III, and IV streams;

2. When fish passage will not be impaired;

3. When the following design criteria are met:

a. Oversized culverts will be installed;

b. Culverts will include gradient controls and creation of pools within the culvert for Type II streams where appropriate; and

c. Gravel substrate will be placed in the bottom of the culvert to a minimum depth of one foot for Type II

streams;

4. The applicant or successors shall, at all times, keep any culvert free of debris and sediment to allow free passage of water and, if applicable, fish.

C. The City may require that a culvert be removed from a stream as a condition of approval, unless it is demonstrated conclusively that the culvert is not detrimental to fish habitat or water quality, or removal would be detrimental to fish or wildlife habitat or water quality. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 8(D), 2000).

20.80.500 Mitigation performance standards and requirements.

A. **Appropriate Stream Mitigation Sequence and Actions.** Where impacts cannot be avoided, and the applicant has exhausted feasible design alternatives, the applicant or property owner shall seek to implement other appropriate mitigation actions in compliance with the intent, standards and criteria of this section. In an individual case, these actions may include consideration of alternative site plans and layouts, reductions in the density or scope of the proposal, and/or implementation of the performance standards listed in this section.

B. Significant adverse impacts to stream area functions and values shall be mitigated. Mitigation actions shall be implemented in the preferred sequence: Avoidance, minimization, restoration and replacement. Proposals which include less preferred and/or compensatory mitigation shall demonstrate that:

1. All feasible and reasonable measures will be taken to reduce impacts and losses to the stream, or to avoid impacts where avoidance is required by these regulations; and

2. The restored, created or enhanced stream area or buffer will be available and persistent as the stream or buffer area it replaces; and

3. No overall net loss will occur in stream functions and values.

C. **Location and Timing of Stream Mitigation.**

1. Mitigation shall be provided on-site, unless on-site mitigation is not scientifically feasible due to the physical features of the property. The burden of proof shall be on the applicant to demonstrate that mitigation cannot be provided on-site.

2. When mitigation cannot be provided on-site, mitigation shall be provided in the immediate vicinity of the permitted activity on property owned or controlled by the applicant such as an easement, provided such mitigation is beneficial to the critical area and associated resources. It is the responsibility of the applicant to obtain title to off-site mitigation areas.

3. In-kind mitigation shall be provided except when the applicant demonstrates and the City concurs that greater functional and habitat value can be achieved through out-of-kind mitigation.

4. Only when it is determined by the City that subsections (B)(1), (2), and (3) of this section are inappropriate and impractical shall off-site, out-of-kind mitigation be considered.

5. When stream mitigation is permitted by these regulations on-site or off-site, the mitigation project shall occur near an adequate water supply (river, stream, groundwater) with a hydrologic connection to the mitigation area to ensure successful development or restoration.

6. Any agreed upon mitigation proposal shall be completed prior to project construction, unless a phased schedule, that assures completion concurrent with project construction, has been approved by the City.

7. Restored or created streams, where permitted by these regulations, shall be an equivalent or higher stream value or function than the altered stream.

D. The performance standards in this section and the relevant performance standards located within the wetland standards of SMC 20.80.350(E)(1) through (17) shall be incorporated into mitigation plans submitted to the

~~City for impacts to critical areas. In addition, the City may prepare a technical manual which includes guidelines and requirements for report preparation. The performance standards shall apply to any mitigations proposed within Type I, Type II or Type III streams within the City.~~

~~E. On completion of construction, any approved mitigation project must be signed off by the applicant's qualified consultant and approved by the City. Signature of the qualified consultant and approval by the City will indicate that the construction has been completed as planned.~~

~~F. **Monitoring Program and Contingency Plan.** A monitoring program shall be implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives are being met. The monitoring program will be established consistent with the guidelines contained in SMC 20.80.350(G). (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 8(E), 2000).~~

From:	Juniper Nammi
To:	Lisa Basher
Subject:	FW: Draft Title 20 review
Date:	Thursday, September 17, 2015 12:02:41 PM
Attachments:	Review Comments on Title 20.docx

More Agency Comments

Juniper Nammi, AICP
Associate Planner
P: (206) 801-2525

From: Martin, Christopher (ECY) [mailto:cmar461@ECY.WA.GOV]
Sent: Thursday, August 20, 2015 9:31 AM
To: Juniper Nammi
Subject: Draft Title 20 review

Dear Ms. Nammi,
Thank you for the opportunity to review theses draft rules. Attached are review comments on the provided documents.
Please let me know if this isn't the type of review you had in mind.
Sincerely,

Christopher Martin, LHG | Water Quality Hydrogeologist | Northwest Regional Office | 425-649-7110 | cmar461@ecy.wa.gov

Review Comments on Title 20, Development Code, Division I, Unified Development Code.

p 29, Section 20.50.310, bullet 1.c. first sentence:

> "In addition to other exemptions of SMC 20.50.290 through 20.50.370, a request for the cutting of any tree that is an active and imminent hazard such as tree limbs or trunks that are demonstrably cracked, leaning toward overhead utility lines or structures, or are uprooted by flooding, heavy winds or storm events."
>
> Seems to be an incomplete thought. "… a request for the cutting of any tree …" is exempt? Or requires some other approval? It's not clear what such a request is required to do.

p 30, Section 20.50-320, bullet G:

> "G. Repealed by Ord. 640."
>
> What was repealed? The previous bullet G? If so just delete this bullet and re-label the follow-on bullets.

p 31, Section 20.50.330, bullets A & B:

> "The Director shall review the application and approve the permit, or approve the permit with conditions; …"
>
> Seems to allow for on approval or approval with conditions, but not disapproval. Suggest adding "deny" as an option (See your Amendment 20.80.224, bullet C).

pp 33 – 34, Section 20.50.350, Exceptions:

> Why is this section italicized?
>
> Also, there is a font change for the bullets under item #2.

p 35, Section 20.50.350, bullet D:

> Sub-bullets have a font change (much smaller).

p 37, Section 20.50.350, bullet E:

> "Protected trees may be pruned to enhance views ~~including~~using methods such as windowing, interlimbing, or skirting up, when completed by a qualified professional arborist and consistent with best management practices."
>
> Makes it clearer that excessive pruning, topping, etc. are not options.

p 38, Section 20.50.360, bullet C.3.:

> "Minimum size requirements for trees replaced under this provision: deciduous trees shall be at least 1.5 inches in caliper and evergreens six feet in height."
>
> This appears to be inconsistent with 20.50.350 B, Exception which states: "Trees replaced under this provision shall be at least 12 feet high for conifers and three inches in caliper if otherwise."

General Comment

Need to define what a “Critical Area” is somewhere (possibly under 20.20.014).

p 41, Section 20.80.015, bullet A:

“Unless explicitly exempted, the provisions of this chapter shall apply to all lands, all land uses, development activity and all structures and facilities within all zoning designations in the City of Shoreline, whether or not a permit or authorization is required. All persons within the City shall comply with the requirements of this chapter.”

