



Critical Areas Ordinance Update

Bremerton Municipal Code, CAO Update Gap Analysis

CHAPTER 20.14 CRITICAL AREAS

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The information contained in this report is based on the application of technical guidelines currently accepted as the best available science. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, state, and federal regulatory authorities. No other warranty, expressed or implied, is made.

Acronyms and Abbreviations

BAS	Best Available Science
BMP	Best Management Practices
CAO	Critical Areas Ordinance
CARA	Critical Aquifer Recharge Area
CMZ	Channel Migration Zone
DNR	Washington State Department of Natural Resources
DOH	Washington State Department of Health
Ecology	Washington State Department of Ecology
FEMA	Federal Emergency Management Agency
FFA	Frequently Flooded Area
FWHCA	Fish and Wildlife Habitat Conservation Area
GIS	Geographic Information System
GMA	Growth Management Act
BMC	Bremerton Land Use Code
OHWM	Ordinary High Water Mark
NMFS	National Marine Fisheries Service
PHS	Priority Habitats and Species
RMZ	Riparian Management Zone
RCW	Revised Code of Washington
SMP	Shoreline Master Program
SPTH	Site Potential Tree Height
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife

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1. INTRODUCTION

With passage of the Growth Management Act (GMA), local jurisdictions throughout Washington State, including the City of Bremerton, were required to develop policies and regulations to designate and protect critical areas. Critical areas are defined in the GMA and the Revised Code of Washington (RCW) 36.70A.030(11) to include wetlands, fish and wildlife habitat conservation areas, frequently flooded areas, critical aquifer recharge areas, and geologically hazardous areas. The GMA requires local jurisdictions to periodically review and evaluate their adopted critical areas policies and regulations.

An ongoing requirement of the GMA is for local jurisdictions to periodically review and evaluate their adopted critical areas policies and regulations. In accordance with the GMA, the City last completed a comprehensive update of its critical areas policies and regulations in 2016. The City is now required to update its critical areas policies and regulations by December 31, 2025. This includes the requirement to review and incorporate best available science (BAS). Any deviations from science-based recommendations should be identified, assessed and explained (Washington Administrative Code [WAC] 365-195-915). In addition, jurisdictions are to give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries. A BAS review for this code update is summarized in the *Best Available Science Review* (Facet, September 2025).

The City's critical areas policies are currently contained in the Environmental Element chapter of the City of Bremerton 2044 Comprehensive Plan (Comprehensive Plan) adopted June 2025. The City's critical areas regulations are currently codified in the Bremerton Municipal Code (BMC), Title 20, Chapter 14 Critical Areas.

This gap analysis is intended to be a review of the current critical areas regulations with evaluation of gaps in consistency between the existing regulations and BAS or the GMA. This analysis also includes recommendations for improvements to general aspects of the critical areas ordinance (CAO) such as clarity, consistency, and ease of use. The primary intention of this gap analysis is to help guide the update of the City's critical areas policies and regulations.

2. CHAPTER 20.14.100 GENERAL PROVISIONS (SECTION 20.14.110 – 20.14.190)

This section outlines citywide requirements for activities in or near critical areas, including allowed and regulated uses, procedures, and exemptions. It also addresses reasonable use exceptions, nonconforming activities, and enforcement to ensure consistent application of critical area protections.

Table 1. General Provisions review summary.

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.110	Purpose	No comments or recommendations	N/A
BMC 20.14.115	Intent	<ol style="list-style-type: none"> 1. Include restoration of riparian habitats 2. Consider stating “no net loss” requirement under intent 	<ol style="list-style-type: none"> 1. BAS, WDFW Riparian Management Zone (RMZ) Checklist 2. BAS, WDFW Riparian Management Zone (RMZ) Checklist
BMC 20.14.120	Scope and Applicability	1. Revise language to better align with BMC 2.14.125	1. BAS
BMC 20.14.125	Relationships to Other Regulations	Consider adding cross-reference to SMP	Clarity
BMC 20.14.130	Administration and Procedures	<ol style="list-style-type: none"> 1. Include tribal consultation where necessary 2. Include consideration of adaptive management and monitoring 	<ol style="list-style-type: none"> 1. Procedural 2. BAS, WDFW Riparian Management Zone (RMZ) Checklist, CAO Checklist
BMC 20.14.140	Appeals	No comments or recommendations	
BMC 20.14.145	Exemptions	<ol style="list-style-type: none"> 1. Include voluntary restoration 2. Include select vegetation removal 3. Include minor site investigative work 	<ol style="list-style-type: none"> 1. BAS 2. BAS 3. Clarity

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.150	Public Agency Exception	1. Consider revising the level of review 2. Expand review criteria	Procedural
BMC 20.14.155	Reasonable Use Exception	Review and update standards	Procedural, clarity
BMC 20.14.160	Nonconforming Uses/Structures	No comments or recommendations	N/A
BMC 20.14.165	Bonds	Update maintenance bond time requirements	BAS
BMC 20.14.170	Enforcement	No comments or recommendations	N/A
BMC 20.14.175	Violation – Penalty	Consider updating violation language to address tree removal without permit	Procedural
BMC 20.14.180	Severability	Add .180 to .190 General Provisions	Clarity
BMC 20.14.190	Tree Removal	1. Add .190 to .100 General Provisions 2. Include updated language from RMZ Checklist Recommendation	1. Clarity 2. BAS

2.1 Intent (BMC 20.14.115)

2.1.1 Restoration of Riparian Habitat

To address *Riparian Ecosystems, Volume 2: Management Recommendations* (Rentz et al. 2020) and the Washington Department of Fish and Wildlife (WDFW) Riparian Management Zone Checklist for Critical Areas, BMC 20.14.115(d) could be expanded to address RMZ Checklist Recommendation A and S to include restoring and protecting riparian habitats to the extent practicable to maximize functions and values over time.

2.1.2 No Net Loss

The introductory text of the Intent section could be updated to highlight the requirement to manage critical areas to ensure no net loss of ecological functions pursuant to WAC 365-190-080(1).

To address WDFW RMZ Checklist Recommendation Q, a new subsection could be added similar to the following: *“The review of critical areas will consider the cumulative impacts of the proposed action that includes past, present, and reasonably foreseeable future actions to facilitate the goal of no net loss of*

critical areas. Such impacts shall include those to wildlife, habitat, and migration corridors; water quality and quantity; and other geologic or watershed processes that relate to critical area condition, process, or service."

2.2 Scope and Applicability

To better align with the existing language in BMC 21.14.125 and best available science, it is recommended to revise the language in BMC 21.14.120(b) similar to the following to ensure the greatest protection is applied:

"Any individual critical area adjoined by another type of critical area shall have a buffer or protection area and meet the requirements that provide the most protection to the critical areas involved. When any provision of this chapter or any existing regulation conflicts with this chapter, that which provides more protection to the critical areas shall apply."

2.3 Relationship to Other Regulations (BMC 20.14.125)

2.3.1 Shoreline Master Program (SMP) Cross-reference

This section establishes that all development applications must comply with the requirements of this chapter in addition to other applicable state and City regulations. Where conflicts occur, the provisions of this chapter prevail over less restrictive rules, easements, covenants, or deed restrictions.

However, the CAO is incorporated into the SMP by dated ordinance, with noted exceptions within the SMP under Ordinance 5417, effective July 10, 2021. For critical areas within shoreline jurisdiction, consider making reference under BMC 20.14.125 to the SMP-specific Critical Areas within Shoreline Jurisdiction. This is BMC Chapter 20.14, Ord. 5418, effective May 4th, 2021.