Is the entire City of Shoreline really considered a critical area? Just curious.

p 51, Section 20.80.080, bullet E:

“A critical area report may include one or more of the following sections or report types depending on the information required by the ~~d~~Director and the extent of the potential critical area impacts.”

p 52, Section 20.80.080, bullet G:

“Unless otherwise provided, a critical areas report may incorporate, be supplemented by or composed, in whole or in part, of any reports or studies required by other laws and regulations or previously prepared for and applicable to the development proposal site, as approved by the ~~d~~Director. At the discretion of the ~~d~~Director, reports previously compiled or submitted as part of a proposal for development may be used as a critical areas report to the extent that the requirements of this section and the report requirements for each specific critical area type are met. Critical areas reports shall be considered valid for five years; after such date the ~~c~~City shall determine whether a revision or additional assessment is necessary.”

p 52, Section 20.80.080, bullet I:

“The ~~d~~Director may limit the required geographic area of the critical areas report as appropriate if:”

Alternate Amendment 1 – Alteration of Landslide Hazard Areas

p 2, bullets F and G:

Reference is made to Section 20.80.055 (B-F). Review of Title 20 did not show a Section 20.80.055.

Alternate Amendment 2 – Vegetation Removal in Very High Risk Landslide Hazard Areas

p 1, bullet D, ¶ 2:

“The qualified professional preparing the report shall provide assurances that the risk of damage from the proposal, both on-site and off-site, are minimal subject to the conditions set forth in the report, that the proposal will not increase the risk of occurrence of the potential landslide hazard, and that measures to eliminate or reduce risks have been incorporated into the report’s recommendations.”

Sounds like you want the qualified professional to provide a guarantee of no increased risk. That ain't gonna happen. The qualified professional can write the report, but often has no control over the actual actions taken on the ground.

Suggest removing "the qualified professional preparing" and just have "The report shall provide …" This wording is the same as in Alternate Amendment 1, bullet F.

General Comment on both Amendments:

Allowing for work in a landslide hazard area is never a very good idea. However, I can understand that the City does not want to restrict private property land use or have to deal with Takings issues. Just make sure there is sufficient language to provide the City with an "out" should an approved action lead to or contribute to a landslide.

From:	Juniper Nammi
To:	Lisa Basher
Subject:	FW: Wetland and FWHCA comments on City of Shoreline SMP-CAO
Date:	Thursday, September 17, 2015 12:00:59 PM
Attachments:	Shoreline Draft SMP Required and Recommended changes table PAAN 8-18-2015.docx City of Shoreline SMP Proposed Limited Amendment Initial Draft ECY Comments_8 21 2015.pdf

Another one for the packet of agency comments.

Juniper Nammi, AICP
Associate Planner
P: (206) 801-2525

From: Blair, Misty (ECY) [mailto:mbla461@ECY.WA.GOV]
Sent: Friday, August 21, 2015 5:11 PM
To: Juniper Nammi
Cc: Anderson, Paul S. (ECY)
Subject: FW: Wetland and FWHCA comments on City of Shoreline SMP-CAO

Juniper,

Paul Anderson's initial CAO comments are detailed below with DRAFT required and recommended changes from each of us attached.

Please note that Paul and I would be happy to meet with you to discuss these items in greater detail.

Misty Blair | Regional Shoreline Planner | S.E.A. Program | Northwest Regional Office | WA Department of Ecology | P 425-649-4309| misty.blair@ecy.wa.gov

From: Anderson, Paul S. (ECY)
Sent: Friday, August 21, 2015 2:20 PM
To: Blair, Misty (ECY)
Subject: Wetland and FWHCA comments on City of Shoreline SMP-CAO

Misty:

Sorry I haven't gotten my comments to you on the City of Shoreline's SMP update. I know that Juniper is eager to hear back from us, but, unfortunately, there are a number of issues with the current CAO and I haven't yet completed my review. I have completed my review of the general sections, definitions, FWHCA, and am about half-way through the wetlands section (which will complete my review).

I hope to finish my review of the CAO later today. In the interest of getting something to Juniper, I have attached my table of required and recommended changes. I have not added any comments on the SMP itself in the attached table and you will need to scroll down to the CAO comments.

As a general statement, I have the following observations about the CAO:

1. As you know, within shoreline jurisdiction the standard to be met is no net loss of ecological function. In addition to complicating the SMP statutory and policy requirements, ecologically, I am concerned that there are simply too many exemptions and options for alternatives from the standard critical area buffers and mitigation requirements. I don't see how no net loss can be achieved with all of the listed exemptions/exceptions. Also, reducing the number of these special allowances will greatly simplify critical areas protections within the SMP, which should make for easier interpretation and implementation by City staff.

2. I am very unclear (confused) as to what the correct definitions are. The most recent submittal seems to have many fewer definitions than the previous draft. There are a number of definitions that I feel need to be in the SMP that I don't see (shorelands, shorelines, shorelines of statewide significance).

3. The FWHCA section describes critical habitats that includes marine waters, yet there are little or no protection standards for marine habitats and their associated buffers. Most if not all of the FWHCA buffer and development standards refer to streams and not marine waters, which will need to be corrected in the SMP.

I would be happy to talk to Juniper about the changes listed in the attached table and will get the completed comments to you once I finish my review.

Thanks for your patience with me on this.

Paul

Paul S. Anderson, PWS
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Washington State Department of Ecology
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Phone: (425) 649-7148
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Email: Paul.S.Anderson@ecy.wa.gov

The following changes are required to comply with the SMA (RCW 90.58) and the SMP guidelines (WAC 173-26, Part III):

ITEM	Draft SMP Provision (Cite)	TOPIC	RECOMMENDED AND REQUIRED FORMAT CHANGES	DISCUSSION/RATIONALE
1	SMP § 20.230.030.B(1) & 20.230.030.C(1)	Critical Areas Policy	Required: This section is proposed to be removed, but it must remain. The incorporation of Critical Areas provisions from SMC 20.30 can satisfy the required Critical Areas regulations, but Critical Areas Policies are also necessary for compliance with WAC 173-26-221(2)(a). Accordingly, additional Policy language may need to be added to the General Policies of 20.230.030.A or Separate Sections for each critical area regulated within the Shoreline jurisdiction, including *(a) Wetlands; (b) areas with a critical recharging effect on aquifers used for potable waters; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas.*"	WAC 173-26-221(2) ***Critical areas.*** (a) **Applicability.** Pursuant to the provisions of RCW 90.58.090(4) and 36.70A.480(3) as amended by chapter 107, Laws of 2010 (EHB 1653), shoreline master programs must provide for management of critical areas designated as such pursuant to RCW 36.70A.170 (1)(d) located within the shorelines of the state with policies and regulations that…
2	SMP § 20.230.030	Critical Areas	Required: Demonstration of how all the CAO policies within the SMP and CAO regulations being incorporated into the SMP, reflect the results of the City's SMP inventory and shoreline characterization.	Justification/Clarification
2	SMP § 20.210.010	Definitions	Required: Definitions proposed to be moved to SMC 20.20 should be duplicated in SMC 20.20, but also remain within the SMP.	SMC 20.20 definitions are not incorporated in the SMP and as such need to remain.
3	SMP § 20.210.010	Definitions	Recommended: Should add a definition for critical salt water habitat as it is utilized within in-water activity regulations such as the docks and piers sections. Or could replace this term with Fish and Wildlife Habitat Conservation Areas, if applicable.	Would like to discuss this issue further with City staff.
4	SMP § 20.230.030.A General Regulations 1	General Regulations	Recommended: Reference the "specific, dated edition" of the CAO in the SMP. And update the associated Appendix to reflect the CAO that applies within the Shoreline.	There are a few ways the City can approach this requirement so the one provided here is recommended but one of the approved options will be required.
Comments on changes proposed to Chapters located outside the SMP, but referenced within the SMP				
5	SMC § 20.30.295.B	Temporary Uses	Temporary uses are not recognized as a different type of use by the SMA or within the City's SMP. Temporary use permits would need to be processed in accordance with the triggered Shoreline Permit process.	Clarification needed. This language appears to allow the Director to provide an exemption from other permits provided the temporary use is not in conflict with the SMP. This is not consistent with the SMA or associated guidelines.
6	SMC § 20.80.010	Critical Areas-General Provisions-Purpose	Subsection A. Should also address how this subchapter pertains to the SMP. Subsection C. Should be excluded from inclusion in the SMP.	Clarification.
7	SMC § 20.80.090	Buffer Areas	This section appears to allow Director to modify the required buffer. This type of buffer reduction would require a Shoreline Variance if occurring within the Shoreline.	May need to add clarification or exclude this provision from the SMP.