Note, the City intends on adopting the CAO and referencing the adopted ordinance within the SMP for its separate minor amendment for similar regulations within both shoreline jurisdiction and City-wide.

2.4 Administration and Procedures (BMC 20.14.130)

2.4.1 Special Reports

To address staff recommendations, the City could consider including language for *"Special Reports"* to include consultation with affected agencies and tribes as necessary. When special reports are transmitted to the affected agencies and tribes, it is recommended to include a time limitation for review. Special reports should also include distribution of habitat plans for development within the floodplain.

2.4.2 Adaptive Management and Monitoring

To align with WDFW's RMZ Checklist Recommendation U and Commerce CAO Checklist – Good Ideas Section, the City could consider

developing a monitoring and adaptive management program to establish a baseline and provide performance measures to determine whether the City is achieving no net loss through its policies and regulations. Monitoring and adaptive management is encouraged in [WAC 365-195-905\(6\)](#) to improve implementation of regulations.

2.5 Exemptions (BMC 20.14.145)

2.5.1 Voluntary Restoration

The City may want to incorporate voluntary restoration activities as a listed exemption to encourage this type of work. It should include standards to preserve or enhance ecological functions and does not involve grading, filling, or using heavy equipment unless approved by the Director.

2.5.2 Select Vegetation Removal

Recommend adding a select vegetation removals exemption covering non-native or invasive plant species removal and tree pruning. Provisions can be included to require adherence to best management practices for invasive plant removals following guidance from Washington State Noxious Weed Board. To prevent impacts from widespread noxious weed removal or large, noxious tree removal without a mitigation plan, vegetation removal exemption criteria could be established (e.g., threshold for clearing area for herbaceous, shrub, and vine noxious plant removals; diameter size threshold for noxious tree removal). Re-vegetation with appropriate native species to achieve natural densities should be allowed and encouraged in conjunction with removal of invasive plants.

2.5.3 Minor Site Investigative Work

For clarity, consider adding an exemption for minor site investigative work (e.g., surveys, soil logs, percolation tests) to clarify that such activities are allowed without triggering full CAO review, provided they do not involve new road construction, significant excavation, or removal of significant trees. To ensure consistency with best practices, add language requiring that all impacts to critical areas be minimized and that disturbed areas are promptly restored.

2.6 Public Agency Exception (BMC 20.14.150)

2.6.1 Review Level

To reduce administrative procedures and address staff recommendations, the City could consider changing the review level for a public agency exception from a Type III (quasi-judicial) decision to a Type II (administrative) decision.

2.6.2 Review Criteria

Consider expanding the review criteria to improve implementation and ensure mitigation sequencing is followed. Those criteria often include attempts to protect and mitigate impacts and to provide

alternatives analysis. Additionally, some local jurisdictions place limitations or prohibitions for certain uses within certain high quality critical areas and/or habitats. (See [Issaquah Municipal Code 18.802.040](#))

2.7 Reasonable Use Exception (BMC 20.14.155)

2.7.1 Review and Update Standards

The City has allowances for reasonable use exceptions to address the need to grant relief from code requirements where strict compliance would deny all reasonable use of property. The current code does clearly state how the requests will be processed, the additional submittal materials required, and criteria for approval. However, the criteria for approval are vague and the submittal requirements do not appear to give the department sufficient detail. Pursuant to the Commerce CAO Checklist, the reasonable use exception criteria should minimize intrusions into critical areas to the greatest extent feasible, applying mitigation sequencing as necessary to ensure no net loss of ecosystem functions and values, in accordance with RCW 36.70A.370, while also avoiding regulatory takings, as advised by the City's attorney.

The City may consider revising this section as part of this update to give clearer direction to applicants and reviewers on what information must be submitted as part of an application, what is allowable as a reasonable use, and define when approval for these exceptions will lapse.

For example, the existing code does not appear to include a specific requirement to submit a site plan of the proposed development. Some jurisdictions have moved in the direction of clearly detailing what specific uses may be allowed under a reasonable use exception and what their respective maximum development potential will be under the allowances. The City could consider approaches similar to the City of Kirkland ([Kirkland Zoning Code 90.180](#)) or City of Bothell ([Bothell Municipal Code 14.04.140](#)) to improve application.

2.8 Bonds (BMC 20.14.165)

2.8.1 Maintenance Bond Time Requirement

A minimum of five (5) years of monitoring and maintenance is considered BAS for compensatory wetland mitigation. In some cases (e.g., complex or high-risk sites), longer durations of ten (10) years are required to ensure compliance with performance standards and successful ecological outcomes.

The City should consider increasing the minimum time from three (3) years to five (5) years and add a clause requiring ten (10) years for compensatory mitigation to align with the proposed mitigation monitoring requirements and best available science.

2.9 Violation – Penalty (BMC 20.14.175)

To address staff recommendations, the City, in an effort to discourage removing trees without permit, may consider referencing the ISA standards for removal violations in assessing a tree’s value. A cross-reference should be added to BMC 20.14.190, as well.

2.10 Tree Removal (BMC 20.14.190)

2.10.1 Include updated language from WDFW RMZ Checklist

Consider expanding BMC 21.14.190(a) to reflect the language found in WDFW’s RMZ Checklist Recommendation N regarding hazard tree removal in critical areas and their buffers. This language includes avoidance and minimization measures to remaining trees and vegetation and the encouragement of creating wildlife snags instead of complete removal.

3. CHAPTER 20.14.200 DEFINITIONS

This section establishes the definitions used for critical areas.

Table 2 Definition table summary.

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.200	Alteration	Update definition of alteration	Clarity
BMC 20.14.200	Buffer	Update definition of buffer	Clarity
BMC 20.14.200	Compensatory Mitigation	Update definition for consistency with Ecology Publication No. 22-06-014 and existing mitigation types.	BAS, Clarity
BMC 20.14.200	Fish and Wildlife Habitat Conservation Areas	Revise definition to align with WAC 365-190-030(6)	Consistency
BMC 20.14.200	Habitat Management Plan (HMP)	Update definition of HMP	Clarity
BMC 20.14.200	Habitats of Local Importance	Update definition of Habitats of Local Importance	Clarity
BMC 20.14.200	Monitoring	Update definition for clarity and consistency with Ecology Publication No. 22-06-014.	BAS, Clarity
BMC 20.14.200	Ordinary High Water Mark	Consistency with most frequently used acronym	Clarity/Consistency

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.200	Qualified Professional	Update definition to include FWHCA habitats	Clarity
BMC 20.14.200	Riparian Habitat	Revise to include the outer edge of the Channel Migration Zone, where present.	BAS, Clarity
BMC 20.14.200	Seismic Hazard Areas	Revise definition to align with WAC 365-190-030.	BAS, Clarity
Missing Definitions			
BMC 20.14.200	Erosion Hazard	Include definition	BAS, Clarity
BMC 20.14.200	Landslide Hazard	Include definition	BAS, Clarity
BMC 20.14.200	No Net Loss	Include definition	BAS, Clarity

3.1 Definitions (BMC 20.14.200)

3.1.1 Alteration

The definition of alteration is technically correct and appropriately identifies a range of human-induced changes to critical areas or their buffers. It includes common activities such as clearing, grading, filling, channelizing, and construction. This provides a solid foundation for regulating impacts to sensitive environmental areas.

However, Kitsap County’s Definition offers a more comprehensive and nuanced approach, expanding the scope of alteration to include:

- Chemical applications (e.g., herbicides, pesticides, hazardous substances)
- Pollutant discharge
- Vegetation management exceptions (e.g., removal of noxious weeds)
- Grazing of domestic animals
- Surface water management modifications

These additions reflect a broader understanding of how human activities can affect ecological functions, especially in hydrology, habitat integrity, and water quality.

3.1.2 Buffer

The definition of buffer is technically correct. Here, ‘buffer’ is defined as an area contiguous to and protective of a critical area, supporting its maintenance, function, and structural stability.

To improve the definition, Bremerton may consider adding language that emphasizes the role of buffers in protecting the functions and values of critical areas. This includes preserving existing

vegetation, whether native or nonnative, unless replacement or enhancement is required through mitigation. Expanding the definition in this way would clarify the ecological purpose of buffers and better support long-term habitat integrity.

3.1.3 Compensatory Mitigation

The City may consider updating the definition of 'compensatory mitigation' to reflect the allowed types of mitigation, including creation, enhancement, preservation and rehabilitation. The existing definition includes restoration, which is recommended to be included as a separate definition. The City may consider incorporating the following revisions to 'compensatory mitigation':

"Compensatory mitigation" means replacing project-induced losses or impacts to a critical area, and includes, but is not limited to, the following:

A. **"Creation"** means the manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod and hydric soils, and support the growth of hydrophytic plant species.

B. **"Enhancement"** means the manipulation of the physical, chemical, or biological characteristics of a site to develop a wetland on an upland where a wetland did not previously exist at an upland site. Establishment results in a gain in wetland area and functions. An example activity could involve excavation of upland soils to elevations that will produce a wetland hydroperiod and hydric soils by intercepting groundwater, and in turn supports the growth of hydrophytic plant species.

C. **"Preservation"** means the removal of a threat to, or preventing the decline of critical areas by an action in or near those critical areas. This term includes activities commonly associated with the protection and maintenance of critical areas wetlands through the implementation of appropriate legal and physical mechanisms such as recording conservation easements and providing structural protection like fences and signs. Preservation does not result in a gain of aquatic resource area or functions but may result in a gain in functions over the long term.

D. **"Rehabilitation"** means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions and environmental processes to a degraded wetland. Rehabilitation results in a gain in wetland function, but does not result in a gain in wetland acres.

Further, it is recommended to develop a separate definition for "restoration" as follows:

"Restoration" means measures taken to restore an altered or damaged natural feature, including:

(a) Active steps taken to restore damaged wetlands, streams, protected habitat, or their buffers to the functioning condition that existed prior to an unauthorized alteration; and

(b) Actions performed to re-establish structural and functional characteristics of a critical area that have been lost by alteration, past management activities, or catastrophic events.

3.1.4 Fish and Wildlife Habitat Conservation Area

To align with WAC 365-190-030(6)(c), fish and wildlife habitat conservation areas should be clarified to not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of, and are maintained by, a port district or an irrigation district or company.

3.1.5 Habitat Management Plan

The definition of habitat management plan is technically correct. It appropriately identifies the report as a professional evaluation of habitat functions and the necessary conservation measures for a proposed development site. This aligns with standard critical area practices and provides a solid foundation for habitat protection.

However, the definition could be strengthened by incorporating adjacency criteria, specifically the 300-foot proximity to a habitat area. Adding a clause to address adjacent areas within 300 feet would improve the definition by ensuring that potential indirect impacts such as noise, light, runoff, or human activity are considered even when development is not directly within the habitat. This adjustment would make the definition more proactive and precautionary, helping ensure habitat evaluations reflect the full scope of potential environmental effects.

3.1.6 Habitats of Local Importance

The current definition of Habitats of Local Importance is technically correct. It identifies habitat elements that are critical to species survival and reproduction, including areas of high density, breeding habitat, movement corridors, and vulnerable features like cliffs and wetlands. These examples provide a strong foundation for identifying sensitive habitats.

However, the definition could be strengthened by adding language that establishes a local nominating process. This would clarify that these habitats are recognized based on their importance to the local ecological context, rather than relying solely on predefined examples. Including a local nomination pathway would allow the City or conservation organizations to formally designate habitat areas that may not be broadly recognized but are still vital to local species and conservation goals.

3.1.7 Ordinary High Water Mark (OHWM)

To maintain consistency with commonly used acronyms, it is recommended to replace 'OHM' with 'OHWM' throughout the chapter and within this definition.

3.1.8 Qualified Professional

The definition of Qualified Professional for habitats or wetlands could be expanded to include reference to BMC 20.14.740. It currently only references the wetland report chapter BMC 20.14.360

The City should consider adding any required licensing requirements where applicable. Similar to Kitsap County, the City could consider incorporating a definition for a 'Wildlife biologist' similar to the below:

"Wildlife biologist" means a person with experience and training within the last ten years in the principles of wildlife management and with practical knowledge in the habits, distribution and environmental management of wildlife. Qualifications include:

- A. Certification as professional wildlife biologist through the Wildlife Society; or*
- B. Bachelor of Science or Bachelor of Arts degree in wildlife management, wildlife biology, ecology, zoology, or a related field from an accredited institution and two years of professional field experience; or*
- C. Five or more years of experience as a practicing wildlife biologist with a minimum of three years of practical field experience.*

3.1.9 Monitoring

The existing definition of 'Monitoring' provides a general overview focused on evaluating impacts and mitigation performance in natural ecosystems, without specifying timeframes or reference conditions. To improve application, it is recommended to provide additional specificity by including critical area functions, explicitly assessing impacts over time, comparing changes to baseline or reference conditions, and verifying predicted outcomes from approved mitigation plans. The City may consider revising their existing definition as follows:

"Monitoring" means evaluating the impacts of development proposals over time on the biological, hydrological, and geological elements of critical area ecosystem functions and processes, and assessing the effectiveness of required mitigation measures through the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features compared to baseline or pre-project conditions and/or reference sites. An important objective of monitoring mitigation projects is to verify the impact of the project on the environment predicted in submitted/approved mitigation plans. Monitoring also includes gathering baseline data.

3.1.10 Riparian Habitat

To improve application and align with best available science, it is recommended to revise the definition of riparian habitat to reflect that 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 or from the outer edge of the channel migration zone (CMZ), where present.

3.1.11 Seismic Hazard Areas

Washington State defines seismic hazard areas as, *"areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, soil liquefaction, debris flows, lahars, or*

tsunamis” under WAC 365-190-030(18). In addition, seismic hazard areas also include areas subject to severe risk of damage because of subsidence and surface faulting (WAC 365-190-120).

BMC 20.14.200 defines "Seismic hazard areas" as areas that are subject to severe risk of damage because of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction. To better align with the state definitions, it is recommended to revise the existing definition to reflect WAC 365-190-030.

3.1.12 Missing Definitions

To improve application of the code, it is recommended to include definitions for the following types of geologically hazardous areas and establish a definition for no net loss to support implementation:

Erosion Hazard

Washington State defines erosion hazard areas according to WAC 365-190-030(5) as follows:

“Erosion hazard areas” are those areas containing soils which, according to the United States Department of Agriculture Natural Resources Conservation Service Soil Survey Program, may experience significant erosion. Erosion hazard areas also include coastal erosion-prone areas and channel migration zones.

Furthermore, according to WAC 365-190-120(5), *“erosion hazard areas include areas likely to become unstable, such as bluffs, steep slopes, and areas with unconsolidated soils.”*

Currently BMC 20.14.200 does not define Erosion Hazard areas. Further, BMC 20.14.620 only discusses erosion hazards in relation to slopes. To address this gap, it is recommended to incorporate the definition for Erosion Hazard found in WAC 365-190-030.