City of Shoreline Revised Draft Shoreline Master Program Update, Dated November 2012

Ecology Recommended and Required Changes – August 18, 2015

The following changes are required to comply with the SMA (RCW 90.58) and the SMP guidelines (WAC 173-26, Part III):

ITEM	Draft SMP Provision (Cite)	TOPIC	RECOMMENDED AND REQUIRED FORMAT CHANGES	DISCUSSION/RATIONALE
1	SMP §			
2				
3				
4				
5				
6				
7				
8				
9				
10				
Comments on Chapter 20.80 - CRITICAL AREAS REGULATIONS (June 2015, 8-17-15 drafts)				
11	CAR § 20.80.010.C	Purpose	**Required:** …~~It is not the intent of this Chapter to make a parcel of property unusable by denying its owner reasonable economic use of the property or to prevent the provision of public facilities~~… [reasonable use exemptions are not applicable in shoreline jurisdiction] 3. Alteration is part of an essential element of an activity allowed by this title and all feasible measures to avoid and minimize impacts have been employed and all unavoidable impacts are fully mitigated. Such feasible measures shall include but not be limited to clustering where permitted by zoning and as appropriate to protect sensitive areas and buffers. The purposes of clustering shall be to minimize adverse effects of development on sensitive area functions and values, minimize land clearing, maintain soil stability, preserve native vegetation, maintain hydrology, and mitigate risk to life and property.	Clarification and Consistency
12	CAR § 20.80.030	Exemptions	**Required:** Sections need to be reviewed for consistency with SMA/SMP exemption standards. Utility work that impacts wetlands or requires in-water work requires state and federal approval and should not	Clarification and Consistency

	20.80.040	Partial Exemptions	be exempt.	
13	CAR § 20.80.082	Mitigation plan requirements	**Recommended:** C. Detailed Construction Plans. Site plans showing ~~G~~grading and excavation details, preferably with 1-foot or 2-foot contour intervals; **Required:** D. Monitoring Program … A protocol shall be included outlining the schedule for site monitoring (for example, monitoring shall occur in years 0 [as-buit],1, 3, 5, and 7 after site construction),The mitigation project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five (5) years nor less than ten (10) years when the project includes planting of trees or shrubs.	Clarification and Consistency
14	CAR § 20.80.085	Pesticides	**Required:** D. Any person wishing to apply pesticides to waters of the state, including wetlands, must obtain an aquatic pesticide applicator license from the Washington State Department of Agriculture, or operate under the supervision of a licensed applicator.	Clarification and Consistency
15	CAR § 20.80.090	Buffer areas	**Required:** The establishment of buffer areas shall be required for all development proposals and activities in or adjacent to critical areas. In all cases the standard buffer (~~i.e., the maximum buffer required by the City~~) shall apply unless the Director ~~determines that no net loss of functions and values will occur or the~~ Director determines that additional buffer width is necessary 2. ~~The bank shall be established in accordance with the Washington State Draft Mitigation Banking Rule WAC 173-700 or as revised, and RCW 90.84 and the federal mitigation banking guidelines as outlined in the Federal Register Volume 60, No. 228, November 28, 1995. These guidelines establish the procedural and technical criteria that banks must meet to obtain state and federal certification.~~ The bank and ILF sites have been certified/approved by the state and federal agencies and have mitigation credits available for sale.	Clarification and Consistency
16	CAR § 20.80.100	Notice to title	**Required:** ~~This notice shall not be required for development by a public agency or public or private utility when:~~ ~~1. Within a recorded easement or right-of-way; or~~ ~~2. On the site of a permanent public facility.~~	Clarification and Consistency
17	CAR § 20.80.260.A	FWHCA Description	**Recommended:** Fish and wildlife habitat conservation areas include ~~nesting and breeding grounds for State and Federal threatened, endangered, critical or priority species listed by the Washington State Department of Fish and Wildlife Areas~~ areas with which state or federally designated endangered,	Clarification and Consistency

			threatened, and sensitive species have a primary association… [Although nesting and breeding grounds are essential to sustaining fish and wildlife populations, FWHCA includes more than just those areas. As an example, all of the Salish Sea nearshore has been designated as critical habitat essential to the recovery of Chinook salmon populations by NOAA Fisheries due to its importance as rearing habitat for juvenile fish.]	
18	CAR § 20.80.270	FWHCA Classification	**Required:** A.1 Should add Southern Resident Killer Whales (*Orcinus orca*) to list as federally designated critical habitat occurs in the marine waters of Shoreline. B.12 For clarity should add a footnote that Ronald Bog is not a shoreline and subject to the SMP. B.13 Should strike "Wetland aquatic habitats" from the PHS list since wetlands are regulated as a separate critical area under § 20.80.320; same comment for § 20.80.270.F. G. Should move this section to definitions for "Streams" since streams are already listed as a FWHCA under Waters of the State (§ 20.80.270.E). H. …and this designation does not preclude designation of additional areas as provided in subsection (A) of this section: 1. All regulated streams ~~and wetlands~~ and their associated buffers as determined by a qualified specialist. [Wetlands are regulated as a separate critical area under § 20.80.320, including applicable standards for buffers, mitigation, etc. and the PHS Management Guidelines are not the best resource for wetland BAS and management recommendations.]	Clarification and Consistency
19	CAR § 20.80.274	FWHCA General development standards	**Required:** A. Activities and uses shall be prohibited in fish and wildlife habitat conservation areas and associated buffers, except as provided for in this subchapter. ~~Unless specifically exempted under SMC 20.80.030 and 20.80.040 or allowed under subsection C below or SMC 20.80.276, development activities and uses that result in alteration of fish and wildlife habitat conservation areas shall be subject to the critical area reasonable use and special use provisions of SMC 20.30.333 and 20.30.336~~ or subject to the provisions of the Shoreline Master Program where located within the shoreline jurisdiction. [Cited exemptions and reasonable use are not applicable in shoreline jurisdiction] G. Mitigation and Equivalent or Greater Biological Functions. Mitigation of alterations to habitat conservation areas shall achieve equivalent or greater biologic and hydrologic functions and shall	Clarification and Consistency

			include mitigation for adverse impacts upstream, ~~or~~ downstream or within the same shoreline reach as ~~of~~ the development proposal site. I. Buffers. 1. Establishment of Buffers. The Director shall require the establishment of buffer areas for activities adjacent to habitat conservation areas ~~when needed~~ in order to protect habitat conservation areas. K. Subdivisions. 3. Access roads and utilities serving the proposed subdivision may be permitted within the habitat conservation area and associated buffers only if the applicant's civil engineer demonstrates and the City determines that no other feasible alternative exists, that all unavoidable impacts are fully mitigated and when consistent with this Title.	
20	CAR § 20.80.276	FWHCA Specific habitat development standards	**Required:** D. Streams. Activities, uses and alterations of streams shall be prohibited ~~subject to the reasonable use provisions (SMC 20.30.336) or special use provisions (SMC 20.30.333), unless otherwise allowed by the exemptions or allowed activities provisions of this Title,~~ or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II.	Clarification and Consistency
21	CAR § 20.80.280	FWHCA Required buffer areas	**Required:** B. Low impact uses and activities which are consistent with the purpose and function of the habitat buffer and do not detract from its integrity may be permitted within the buffer depending on the sensitivity of the habitat area. Examples of uses and activities which may be permitted in appropriate cases include trails that are pervious, viewing platforms, ~~stormwater management facilities such as bio-swales, utility easements~~ and other similar uses and activities; provided, that any impacts to the buffer resulting from such permitted facilities shall be fully mitigated. [Should define low impact uses; utility easements may not be low impact and more specific standards need to be provided on allowed stormwater facilities: limited only to dispersion outfalls and bioswales in the outer 25% of the standard buffer.] C. Standard Required Stream Buffer Widths. Buffer widths shall reflect the sensitivity of the ~~stream~~ water type, 1. The following buffers are established for ~~streams~~ waters based upon the Washington State Department of Natural Resources water typing system… Table 20.80.280(1) ~~Stream~~ Water Type Standard Buffer Width (ft) [The science clearly shows that marine riparian buffers provide important functions to the marine	Clarification and Consistency

			nearshore and are essential to achieving no net loss of shoreline ecological function. The protection standards in the CAO/SMP should apply to marine waters in addition to lakes and streams (see Brennan, J.S., and H. Culverwell. 2004. *Marine Riparian: An Assessment of Riparian Functions in Marine Ecosystems*. Published by Washington Sea Grant Program, UW Board of Regents, Seattle, WA. 34 p.; *Endangered and Threatened Species; Designation of Critical Habitat for 12 Evolutionarily Significant Units of West Coast Salmon and Steelhead in Washington, Oregon, and Idaho*, Federal Register, 70, No. 170, September 2, 2005)] D.3 Trails. c. Trails shall have a maximum trail corridor width of ~~8~~ 5 feet; and d. Trails should be located within the outer ~~half~~ 25% of the buffer, i.e., that portion of the buffer that is farther away from the stream and located to avoid removal of significant trees; D.6 Stormwater Management Facilities. The establishment of stormwater management facilities, limited to ~~outfalls, pipes and conveyance systems,~~ stormwater dispersion outfalls and bioswales, may be allowed within stream buffers; provided that: ~~c. Stormwater dispersion outfalls, bioswales, bioretention facilities, and other low impact facilities may be allowed anywhere within stream buffers when determined by a qualified professional that the location of the facility will enhance the buffer area and protect the stream;~~ D.7 Development Proposals within Physically Separated and Functionally Isolated Stream Buffers. Consistent with the definition of "buffers" (SMC 20.20.012), areas that are functionally isolated and physically separated from stream due to existing, legally established paved roadways, ~~paved trails eight (8) feet or more in width~~,	
22	CAR § 20.80.290	FWHCA Critical area report requirements	**Required:** A. Preparation by a Qualified Professional. A critical areas report for a habitat conservation area shall be prepared by a qualified professional who is a biologist. Third party review by a qualified professional under contract with the City will be required, at the applicant's expense in any of the following circumstances: 2. Mitigation is required for impacts to Type S, Type F, or Type Np ~~streams~~ waters and/or buffers; or 3. Mitigation is required for impacts to Type Ns ~~streams~~ waters C. Habitat Assessment ~~8. A cost estimate for the installation of any required mitigation (including site preparation, plant materials, and installation, fertilizers, mulch, and stakes) and the proposed monitoring and maintenance~~	Clarification and Consistency

			~~work for the required number of years.~~ D. Additional Technical Information Requirements for ~~Streams~~ Waters. Critical area reports for ~~streams~~ waters must be consistent with the specific development standards for ~~stream~~ in SMC 20.80.276 and 20.80.280 and may be met through submission of one or more specific report types. If ~~stream~~ buffer enhancement is proposed to average ~~stream~~ buffer width, a ~~stream~~ buffer enhancement plan must be submitted in addition to other critical area report requirements of this section. If no project impacts are anticipated and standard ~~stream~~ FWHCA buffer width are retained, a ~~stream~~ delineation report, general critical areas report or other reports alone or in combination may be submitted as consistent with the specific requirements of this section. In addition to the basic critical area report requirements for fish and wildlife habitat conservation areas provided in subsections (A) through (C) of this section, technical information on ~~streams~~ waters shall include the following information at a minimum: a. ~~Stream~~ Survey showing the field delineated ordinary high water mark(s); b. Standard ~~stream~~ FWHCA buffer boundary; c. Boundary for proposed ~~stream~~ buffers averaging, if applicable	
23	CAR § 20.80.300	FWHCA Mitigation performance standards	**Required:** C. Appropriate Stream Mitigation Sequence and Actions. ~~Where impacts cannot be avoided, and the applicant has exhausted feasible design alternatives, the applicant or property owner shall seek to implement other appropriate mitigation actions in compliance with the intent, standards and criteria of this section. Mitigation provisions shall be applied through the critical area reasonable use or critical area special use provisions in SMC 20.30.333 and 20.30.336, or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II, where the proposed development activity is located within the shoreline jurisdiction, unless mitigated alterations are specifically allowed by the provisions of this subchapter. In an individual case, these actions may include consideration of alternative site plans and layouts, reductions in the density or scope of the proposal, and/or implementation of the performance standards listed in this section~~. D. Projects with potential impacts to FWHCA shall be designed consistent with the following sequence: 1. Avoid 2. Minimize… Unavoidable ~~Significant adverse~~ impacts to ~~stream area~~ FWHCA functions and values shall be mitigated. ~~Mitigation actions shall be implemented in the preferred sequence: Avoidance, minimization, restoration and replacement. Proposals which include less preferred and/or compensatory mitigation shall demonstrate that:~~	Clarification and Consistency