Landslide Hazard

Washington State defines landslide hazard areas as, *“areas at risk of mass movement due to a combination of geologic, topographic, and hydrologic factors,”* under WAC 365-190-030(10).

In addition, according to WAC 365-190-120(6), additional language is listed to help clarify this critical area, as follows:

They include any areas susceptible to landslide because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors, and include, at a minimum, the following:

- (a) Areas of historic failures, such as:*
 - (i) Those areas delineated by the United States Department of Agriculture Natural Resources Conservation Service as having a significant limitation for building site development;*
 - (ii) Those coastal areas mapped as class u (unstable), uos (unstable old slides), and urs (unstable recent slides) in the department of ecology Washington coastal atlas; or*

- (iii) *Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the United States Geological Survey or Washington department of natural resources.*
- (b) *Areas with all three of the following characteristics:*
 - (i) *Slopes steeper than 15 percent;*
 - (ii) *Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and*
 - (iii) *Springs or groundwater seepage.*
- (c) *Areas that have shown movement during the holocene epoch (from 10,000 years ago to the present) or which are underlain or covered by mass wastage debris of this epoch;*
- (d) *Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;*
- (e) *Slopes having gradients steeper than 80 percent subject to rockfall during seismic shaking;*
- (f) *Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action, including stream channel migration zones;*
- (g) *Areas that show evidence of, or are at risk from snow avalanches;*
- (h) *Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding; and*
- (i) *Any area with a slope of 40 percent or steeper and with a vertical relief of 10 or more feet except areas composed of bedrock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least 10 feet of vertical relief.*

Currently BMC 20.14.200 does not define Landslide Hazard Areas. BMC 20.14.620 addresses some of the standards identified in WAC 365-190-130. However, this subsection only discusses erosion hazards in relation to slopes. To align with the state definition, it is recommended to incorporate the definition for Erosion Hazard in WAC 365-190-030.

No Net Loss

Similar to Kitsap County, the City could consider establishing a definition of 'no net loss' to support implementation of the policies and regulations:

"No net loss" means the maintenance of the aggregate of the City's critical area ecological functions. The no net loss standard requires that the impacts of the development and/or use, whether permitted or exempt, be identified and prevented or mitigated such that there are no resulting adverse impacts on ecological functions or processes. Each project shall be evaluated based on its ability to meet the no net loss requirement. The no net loss standard applies at multiple scales, starting at the project site. Compensatory mitigation standards include sequencing guidelines to ensure the most appropriate mitigation type and site are selected, as close to the impacted location as possible.

4. CHAPTER 20.14.300 WETLANDS (SECTION 20.14.310 – 20.14.360)

This section establishes classification, buffer standards, mitigation requirements, and use limitations for wetlands and their buffers. It incorporates Ecology’s wetland rating system, outlines performance standards for buffer uses, and sets conditions for mitigation sequencing, replacement ratios, and monitoring.

Table 3 Wetlands review summary.

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.310	Description and Purpose	No comments or recommendations	N/A
BMC 20.14.320	Classification and Designation	1. Update wetland rating publication reference 2. Update wetland rating categories and scoring ranges	BAS
BMC 20.14.330	Development Standards - Wetlands	1. Review Ecology guidance 2. Absolute prohibition in Category I 3. Small isolated wetland exemption 4. Buffer reduction & minimums 5. Review minimization measures 6. Monitoring & maintenance duration 7. Require buffer uses (trails) mitigation	1. Clarity 2. BAS 3. BAS 4. Clarity 5. BAS 6. BAS 7. BAS
BMC 20.14.340	Mitigation Requirements - Wetlands	1. Review Ecology guidance 2. Update Mitigation Sequence	BAS, Clarity
BMC 20.14.350	Performance Standards - Subdivisions	No comments or recommendations	N/A
BMC 20.14.360	Wetland Report	No comments or recommendations	N/A

4.1 Classification and Designation (BMC 20.14.320)

4.1.1 Wetland Rating and Classification

The Ecology publication number for the Washington State Wetland Rating System for Western Washington should be updated to Publication No. "23-06-009" or as amended to ensure consistency with the latest version (Version 2.0).

4.1.2 Update wetland rating categories and scoring ranges

It is recommended to review each wetland category and scoring for consistency with Ecology guidance and BAS. The existing scoring ranges appear to be linked to the previous 2004 methodology. To ensure consistency over time, it is recommended to remove the wetland category descriptions and scoring ranges and rely on the reference to the Washington State Wetland Rating System for Western Washington: 2014 Update (Ecology Publication 14-06-030, or as revised).

4.2 Development Standards – Wetlands (BMC 20.14.330)

4.2.1 Review Ecology Guidance

Bremerton last updated their wetland standards in 2021. The code appears to closely align with Ecology Option 1 (Ecology 2022). Appendix A, Ecology's Buffer Approaches for Western Washington, includes a full description of the conditions required for implementing the Option 1 approach and a summary of the other buffer approach options. To ensure consistency, it is recommended to review Ecology's most recent guidance in Publication No. 22-06-014 and make revisions as necessary.

4.2.2 Prohibition in Category I Wetlands

This categorically prohibits activities and uses in Category I wetlands. Most CAOs allow narrow exceptions, such as restoration, scientific or educational uses, and essential public facilities or linear utilities where no feasible alternative exists. The section above lists these as allowed in wetlands in subsection (c). If the intent is to allow the uses described in BMC 20.14.330(c) within Category I wetlands, the City may want to revise the standard to provide clarity.

4.2.3 Small Isolated Wetland Exemption

Subsection (f) exempts isolated Category III and IV wetlands under 1,000 square feet from wetland buffer requirements and the normal mitigation sequencing process, provided certain criteria are met. However, BAS supports limited exemptions for Category IV wetlands only under narrowly defined conditions. Ecology cautions against broad categorical exemptions because even small depressional wetlands, especially Category III, can perform important functions related to water quality, hydrologic storage, and habitat. Exempting these wetlands from critical area protections may undermine the no net loss of functions and values standard. To align with BAS, it is recommended to revise this exemption to only pertain to isolated Category IV wetlands, consistent with Ecology's guidance.

4.2.4 Revise Category IV Buffer

According to Table 20.14.330(h)(2), a Category IV wetland may reduce its wetland buffer by 25% to 40 feet when minimization measures and corridors are provided. Ecology’s guidance does not support buffer sizes less than 50 feet because buffers below that width often cannot meet temperature, filtration, or habitat functions. To align with Ecology’s most recent guidance, it is recommended to revise Category IV buffer in Table 20.14.330(h)(2) from 40 feet to 50 feet.

4.2.5 Review Minimization Measures

To comply with Ecology Option 1, review the minimization measure to ensure they are current with Ecology Publication No. 22-06-014 as follows:

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Lights	<ul style="list-style-type: none"> • Parking lots • Commercial/industrial • Residential • Recreation (e.g., athletic fields) • Agricultural buildings 	<ul style="list-style-type: none"> • Direct lights away from wetland • Only use lighting where necessary for public safety and keep lights off when not needed • Use motion-activated lights • Use full cut-off filters to cover light bulbs and direct light only where needed • Limit use of blue-white colored lights in favor of red-amber hues • Use lower-intensity LED lighting • Dim light to the lowest acceptable intensity
Noise	<ul style="list-style-type: none"> • Commercial • Industrial • Recreation (e.g., athletic fields, bleachers, etc.) • residential • Agriculture 	<ul style="list-style-type: none"> • Locate activity that generates noise away from wetland • Construct a fence to reduce noise impacts on adjacent wetland and buffer • Plant a strip of dense shrub vegetation adjacent to wetland buffer
Toxic runoff	<ul style="list-style-type: none"> • Parking lots • Roads • Commercial/industrial • Residential areas • Application of pesticides • Landscaping • Agriculture 	<ul style="list-style-type: none"> • Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 ft. of wetland • Apply integrated pest management (These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.)

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Stormwater runoff	<ul style="list-style-type: none"> • Parking lots • Roads • Residential areas • Commercial/industrial • Recreation • Landscaping/lawns • Other impermeable surfaces, compacted soil, etc. 	<ul style="list-style-type: none"> • Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized or sheet flow from lawns that directly enters the buffer • Infiltrate or treat, detain, and disperse new runoff from impervious surfaces and lawns

4.2.6 Monitoring & Maintenance Duration

This standard only requires invasive species removal during the mitigation bond period. Buffers shall be retained in an undisturbed, natural state, including removal of invasive species, outside of the mitigation bond period. As described in Section 2.8, Bonds, the required period for bonds does not align with BAS. Ecology guidance recommends 5–10 years of monitoring and maintenance with adaptive management tied to performance standards. To ensure consistency, it is recommended to revise this subsection to include a code reference to the revised BMC 20.14.165.

4.2.7 Require Buffer Use (trails) Mitigation

While the code includes dimensional and siting restrictions for trails in wetland buffers, it lacks any requirement for mitigation or functional assessment to offset impacts. This is inconsistent with BAS and Ecology’s CAO guidance, which both emphasize that even low impact uses like trails can degrade buffer function, especially through vegetation removal, compaction, and fragmentation.

To align with BAS and ensure no net loss, the City should consider requiring trail projects to include appropriate mitigation to offset where buffer disturbance occurs, particularly where vegetation is removed or compacted.

4.3 Mitigation Requirements – Wetlands (BMC 20.14.340)

4.3.1 Review Mitigation Requirements

The City’s wetland mitigation standards appear generally consistent with Ecology’s guidance for compensatory mitigation and functional replacement. However, Bremerton should review the latest Department of Ecology guidance on wetland mitigation, including updated expectations for mitigation ratios, including for wetlands with special characteristics, buffer condition requirements, long-term stewardship, and performance monitoring.

Recent best available science emphasizes the importance of ensuring mitigation sites are fully vegetated with native species, maintained for a minimum of five (5) years, and protected in perpetuity through legal mechanisms such as conservation easements or critical area tracts. Updating the code to

incorporate these specific standards would strengthen the City’s ability to ensure compliance with the “no net loss” goal and improve long-term ecological outcomes.

4.3.2 Update Mitigation Sequence

The existing mitigation sequencing criteria should include monitoring following compensatory mitigation to align with BAS. It is recommended that the City consider updating the mitigation sequencing described to match WAC 197-11-768 to include “monitoring” to ensure no net loss of critical area acreage, function and values, or providing a crosswalk to BMC 20.14.750(d) for consistency with existing code.

5. CHAPTER 20.14.400 CRITICAL AQUIFER RECHARGE AREAS (SECTION 20.14.410 – 20.14.450)

This section identifies and protects critical aquifer recharge areas (CARAs) that are crucial to preserving potable water supplies, including sole source aquifers and wellhead protection areas (WHPA). It sets performance standards for land uses that could impact groundwater quality or recharge, restricts high-risk activities, and requires hydrogeologic reports and groundwater monitoring, where needed. BMPs and mitigation measures are required to ensure long-term protection of drinking water resources.

Table 4 Critical aquifer recharge areas review summary.

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.410	Description and Purpose	No comments or recommendations	N/A
BMC 20.14.420	Classification and Designation	No comments or recommendations	N/A
BMC 20.14.430	Development Standards	1. Provide exemption for single family residence	Flexibility
BMC 20.14.440	Allowed Uses with Performance Standards	1. Reformat activities with a potential threat to groundwater	Clarity
BMC 20.14.450	Hydrogeologic Assessment	No comments or recommendations	N/A

5.1 Development Standards (BMC 20.14.430)

5.1.1 Exemption for Residential Development

The code has exemption criteria for construction of structures and improvements, including additions, that result in less than five (5) percent of less than or two thousand five hundred (2,500) square feet

(whichever is greater) total site impervious surface area that does not result in a change of use or increase the use of a hazardous substance.

While this exemption/allowed use may capture most single-family residential development, some developments may not meet the threshold requirements. Residential uses typically pose little threat to CARAs. The requirement to require a hydrogeological assessment may result in over regulation. Washington Department of Health (DOH) recommends local jurisdictions exempt single-family residential construction from the hydrogeologic assessment requirement unless there is a known threat.

5.2 Allowed Uses with Performance Standards

5.2.1 Activities with a Potential Threat to Groundwater

To address staff recommendations, the City may consider reformatting this subsection to include a table of activities that may pose a potential threat to groundwater, improving ease of reference. Additionally, the subsection could be restructured to clearly indicate that the performance standards apply to these activities.

6. CHAPTER 20.14.500 FREQUENTLY FLOODED AREAS (SECTION 20.14.510 – 20.14.530)

This section establishes regulations for development in frequently flooded areas (FFAs) using FEMA floodplain designations adopted through Chapter 17.60 BMC. These standards are important for protecting public safety, reducing property damage, and minimizing environmental impacts associated with flooding.

Table 5 Frequently flooded areas review summary

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.510	Description and Purpose	No comment or recommendation	N/A
BMC 20.14.520	Classification and Designation	No comment or recommendation	N/A
BMC 20.14.530	Development Standards	No comment or recommendation	N/A

7. CHAPTER 20.14.600 GEOLOGICALLY HAZARDOUS AREAS (SECTION 20.14.610 – 20.14.660)

This section establishes standards for identifying, evaluating, and mitigating risks in geologic hazard areas, including erosion, landslide, and seismic zones. It outlines definitions, mapping, and classification criteria, and prohibits or restricts development in high-risk areas unless specific conditions are met. Geotechnical assessments are required to determine site suitability and must include hazard analysis, slope stability, and mitigation measures.

Table 6 Geologically hazardous area review summary

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.610	Purpose	No comment or recommendation	N/A
BMC 20.14.620	Classification	Review and update classification criteria based on definitions for specific geologic hazard areas	BAS, Clarity
BMC 20.14.630	Development Standards	No comment or recommendation	N/A
BMC 20.14.650	Mitigation, Performance Standards and Requirements	No comment or recommendation	N/A
BMC 20.14.660	Special Reports	No comment or recommendation	N/A

7.1 Classification (BMC 20.14.620)

7.1.1 Review and Update Classification

The existing categories used for classifying geologically hazardous areas are not consistent with WAC 365-190-030. As such, it is recommended to expand and update these classifications to include erosion, landslide, and seismic hazards including the following:

WAC 365-190-030(5) defines 'erosion hazard areas' as *'those areas containing soils which, according to the United States Department of Agriculture Natural Resources Conservation Service Soil Survey Program, may experience significant erosion. Erosion hazard areas also include coastal erosion-prone areas and channel migration zones.'*

WAC 365-190-120(6) defines 'landslide hazard areas' as

"any areas susceptible to landslide because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors, and include, at a minimum, the following:

(j) Areas of historic failures, such as:

- (i) *Those areas delineated by the United States Department of Agriculture Natural Resources Conservation Service as having a significant limitation for building site development;*
- (ii) *Those coastal areas mapped as class u (unstable), uos (unstable old slides), and urs (unstable recent slides) in the department of ecology Washington coastal atlas; or*
- (iii) *Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the United States Geological Survey or Washington department of natural resources.*
- (k) *Areas with all three of the following characteristics:*
 - (i) *Slopes steeper than 15 percent;*
 - (ii) *Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and*
 - (iii) *Springs or groundwater seepage.*
- (l) *Areas that have shown movement during the holocene epoch (from 10,000 years ago to the present) or which are underlain or covered by mass wastage debris of this epoch;*
- (m) *Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;*
- (n) *Slopes having gradients steeper than 80 percent subject to rockfall during seismic shaking;*
- (o) *Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action, including stream channel migration zones;*
- (p) *Areas that show evidence of, or are at risk from snow avalanches;*
- (q) *Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding; and*
- (r) *Any area with a slope of 40 percent or steeper and with a vertical relief of 10 or more feet except areas composed of bedrock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least 10 feet of vertical relief."*

WAC 365-190-030(18) defines 'seismic hazard areas' as "areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, soil liquefaction, debris flows, lahars, or tsunamis" In addition, seismic hazard areas also include areas subject to severe risk of damage because of subsidence and surface faulting (WAC 365-190-120).