			H. Monitoring Program and Contingency Plan. A monitoring program shall be implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives are being met. ~~The monitoring program will be established consistent with the guidelines contained in SMC 20.80.350(G)~~. The mitigation site shall be monitored for a minimum of five (5) years where mitigation plantings are limited only to herbaceous species and ten (10) years where shrubs or trees are planted. Monitoring should include an as-built report (Year 0) with scaled drawings that show the completed mitigation site grades, plantings, any habitat features and the associated buffer.	
24	CAR § 20.80.320	WETLANDS - Designation, delineation	**Required:** D. Rating. All wetlands shall be rated by a qualified professional according to the current Washington Department of Ecology wetland rating system, as set forth in the Washington State Wetland Rating System for Western Washington, 2014 Update (Ecology Publication No. ~~04-06-029~~ 14-06-029, or as revised). ~~All wetlands should be rated consistent with the 2014 Western Washington Rating Form, or as revised. These documents contain the definitions and methods for determining whether the criteria below are met. Wetland rating categories shall be applied as the wetland exists on the date of adoption of the rating system by the City, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities.~~ 4. Category IV. Category IV wetlands… These wetlands may provide some important functions, and ~~should~~ also need to be protected ~~to some degree~~.	Clarification and Consistency
25	CAR § 20.80.323	WETLANDS – Development standards	**Required:** C. ~~Category I wetlands. Development activities and uses that result in alteration of Category I wetlands and their associated buffers shall be prohibited subject to the reasonable use provisions and special use provision of SMC 20.30.333 and 20.30.336, unless otherwise allowed by the exemptions or allowed activities provisions of this Title, or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II, where the proposed development activity is located within the shoreline jurisdiction.~~ D. Category II and III wetlands. Development activities and uses that result in alteration of Category II and III wetlands is prohibited, unless the applicant can demonstrate that full compensation for the loss of acreage and functions of wetland and buffers due to unavoidable impacts shall be provided in compliance with the mitigation performance standards and requirements of these regulations; ~~1. The basic project proposed cannot reasonable be accomplished on another site or sites in the general region while still successfully avoiding or resulting in less adverse impact on a wetland; and~~ ~~2. All on-site alternative designs that would avoid or result in less adverse impact on a wetland or its~~	Clarification and Consistency

			~~buffer, such as a reduction to the size, scope, configuration or density of the project are not feasible.~~ F. Small, hydrologically isolated Category IV wetlands. 1. The wetland is less than one thousand (1,000) square feet in area; 2. The wetland is a low quality Category IV wetland <u>with a habitat score of less than 3 points in the adopted rating system</u>; 3. The wetland does not ~~provide significant habitat value for wildlife (score of less than 3 points in the adopted rating system) and is not located within a mapped priority habitat area or corridor~~ <u>contain habitat identified as essential for local populations of priority species identified by the Washington Department of Fish and Wildlife or species of local importance identified in Chapter XX.XX</u>; 4. The wetland is not ~~adjacent to a riparian area and is hydrologically isolated from other wetlands or streams~~ <u>associated with riparian areas or buffers</u>; <u>5. Is not part of a wetland mosaic</u>; and	
26	CAR § 20.80.330	WETLANDS - Required buffer areas Table 20.80.330(A)(1) Wetland Buffer Requirements	**<u>Required:</u>** Table 20.80.330(A)(1) Wetland Buffer Requirements [Need to add buffers for bogs, coastal lagoons and Wetlands of High Conservation Value (Natural Heritage Wetlands) to Category I wetlands, consistent with buffer widths in Small Cities Guidance Table XX.1.] 5. Increased Wetland Buffer Area Width. ~~c. The adjacent land has minimal vegetative cover. In lieu of increasing the buffer width where exiting buffer vegetation is inadequate to protect the wetland functions and values, development and implementation of a wetland buffer restoration/enhancement plan in accordance with SMC 20.80.350 may be substituted.~~ ~~7. Averaging through a Critical Area Reasonable Use Permit consistent with SMC 20.30.333 or Critical Area Special Use Permit consistent with SMC 20.30.336 or a shoreline variance consistent with 20.220.040 may be permitted when all of the following are met:~~	Clarification and Consistency

From:	Juniper Nammi
To:	Lisa Basher
Subject:	FW: Wetland and FWHCA comments on City of Shoreline SMP-CAO
Date:	Thursday, September 17, 2015 11:23:47 AM
Attachments:	Shoreline Draft SMP changes table PA_City Response draft 9-16-2015.docx Flood Hazard Management Sections of the Cities Shoreline Inventory and Characterization.docx

For inclusion in the desk packet.

Juniper Nammi, AICP
Associate Planner
P: (206) 801-2525

From: Blair, Misty (ECY) [mailto:mbla461@ECY.WA.GOV]
Sent: Wednesday, September 16, 2015 6:31 PM
To: Juniper Nammi
Cc: Anderson, Paul S. (ECY)
Subject: RE: Wetland and FWHCA comments on City of Shoreline SMP-CAO

Juniper,

Thank you for providing the Department of Ecology SEA Program with additional opportunities to review and comment on this proposed Shoreline Master Program Limited Amendment before local adoption. I have attached an updated comment matrix from Paul Anderson including CAO and SMP comments. I have also added a few of my own SMP comments in an attempt to help connect that table to the comments and concerns you will find listed below by topic.

General SMP

1. In addition to the CAO provisions already excluded from the SMP in your August 2015 draft, the following provisions should also be excluded as they are not consistent with the RCW 90.58 or WAC 173-26:

20.80.224.B Geologic Hazards Allowed Activities w/out critical areas report

20.80.274.C Activities Allowed in Fish and Wildlife Habitat Conservation Areas

20.80.274.K.3 Subdivision and short subdivision of land in FWHCA and associated buffers.- See additional comments below.

20.80.280.D Stream Buffer Allowed Uses and Alteration

20.80.324.B Activities Allowed in Wetlands

20.80.324.F Small, hydrologically isolated Category IV wetlands –See additional comments below.

20.80.330.H Allowed Wetland Buffer Uses

2. There is a lot of “reasonable use” type language used throughout the CAO, so I would

recommend adding "any" reasonable use or special use provisions, including but not limited to the provisions of SMC 20.30.333 and 20.30.336.

3. Maybe consider adding something similar to Whatcom County SMP 23.10.06 *References to Plans, Regulations or Information Sources*

A. The Whatcom County Critical Areas Ordinance, WCC 16.16 (Ordinance No. 2005-00068, dated Sept 30, 2005, and as amended on February 27, 2007) is hereby adopted in whole as part of this Program, except that the permit, non-conforming use, appeal and enforcement provisions of the Critical Areas Ordinance (WCC 16.16.270-285) shall not apply with shoreline jurisdiction. All references to the Critical Areas Ordinance WCC 16.16 (CAO) are for this specific version.

4. As you pointed out SMC 20.220.040.E mistakenly appears to state that a Critical Areas Reasonable Use Permit and a Shoreline Variance could be required. When in fact only a Shoreline Variance should be processed. This should be corrected.

Floodplain Management - I am coordinating additional review of this section with our Floodplain Manager, David Radabaugh. We will hopefully have additional comments and suggestions for you soon.

My initial concern with removing the Policy and Regulation sections of the SMP related to Floodplain Management is that they are curtailed to the needs of the Shoreline environment and specifically address the requirements of the SMA. See RCW WAC 173-26-211(3) that don't appear to be mirrored within 13.12.
Additional considerations include:

1. Flood Hazard Management Sections of the Cities Shoreline Inventory and Characterization, at 117-118 (see attachment).

2. Consider leaving the existing policies and regulations within SMP and referencing that additional City review will occur as part of the Floodplain Development Permit process under 13.12.

3. Consider the possibility of adding additional clarification within the SMP to address how shoreline permits will incorporate the floodplain review referenced within 13.12 Floodplain Management considering these provisions are under the authority of the Public Works Department.

4. If 13.12 is incorporated, administrative process, definitions and review authority will need to be clarified within the SMP. David and I are looking for some examples, but I don't think this approach is very common.