8. CHAPTER 20.14.700 FISH AND WILDLIFE HABITAT CONSERVATION AREAS (SECTION 20.14.710 – 20.14.760)

This section designates fish and wildlife habitat conservation areas (FWHCAs) to protect state and federally listed species, as well as habitats of local importance. It establishes stream typing, buffer widths, and protective measures for in-stream and riparian habitat. Standards are provided for stream crossings, utility installations, and maintenance activities. The article also outlines requirements for

habitat management plans, mitigation sequencing, and critical area reports to ensure habitat functions and values are maintained or enhanced during development.

Table 7 Fish and wildlife habitat conservation areas review summary

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.710	Description and Purpose	<ol style="list-style-type: none"> 1. Climate Change Considerations 2. Habitat Connectivity and Corridors 3. No Net Loss 	BAS
BMC 20.14.720	Classification And Designation of Fish and Wildlife Habitat Conservation Areas	<ol style="list-style-type: none"> 1. Update Water Type descriptions 	BAS
BMC 20.14.730	Development Standards	<ol style="list-style-type: none"> 1. Review existing buffer width requirements for consistency with WDFW guidance and recommendations for Site Potential Tree Height (SPTH) at 200 years. 2. Buffer Width Averaging 3. Buffer Reduction with Enhancement 4. Stream Crossing Guidance 5. Trails and Trail Related Facilities 6. Update Methodology of Buffer Measurements 7. Increased Buffer Width Requirements 	BAS, WDFW RMZ Checklist
BMC 20.14.740	Special Reports	<ol style="list-style-type: none"> 1. Allowance to deviate from prescribed buffers. 2. Connectivity or Corridor Analysis Requirement 3. Climate Change 	<ol style="list-style-type: none"> 1. BAS 2. BAS 3. BAS
BMC 20.14.750	Mitigation Standards and Criteria	Expand mitigation site criteria	BAS

Code Section	Title	Review Comment and Recommendations	Reason for Recommendation
BMC 20.14.760	Monitoring and Contingency Plan	No comments or recommendations	N/A

8.1 Description and Purpose (BMC 20.14.710)

8.1.1 Climate Change Considerations

Bremerton’s existing purpose statement does not directly reference climate change or resiliency. The BAS emphasizes integrating climate impacts into critical area management (e.g., shifts in hydrology, temperature, and habitat) to ensure no net loss is achieved over time. The City could consider incorporating language that recognizes that regulations should account for climate change impacts on habitat functions (e.g., stream temperature, altered hydrology, invasive species pressures).

8.1.2 Habitat Connectivity and Corridors

This section focuses on preventing “isolated subpopulations” but does not directly reference habitat connectivity or corridors, which are a major emphasis in the BAS. Habitat connectivity is also included in the definition of FWHCA under BMC 21.14.200 (e.g., land essential for preserving connections between habitat blocks and open spaces).

The City should consider incorporating language that supports preservation of habitat connectivity between FWHCA’s including riparian corridors and wildlife movement linkages to better align with BAS and the existing definition.

8.1.3 No Net Loss

This section states intent to “achieve no net loss in fish or wildlife habitat or stream functions” but does not clarify if this applies to all regulated habitat and buffer functions (e.g., hydrologic, water quality, habitat connectivity) or only to stream functions. The BAS emphasizes no net loss must apply comprehensively.

As such, it is recommended that the City revise this subsection to “achieve no net loss in fish or wildlife habitat conservation area functions and values” to provide clarity of intent. Streams are included as FWHCA’s and thus would be captured in this language amendment.

8.2 Classification and Designation (BMC 20.14.720)

8.2.1 Water Typing System Classification

To ensure consistency with WAC 222-16-030, Water Typing System, it is recommended to review the existing language in BMC 21.14.720(a) regarding stream type descriptions. Alternatively, the City could

consider removing the descriptions altogether and instead rely on the reference to WAC 222-16-030, as amended, to eliminate the need for future updates.

8.3 Development Standards (BMC 20.14.730)

8.3.1 Water Type Buffer Standards (BMC 20.14.730 Table 1)

In 2020, the WDFW published new guidance for the protection of riparian areas (Rentz et al. 2020). The guidance emphasizes a shift in terminology from the concept of “stream buffers” to “riparian management zones” (RMZs). An RMZ is defined as “...a scientifically based description of the area adjacent to rivers and streams that has the potential to provide full function based on the SPTH [site potential tree height] conceptual framework.” Further, an RMZ is recommended to be regulated as a fish and wildlife habitat conservation area itself to protect its inherent value, rather than as just a buffer for rivers and streams (Rentz et al. 2020). Stream buffers are established in local critical areas ordinances based on the best available science and are intended to protect streams but may or may not provide full riparian function. To achieve full riparian function, the WDFW guidance recommends that RMZs be considered a delineable, regulatory critical area and that the guidance be applied to all streams and rivers, regardless of size and type.

Site Potential Tree Height

WDFW’s current recommendations for establishing RMZ widths are based primarily on a site potential tree height framework, which does not use the DNR water typing system. The site potential tree height is defined as “...the average maximum height of the tallest dominant trees (200 years or more) for a given site class.” WDFW refers to this methodology as SPTH₂₀₀. Exceptions may occur where the site potential tree height is less than 100 feet, in which case the agency recommends assigning an RMZ width of 100 feet at a minimum to provide adequate biofiltration and infiltration of runoff for water quality protection from most pollutants, but also in consideration of other habitat-related factors including shade and wood recruitment. A 100-foot-wide buffer is estimated to achieve 95% pollution removal and approximately 85% removal of surface nitrogen (Rentz et al. 2020). WDFW recommends measuring RMZ widths from the outer edge of the channel migration zone, where present, or from the ordinary high-water mark where a channel migration zone is not present.

Riparian management zones or buffers that vary by location may present practical challenges for implementation and have considerations in equity. To analyze the potential range of SPTH₂₀₀ in Bremerton, we conducted a review of the data available from the WDFW Site Potential Tree Height Mapping Tool, as described below. All overlaps were removed so only polygons with the greatest SPTH in each area were included. The WDFW SPTH dataset is not inclusive of all lands in Bremerton but is believed to be representative. As described in the Bremerton Riparian Buffer Analysis memo dated September 2, 2025, the SPTH₂₀₀ values in Bremerton range from 100 feet to a maximum of 204 feet along mapped stream banks.

Recommend considering whether to follow WDFW recommended RMZ approach to stream classifications and buffer widths, including whether to incorporate the SPTH₂₀₀ Mapping Tool as part of

stream buffer protection standards. This includes consideration of extending the buffer from the OHWM or CMZ, to align with the RMZ buffer recommendations in Rentz et al. (2020). Current BAS on water quality buffer functions must also be considered. We recommend reviewing water quality buffer functions along with stormwater management regulations. The city must review the BAS-based recommendations and determine the best regulatory approach for Bremerton.

8.3.2 Buffer Averaging

To better align with BAS, it is recommended to expand the criteria for granting a buffer width averaging request to limit the impact on ecological functions and values. The City could consider adding criteria that the decrease in buffer width is minimized by limiting the degree or magnitude of the regulated activity and requiring the buffer width area to be no less than the buffer area prior to the averaging. Additionally, the City should consider revising the criteria to allow for the buffer width to be reduced by no more than twenty-five (25) percent of the standard buffer, instead of 35 percent.

8.3.3 Buffer Reduction (BMC 20.14.730(d)(5))

Best available science does not support stream buffer reductions. Wider, well-vegetated buffers are consistently shown to be more effective at protecting water quality, moderating stream temperatures, supporting habitat complexity, and maintaining wildlife connectivity. WDFW recommends a minimum buffer width of 100 feet to ensure adequate pollution removal functions from upland land uses, even in developed areas. Reductions risk undermining these functions and are not supported by current WDFW guidance. If retained, reductions should only be allowed when it has been demonstrated that impacts are unavoidable, when the FWHCA is enhanced compared to current conditions, and should be limited to no more than 25 percent of the standard buffer requirement.

It is recommended that the City consider removing buffer reduction for vegetative enhancement only to align with the requirement for buffer enhancement for inadequate buffers in BMC 21.14.720(d)(1). Additional revisions to fish barrier removal, daylighting, and other stream improvement incentives may be needed.

8.3.4 Stream Crossing Guidance (BMC 20.14.730(g)(6))

Currently, the code references outdated guidance documents for fish passage and culvert replacements. To ensure that the most recent guidance documents are being implemented, it is recommended to update the code to reflect updated guidance documents, including the following:

1. Washington Department of Fish and Wildlife (WDFW) *Water Crossing Design Guidelines (2013)*
2. National Marine Fisheries Service (NFS) *Anadromous Salmonid Passage Facility Design (2022)*

8.3.5 Trails and Trail Related Facilities (BMC 20.14.730(k)(2))

To align with WDFW RMZ Checklist Recommendation P, this section could be expanded to include additional requirements that impacts and disturbances from recreational trails and interpretive facilities are minimized to the extent practicable, informed by Priority Habitats and Species data and management recommendations.

8.3.6 Update Methodology for Buffer Measurements

It is recommended to revise the method for measuring buffers from the OHWM to align with current BAS and the WDFW's RMZ Checklist. Specifically, the code should clarify that buffer widths for streams and other aquatic resources should be measured from the OHWM or the outer edge of the CMZ, where present. This change would ensure that buffer distances fully account for dynamic riverine processes such as channel avulsion and bank erosion, consistent with WDFW and Ecology guidance for protecting riparian functions.

8.3.7 Increased Buffer Width Requirements

To address WDFW's RMZ Checklist Recommendation E, it is recommended that the City consider criteria to extend buffer widths for riparian areas beyond a 100-foot minimum where it has been demonstrated that a larger buffer would be needed to provide adequate pollution removal functions from upland adjacent land uses (i.e., especially at sites with steep slopes or poorly drained soils or where upland uses contribute nitrogen based on expert assessment).

8.4 Special Reports (BMC 20.14.740)

8.4.1 Allowance to deviate from prescribed buffers (BMC 20.14.740(a))

BMC 20.14.740(a) allows an applicant to submit a Habitat Management Plan (HMP) to determine an appropriate buffer width based on site conditions, provided the applicant can demonstrate that the plan offers greater protection than the standard setback. However, 'greater protection' is not defined, and there are no clear criteria or thresholds to evaluate whether it has been achieved. Additionally, the established buffers assume that the area is well-vegetated with appropriate plant species necessary to support full ecological function. The current approach appears to allow buffer reductions, which are not supported by BAS. It is recommended that language allowing HMPs to serve as a form of regulatory flexibility for decreasing buffer widths be removed.

8.4.2 Connectivity or Corridor Analysis Requirement

The existing code does not require HMPs to assess habitat connectivity or the function of a site to the broader environment. The BAS highlights connectivity loss as a major threat and recommends evaluating fragmentation and opportunities to maintain corridors.

Recommend incorporating a new requirement for HMPs under BMC 20.14.740(e) to evaluate whether the site functions as land essential for maintaining connectivity between habitat blocks and open space, as defined in BMC 21.14.200 as a FWHCA, and to describe how the plan supports or enhances this connectivity.

8.4.3 Climate Change

The existing code language does not require HMPs to include consideration of climate change when evaluating impacts. The BAS recommends integrating climate change resiliency into site-specific restoration/enhancement planning.

As such, it is recommended that HMPs consider future climate conditions when selecting planting palettes, restoring hydrology, or sizing buffers. This language could be implemented as a requirement to include climate-adaptive measures where appropriate.

8.5 Mitigation Standards and Criteria (BMC 20.14.750)

8.5.1 Expand mitigation site criteria (BMC 20.14.750(b))

The existing Habitat Management Plan (HMP) requirements include consideration of best available science, enhancement of any degraded buffer areas, and detailed mitigation and monitoring requirements. However, the code does not currently include an evaluation of mitigation sites to preserve or achieve contiguous corridors or to minimize fragmentation. To better align with WDFW RMZ Checklist Recommendation R, this section could be bolstered by expanding the mitigation requirements in BMC 21.14.750 to include *"Mitigation sites shall be located to preserve or achieve contiguous wildlife habitat corridors to minimize the isolating effects of development on habitat areas; where possible."*

9. REFERENCES

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APPENDIX A. Wetland Buffer Approaches for Western Washington

(2022 Ecology Publication # 22-06-014, Appendix C)

Appendix C. Buffer Approaches for Western Washington

Option 1

Table 1. Wetland buffer width requirements, in feet, if Table 2 is implemented and a habitat corridor is provided

Category of wetland	Habitat score 3-5 points (corridor not required)	Habitat score 6-7 points	Habitat score 8-9 points	Buffer width based on special characteristics
Category I or II: Based on rating of wetland functions (and not listed below)	75	110	225	NA
Category I: Bogs and Wetlands of High Conservation Value	NA	NA	225	190
Category I: Interdunal	NA	NA	225	NA
Category I: Forested	75	110	225	NA
Category I: Estuarine and wetlands in coastal lagoons	NA	NA	NA	150
Category II: Interdunal	NA	NA	NA	110
Category II: Estuarine and wetlands in coastal lagoons	NA	NA	NA	110
Category III: All types except interdunal	60	110	225	NA
Category III: Interdunal	NA	NA	NA	60
Category IV: All types	40	40	40	NA

Impact minimization measures

Developments that produce the listed disturbances and are requesting a buffer reduction are required to address the disturbance through the use of applicable minimization measures.

This is not a complete list of measures, nor is every example measure required. Though not every measure is required, all effort should be made to implement as many measures as possible. Regulatory staff should determine, in coordination with the applicant, which measures are applicable and practicable.