Wetlands

1. **Remove SMC 20.80.324.F from the CAO or exclude from the SMP.** Small hydrologically isolated category IV wetlands are not exempt from meeting any of the critical area provisions of WAC 173-26. WAC 173-26-221(2)(c)(i)(C) **Alterations to wetlands**. Master program provisions addressing alterations to wetlands shall be consistent with the

policy of no net loss of wetland area and functions, wetland rating, scientific and technical information, and the mitigation priority sequence defined in WAC 173-26-201 (2)(e). SMC 20.80.324.F skips the first step in mitigation sequencing, avoidance. WAC 173-26-221(2)(c)(i)(F) Compensatory mitigation, provides that compensatory mitigation is allowed only after mitigation sequencing is applied.

2. **SMC 20.80.276.D.3 –** contains a typo that references wetland acreage and functions within a stream provision.

Fish and Wildlife Habitat Conservation Areas (FWHCAs)

1. SMC 20.80 does regulate your marine waters as a fish and wildlife habitat conservation area. Implementing regulations for the protection of these FWHCA are not located elsewhere in the SMP and should currently be implemented through the integrated CAO. However, the FWHCA section of the existing and proposed CAO is lacking specifics related to marine FWHCAs. You may want to change stream to waters as Paul has recommended or add a critical salt water habitat/marine waters section within SMC 20.80.290 & 20.80.300.

2. **Remove SMC 20.80.274.K.3 from the CAO or exclude from the SMP.** Impacts associated with providing plat access or routing subdivision utilities through the FWHCA or its buffer could always be avoided by not subdividing the property. This provision is not consistent with the mitigation sequencing requirements.

Geologically hazardous areas

Geologically hazardous areas requirements of WAC 173-26-211(2)(c)(ii) appear to be sufficiently addressed by the CAO incorporation along with the existing SMP Shoreline Modification Policies and Regulations.

Thank you for your efforts to create a better SMP. I look forward to working on this further with you as your local adoption process moves forward.

Misty Blair | Regional Shoreline Planner | S.E.A. Program | Northwest Regional Office | WA Department of Ecology | P 425-649-4309| misty.blair@ecy.wa.gov

From: Juniper Nammi [mailto:jnammi@shorelinewa.gov]
Sent: Tuesday, August 25, 2015 4:43 PM
To: Blair, Misty (ECY)
Cc: Anderson, Paul S. (ECY)
Subject: RE: Wetland and FWHCA comments on City of Shoreline SMP-CAO

City draft responses added to Paul's comment table and are attached.

Misty's comments were in a PDF so the City's draft responses are listed here:

1. Retained policy sections for Floodplains and Wetlands in B and C, but would appreciate direction on how these can be simplified if possible.

Need specific language for the policy language you think may need to be added. Did not completely understand the direction except that "policies are required." There is also a lot of existing policy language in 20.30.020 that seems related.

2. 20.230.030 - Need direction on how to demonstrate how policies are being incorporated and reflect the results of the inventory and characterization. Do not understand this comment.

See opening statement in 20.210.010. Definitions in Title 20.20 are incorporated so duplicates (related to critical areas regulation) are proposed for deletion.

3. Chapter 20.80 does not regulate marine environment (except for coastal flood zone). These regulations are all in other parts of the SMP. No changes proposed. Adding this term/definition or related regulations to the critical areas regulations for the rest of the City does not make sense. If something is missing from the 2013 update, let me know.

4. Revised Ordinance reference and added exclusions for conflicting sections.

Need direction on how to update the Appendix.

5. Added language indicating that TUP does not apply in the shoreline jurisdiction.

6. Drafted change to address how Subsection A pertains to SMP, but not sure if I understood this comment correctly.

7. This section only indicates that buffers may be MORE not less than standard based on critical area report. No buffer reduction per in this general provisions section. Revisions were made in response to other comments received. It may clarify/fix this section.

I still need to revise the draft regulations to address some of your comments were I have questions. Also, I need to review the critical area report and mitigation plan requirements for each type of critical area to delete redundancy where general provisions are sufficient.

To help your review, I am attaching the current working drafts for ALL the proposed changes.

They are now in three sections – Chapter 20.80 changes (the CAO), SMP changes, and related Title 20 changes (Chapters 20.20, 20.30, 20.40, and 20.50). You can see retained language moved as different from new language (double underline/double strike through) if you turn the markup off under the review tab. I now have comments noting where provisions were moved from/to.

I need to finalize revised drafts by Thursday so that they can be shared with Planning Commission and the public for the upcoming public hearing. I will send you updated versions at that time, but hope to have more direction from you tomorrow so these revised drafts can include as many of the needed changes as possible.

Thank you for your assistance on this.

Juniper Nammi, AICP
Associate Planner
P: (206) 801-2525

From: Blair, Misty (ECY) [mailto:mbla461@ECY.WA.GOV]
Sent: Friday, August 21, 2015 5:11 PM
To: Juniper Nammi
Cc: Anderson, Paul S. (ECY)
Subject: FW: Wetland and FWHCA comments on City of Shoreline SMP-CAO

Juniper,

Paul Anderson's initial CAO comments are detailed below with DRAFT required and recommended changes from each of us attached.

Please note that Paul and I would be happy to meet with you to discuss these items in greater detail.

Misty Blair | Regional Shoreline Planner | S.E.A. Program | Northwest Regional Office | WA Department of Ecology | P 425-649-4309| misty.blair@ecy.wa.gov

This communication is public record and may be subject to disclosure as per the Washington State Public Records Act, RCW 42.56.

From: Anderson, Paul S. (ECY)
Sent: Friday, August 21, 2015 2:20 PM
To: Blair, Misty (ECY)
Subject: Wetland and FWHCA comments on City of Shoreline SMP-CAO

Misty:

Sorry I haven't gotten my comments to you on the City of Shoreline's SMP update. I know that Juniper is eager to hear back from us, but, unfortunately, there are a number of issues with the current CAO and I haven't yet completed my review. I have completed my review of the general sections, definitions, FWHCA, and am about half-way through the wetlands

section (which will complete my review).

I hope to finish my review of the CAO later today. In the interest of getting something to Juniper, I have attached my table of required and recommended changes. I have not added any comments on the SMP itself in the attached table and you will need to scroll down to the CAO comments.

As a general statement, I have the following observations about the CAO:

1. As you know, within shoreline jurisdiction the standard to be met is no net loss of ecological function. In addition to complicating the SMP statutory and policy requirements, ecologically, I am concerned that there are simply too many exemptions and options for alternatives from the standard critical area buffers and mitigation requirements. I don't see how no net loss can be achieved with all of the listed exemptions/exceptions. Also, reducing the number of these special allowances will greatly simplify critical areas protections within the SMP, which should make for easier interpretation and implementation by City staff.

2. I am very unclear (confused) as to what the correct definitions are. The most recent submittal seems to have many fewer definitions than the previous draft. There are a number of definitions that I feel need to be in the SMP that I don't see (shorelands, shorelines, shorelines of statewide significance).

3. The FWHCA section describes critical habitats that includes marine waters, yet there are little or no protection standards for marine habitats and their associated buffers. Most if not all of the FWHCA buffer and development standards refer to streams and not marine waters, which will need to be corrected in the SMP.

I would be happy to talk to Juniper about the changes listed in the attached table and will get the completed comments to you once I finish my review.

Thanks for your patience with me on this.

Paul

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City of Shoreline Revised Draft Shoreline Master Program Update, Dated August 28, 2015

Ecology Recommended and Required Changes – September 16, 2015

The following changes are required to comply with the SMA (RCW 90.58) and the SMP guidelines (WAC 173-26, Part III):

ITEM	Draft SMP Provision (Cite)	TOPIC	RECOMMENDED AND REQUIRED FORMAT CHANGES	DISCUSSION/RATIONALE
1	SMP § 20.230.030.C.1	Environmentally sensitive areas within the shoreline Wetlands	**Required:** m. Applicants should develop comprehensive mitigation plans to ensure long-term success of the wetland restoration, creation, or enhancement project. Such plans should provide for sufficient monitoring and contingencies to ensure wetland persistence. Mitigation projects shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five (5) years nor less than ten (10) years when the project includes planting of trees or shrubs.	[*9-16-15 PAAN*] To ensure the long-term success of mitigation, particularly where shrubs and trees are planted. Also, will provide more efficiency for applicants since these are the required standards for state and federal permitting (see p. A-22, Small Cities Guidance; pp. 6-29, 6-52 Wetlands in Washington; p. 27, Mitigation Guidance). Same comment for mitigation monitoring in FWHCA.
Comments on Chapter 20.80 - CRITICAL AREAS REGULATIONS 8-28-15 drafts)				
2	CAR § 20.80.082	Mitigation plan requirements	**Required:** D. Monitoring Program … A protocol shall be included outlining the schedule for site monitoring (for example, monitoring shall occur in years 0 [as-built],1, 3, 5, and 7 after site construction),The mitigation project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five (5) years nor less than ten (10) years when the project includes planting of trees or shrubs.	[*9-16-15 PAAN*] Mitigation monitoring standards in shoreline jurisdiction (20.230.020) should be more specific and include the required minimums (5 years for herbaceous, 10 years for woody species) to ensure successful mitigation and no net loss of ecological function.
3	CAR § 20.80.276	FWHCA Specific habitat development standards	**Required:** D. Streams. Activities, uses and alterations of streams shall be prohibited ~~subject to the reasonable use provisions (SMC 20.30.336) or special use provisions (SMC 20.30.333), unless otherwise allowed by the exemptions or allowed activities provisions of this Title,~~ or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II.	Clarification and Consistency
4	CAR § 20.80.280	FWHCA Required buffer areas	**Required:** C. Standard Required Stream Buffer Widths. Buffer widths shall reflect the sensitivity of the ~~stream~~ water type, 1. The following buffers are established for ~~streams~~ waters based upon the Washington State Department of Natural Resources water typing system… Table 20.80.280(1) ~~Stream~~ Water Type Standard Buffer Width (ft) [The science clearly shows that marine riparian buffers provide important functions to the marine nearshore and are essential to achieving no net loss of shoreline ecological function. The protection standards in the CAO/SMP should apply to marine waters in addition to lakes and streams (see Brennan, J.S., and H. Culverwell. 2004. *Marine Riparian: An Assessment of Riparian Functions in Marine Ecosystems*. Published by Washington Sea Grant Program, UW Board of Regents, Seattle, WA. 34 p.; *Endangered and Threatened Species; Designation of Critical Habitat for 12 Evolutionarily Significant Units of West Coast Salmon and Steelhead in Washington, Oregon, and Idaho*, Federal Register, 70, No. 170, September 2, 2005)] D.6 Stormwater Management Facilities. The establishment of stormwater management facilities,	Clarification and Consistency [*9-16-15 PAAN*] I do not see FWHCA regulatory standards in the SMP. When we met on 9-2, we discussed adding a footnote to Table 20.80. 280 that marine waters are Type S waters and the standard buffer in the table would apply. SMP [*9-16-15 MB*] The existing Native Vegetation Conservation buffer/setback (Table 20.230.082) may have been intended to meet this FWHCA buffer requirement, but that is not clear. May want to cross reference Shoreline Environment Designation setback provisions here. [*9-16-15 PAAN*] Comment on stormwater

			limited to ~~outfalls, pipes and conveyance systems,~~ stormwater dispersion outfalls and bioswales, may be allowed within stream buffers; provided that: ~~c. Stormwater dispersion outfalls, bioswales, bioretention facilities, and other low impact facilities may be allowed anywhere within stream buffers when determined by a qualified professional that the location of the facility will enhance the buffer area and protect the stream;~~	management facilities still applies SMP [*9-16-15 MB*] Mitigation sequencing is still applicable to stormwater management facilities and should only be placed within buffers after avoidance, and minimization has been applied.
5	CAR § 20.80.290	FWHCA Critical area report requirements	**Required:** A. Preparation by a Qualified Professional. A critical areas report for a habitat conservation area shall be prepared by a qualified professional who is a biologist. Third party review by a qualified professional under contract with the City will be required, at the applicant's expense in any of the following circumstances: 2. Mitigation is required for impacts to Type S, Type F, or Type Np ~~streams~~ waters and/or buffers; or 3. Mitigation is required for impacts to Type Ns ~~streams~~ waters C. Habitat Assessment D. Additional Technical Information Requirements for ~~Streams~~ Waters. Critical area reports for ~~streams~~ waters must be consistent with the specific development standards for ~~stream~~ in SMC 20.80.276 and 20.80.280 and may be met through submission of one or more specific report types. If ~~stream~~ buffer enhancement is proposed to average ~~stream~~ buffer width, a ~~stream~~ buffer enhancement plan must be submitted in addition to other critical area report requirements of this section. If no project impacts are anticipated and standard ~~stream~~ FWHCA buffer width are retained, a ~~stream~~ delineation report, general critical areas report or other reports alone or in combination may be submitted as consistent with the specific requirements of this section. In addition to the basic critical area report requirements for fish and wildlife habitat conservation areas provided in subsections (A) through (C) of this section, technical information on ~~streams~~ waters shall include the following information at a minimum: a. ~~Stream~~ Survey showing the field delineated ordinary high water mark(s); b. Standard ~~stream~~ FWHCA buffer boundary; c. Boundary for proposed ~~stream~~ buffers averaging, if applicable	[*9-16-15 PAAN*] Comment on replacing "streams" with "waters" or "FWHCA" in shoreline jurisdiction still applies; perhaps should include language in SMP that within shoreline jurisdiction, CAO FWHCA standards (buffers, mitigation, habitat assessments, etc.) apply to marine waters. As currently written in the CAO, a development proposal on Puget Sound would only need to comply with the standards in § 20.80.290.D.6 for streams and not include marine waters, which will not adequately protect shoreline resources. SMP [*9-16-15 MB*] This is the only place for specific FWHCA report requirements, so it should include requirements associated with all FWHCA development proposals (not just streams). If you don't want to change streams to Waters, there needs to be additional sections added to address marine or other FWCHA reporting requirements such as OHWM determinations, eel grass surveys, spawning surveys, proposed fish windows…Another option would be to include these regulations within the SMP.
6	CAR § 20.80.300	FWHCA Mitigation performance standards	**Required:** I. Monitoring Program and Contingency Plan. A monitoring program shall be implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives are being met. ~~The monitoring program will be established consistent with the guidelines contained in SMC 20.80.350(G)~~. The mitigation site shall be monitored for a minimum of five (5) years where mitigation plantings are limited only to herbaceous species and ten (10) years where shrubs or trees are planted. Monitoring should include an as-built report (Year 0) with scaled drawings that show the completed mitigation site grades, plantings, any habitat features and the associated buffer.	[*9-16-15 PAAN*] Comment on FWHCA mitigation monitoring standards still applies.
7	CAR § 20.80.324	WETLANDS – Development standards	**Required:** D. Category II and III wetlands. Development activities and uses that result in alteration of Category II and III wetlands is prohibited, unless the applicant can demonstrate that full compensation for the loss of acreage and functions of wetland and buffers due to unavoidable impacts shall be provided in compliance with the mitigation performance standards and requirements of these regulations;	SMP [*9-16-15 MB*] This sounds like a reasonable use allowance. Within the Shoreline the bulk and dimensional

			~~1. The basic project proposed cannot reasonable be accomplished on another site or sites in the general region while still successfully avoiding or resulting in less adverse impact on a wetland; and~~ ~~2. All on-site alternative designs that would avoid or result in less adverse impact on a wetland or its buffer, such as a reduction to the size, scope, configuration or density of the project are not feasible.~~ F. **Small, hydrologically isolated Category IV wetlands.** The Director may allow small, hydrologically isolated Category IV wetlands to be exempt from the avoidance sequencing provisions of SMC 20.80.055 and SMC 20.80.324(D) and allow alteration of such wetlands provided that a submitted critical area report and mitigation plan provides evidence that all of the following conditions are met: 1. The wetland is less than one thousand (1,000) square feet in area; 2. The wetland is a low quality Category IV wetland with a habitat score of less than 3 points in the adopted rating system; 3. The wetland does not contain habitat identified as essential for local populations of priority species identified by the Washington Department of Fish and Wildlife or species of local importance which are regulated as fish and wildlife habitat conservation areas in Chapter 20.80, Subchapter 3; 4. The wetland is not associated with riparian areas or buffers; 5. The wetland is not part of a wetland mosaic; and [Typo; two No. 5.] 5. A mitigation plan to replace lost	standards (buffers/setbacks/height) are met or a Shoreline Variance is required. [*9-16-15 PAAN*] § 20.80.324.F not listed as exempted in SMP; current draft of CAR does state a mitigation plan is required. SMP [*9-16-15 MB*] This should be removed. Section F, is not consistent with mitigation sequencing as required for both SMA and GMA compliance. Not clear how this type of approval would be administered within the shoreline. It is very difficult to replace the lost function and value of a filled wetland. Keep in mind that any wetland within the Shoreline jurisdiction is within 200 feet of the marine water which has a riparian area.

Flood Hazard Management Sections of the Cities Shoreline Inventory and Characterization, at 117-118:

Flood Hazard Areas

Flood hazard areas are defined in the Shoreline *Comprehensive Plan* as "those areas within the floodplain subject to a one percent or greater chance of flooding in any given year" (City of Shoreline, 2005a). These areas are typically identified on the Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRM) as the 100- year floodplain. The 100-year floodplain is regulated by two chapters of the SMC: Chapter 16.12, Flood Damage Prevention, and Chapter 20.80.380-410 of the CAO.

Portions of the shoreline in Segment B, C, D, and E are mapped as a 100-year floodplain on the King County FIRM series, Panels 20, 40, 310, and 330 (FEMA, 1995). Flood hazards for Segment A (Point Wells) are mapped on Snohomish County FIRM series and include panels 1294 and 1292 (FEMA, 1999). The stream corridor of Boeing Creek (Segment E) is also mapped as a 100-year floodplain (FEMA, 1995), but the stream is not large enough itself to be a shoreline of the state and only the mouth of the stream is located within the marine shoreline. The King County Sensitive Area Map Folio (King County iMAP, 1991) shows only the Boeing Creek stream corridor within Segment E as being a potential flood hazard area (see Map 4 in Appendix C). Typically, the areas south of stream mouths and the marine shoreline below the OHWM are indicated as flood hazard areas. Following the recommendations made in the Snohomish County FIRM series, Base Flood Elevation for shoreline in all Segments (A, B, C, D, and E) will be 10 feet National Geodetic Vertical Datum (NGVD).

Several existing houses are within the shoreline of Puget Sound along 27th Avenue NE in Segment B (see Map 4 in Appendix C). Most of the homes are protected by bulkheads, with the exception of those on the south end, which, based on a conversation in March
2006 between Juniper Nammi (City of Shoreline Planner) and Chuck Steele (Ecology Floodplain Specialist), were reported to have had flooding in the past (Chuck Steele, personal communication, 2008). The existing lots within the flood hazard areas along 27th Avenue NE are fully developed, therefore flood regulations in the SMC would be applied primarily to remodel and rebuilding on these sites.

Industrial facilities and a large dock associated with Point Wells exist within the shoreline of Puget Sound in Segment A. Portions of these facilities are within the mapped flood hazard area (see Map 4 in Appendix C). Flood regulations in the SMC would be applied to replacement or rebuilding of industrial facilities and to shoreline restoration projects. If the property were to be rezoned in the future, flood regulations in the SMC would be applied to platting, subdivision, and new construction on the site.

Shoreline Modifications

Three white papers prepared in recent years summarize the current knowledge and technology pertaining to marine and estuarine shoreline modifications in the Puget Sound. These papers are: *Overwater Structures: Marine Issues* (Nightingale and Simenstad, 2001); *Marine and Estuarine Shoreline Modification Issues* (Williams and Thom, in King County Department of Natural Resources and Parks [KCDNRP], 2001); and *Beaches and Bluffs of Puget Sound* (Johannessen and MacLennan, 2007). These documents, along with *Reconnaissance Assessment of the State of the Nearshore Report: Including Vashon and Maury Islands (WRIAs 8 and 9)* (KCDNR, 2001) and the Washington Department of Natural Resources ShoreZone Inventory (2001) were summarized and incorporated into this section. A field visit in September 2003 verified modifications along portions

of the shoreline providing public access. Table A-2, Appendix A contains additional information regarding shoreline modifications within the planning segments.

Shoreline modifications refer to structural alterations of the shoreline‟s natural bank, including levees, dikes, floodwalls, riprap, bulkheads, docks, piers or other in-water structures. Such modifications are typically used to stabilize the shoreline and prevent erosion. Shoreline armoring (i.e. riprap, bulkheads, and other shore parallel structures) is the most common type of shoreline modification. Shoreline armoring impedes sediment supply to nearshore habitats, and this sediment starvation can lead to changes in nearshore substrates from sand or mud to coarse sand, gravel, and finally hardpan. This may, in turn, decrease eelgrass and increase kelp abundance, as well as forage fish spawning habitats. Armoring also alters natural process dynamics by blocking or delaying the erosion of upland areas and bluffs that replenish the spawning substrate. Beach narrowing and lowering and decreased driftwood abundance also result from shoreline armoring (Johannessen and MacLennan, 2007).

Construction of shoreline armoring may cover or destroy eelgrass meadows, and overwater structures may deprive eelgrass of light. Dredging can excavate eelgrass or cause excessive turbidity and permanent filling of eelgrass meadows (KCDNR, 2001).

Bulkheads and piers may also affect fish life by diverting juvenile salmonids away from shallow shorelines into deeper water, thereby increasing their potential for predation (Nightingale and Simenstad, 2001). Piers also alter wave energy and current patterns and obstruct littoral drift and longshore sediment transport (Williams and Thom, 2001). Sewer outfalls introduce nutrients and pollutants to the nearshore area altering current cycles and food web interactions.

Shoreline Armoring

Approximately 97 percent of the City‟s shoreline adjacent to Puget Sound is modified with riprap and bulkheads (WDNR, 2001). The majority of this armoring is associated with the BNSF railroad bed (Map 12 in Appendix C).