Table 2. Impact minimization measures

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Lights	<ul style="list-style-type: none"> • Parking lots • Commercial/Industrial • Residential • Recreation (e.g., athletic fields) • Agricultural buildings 	<ul style="list-style-type: none"> • Direct lights away from wetland • Only use lighting where necessary for public safety and keep lights off when not needed • Use motion-activated lights • Use full cut-off filters to cover light bulbs and direct light only where needed • Limit use of blue-white colored lights in favor of red-amber hues • Use lower-intensity LED lighting • Dim light to the lowest acceptable intensity
Noise	<ul style="list-style-type: none"> • Commercial • Industrial • Recreation (e.g., athletic fields, bleachers, etc.) • Residential • Agriculture 	<ul style="list-style-type: none"> • Locate activity that generates noise away from wetland • Construct a fence to reduce noise impacts on adjacent wetland and buffer • Plant a strip of dense shrub vegetation adjacent to wetland buffer
Toxic runoff	<ul style="list-style-type: none"> • Parking lots • Roads • Commercial/Industrial • Residential areas • Application of pesticides • Landscaping • Agriculture 	<ul style="list-style-type: none"> • Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 ft. of wetland • Apply integrated pest management (These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.)

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Stormwater runoff	<ul style="list-style-type: none"> • Parking lots • Roads • Residential areas • Commercial/industrial • Recreation • Landscaping/lawns • Other impermeable surfaces, compacted soil, etc. 	<ul style="list-style-type: none"> • Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized or sheet flow from lawns that directly enters the buffer • Infiltrate or treat, detain, and disperse new runoff from impervious surfaces and lawns
Pets and human disturbance	<ul style="list-style-type: none"> • Residential areas • Recreation 	<ul style="list-style-type: none"> • Use privacy fencing • Plant dense native vegetation to delineate buffer edge and to discourage disturbance • Place wetland and its buffer in a separate tract • Place signs around the wetland buffer every 50-200 ft., and for subdivisions place signs at the back of each residential lot • When platting new subdivisions, locate greenbelts, stormwater facilities, and other lower-intensity uses adjacent to wetland buffers
Dust	<ul style="list-style-type: none"> • Tilled fields • Roads 	<ul style="list-style-type: none"> • Use best management practices to control dust

Table 3. Wetland buffer width requirements, in feet, for applicants not providing a habitat corridor or implementing measures in Table 2

Category of wetland	Habitat score 3-5 points	Habitat score 6-7 points	Habitat score 8-9 points	Buffer width based on special characteristics
Category I & II: Based on rating of wetland functions (and not listed below)	100	150	300	NA
Category I: Bogs and Wetlands of High Conservation Value	NA	NA	300	250
Category I: Interdunal	NA	NA	300	NA
Category I: Forested	100	150	300	NA
Category I: Estuarine and wetlands in coastal lagoons	NA	NA	NA	200
Category II: Interdunal	NA	NA	NA	150
Category II: Estuarine and wetlands in coastal lagoons	NA	NA	NA	150
Category III: All types except interdunal	80	150	300	NA
Category III: Interdunal	NA	NA	NA	80
Category IV	NA	NA	NA	50

Conditions for implementing Tables 1, 2, and 3

1. Wetlands that score 6 points or more for habitat function: the buffers in Table 1 can be used only if all of the following criteria are met:
 - a. A relatively undisturbed, vegetated corridor at least 100 feet wide is protected between the wetland and:
 - i. A legally protected, relatively undisturbed and vegetated area (e.g., Priority Habitats, compensatory mitigation sites, wildlife areas/refuges, national, county, and state parks where they have management plans with identified areas designated as Natural, Natural Forest, or Natural Area Preserve, or
 - ii. An area that is the site of a Watershed Project identified within, and fully consistent with, a Watershed Plan as defined by RCW 89-08-460, or
 - iii. An area where development is prohibited according to the provisions of the local shoreline master program, or
 - iv. An area with equivalent habitat quality that has conservation status in perpetuity, in consultation with WDFW.
 - b. The corridor is permanently protected for the entire distance between the wetland and the shoreline or legally protected area by a conservation easement, deed restriction, or other legal site protection mechanisms.
 - c. Presence or absence of the shoreline or Priority Habitat must be confirmed by a qualified biologist or shoreline Administrator.
 - d. The measures in Table 2 are implemented, as applicable, to minimize the impacts of the adjacent land uses.
2. For wetlands that score 5 or fewer habitat points, only the measures in Table 2 are required for the use of the buffers in Table 1.
3. If an applicant does not apply the mitigation measures in Table 2 or is unable to provide a protected corridor, then the buffers in Table 3 shall be used.
4. The buffer widths in Tables 1 and 3 assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer must either be planted to create the appropriate native plant community or be widened to ensure that the buffer provides adequate functions to protect the wetland.

Note: An expanded table with graduated buffer widths based on habitat score is also outlined in the [July 2018 Appendix 8-C⁷⁶](#) of *Wetlands in Washington State, Volume 2*. This is an approach that assigns unique buffer widths to each habitat score in seven increments. It is a gradual increase in buffer width with each point. Compared to Option 1, this avoids a marked increase in buffer width resulting from an increase of one point in the habitat score.

Option 2

Table 1. Width of buffers, in feet, needed to protect wetlands from impacts of proposed land uses (used with Table 2)

Category of wetland	Land use with low impact*	Land use with moderate impact*	Land use with high impact*
I	150	225	300
II	150	225	300
III	75	110	150
IV	25	40	50

*See Table 2 below for types of land uses that can result in low, moderate, and high levels of impacts to wetlands

Table 2. Levels of impacts from proposed land use types

[Local governments are encouraged to ensure the uses in this table match the uses specified in their development and land use regulations and are consistent with the principles in this example.]

Level of impact from proposed land use	Types of land use
High	<ul style="list-style-type: none"> • Commercial • Urban • Industrial • Institutional • Mixed-use developments • Residential (more than 1 unit/acre) • Roads: federal and state highways, including on-ramps and exits, state routes, and other roads associated with high-impact land uses • Railroads • Agriculture with high-intensity activities (dairies, nurseries, greenhouses, growing and harvesting crops requiring annual tilling, raising and maintaining animals, etc.)

⁷⁶ <https://apps.ecology.wa.gov/publications/parts/0506008part3.pdf>

Level of impact from proposed land use	Types of land use
	<ul style="list-style-type: none"> • Open/recreational space with high-intensity uses (golf courses, ball fields, etc.) • Solar farms (utility scale)
Moderate	<ul style="list-style-type: none"> • Residential (1 unit/acre or less) • Roads: Forest Service roads and roads associated with moderate-impact land uses • Open/recreational space with moderate-intensity uses (parks with paved trails or playgrounds, biking, jogging, etc.) • Agriculture with moderate-intensity uses (orchards, hay fields, light or rotational grazing, etc.) • Utility corridor or right-of-way used by one or more utilities and including access/maintenance road • Wind farm
Low	<ul style="list-style-type: none"> • Natural resource lands (forestry/silviculture—cutting of trees only, not land clearing and removing stumps) • Open/recreational space with low-intensity uses (unpaved trails, hiking, birdwatching, etc.) • Utility corridor without a maintenance road and little or no vegetation management • Cell tower

Option 3

Table 1. Wetland buffer width requirements, in feet, based solely on wetland category

Category of wetland	Buffer width
I	300
II	300
III	150
IV	50

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APPENDIX B. Wetland Mitigation Ratio Tables

(2022 Ecology Publication # 22-06-014, Appendix E)

Appendix E. Mitigation Ratio Tables

Compensation ratios for permanent impacts (western and eastern Washington)

Table 1

Category of impacted wetland (based on score for function)	Re-establishment or creation	Rehabilitation	Preservation	Enhancement
Category I	4:1	8:1	16:1	16:1
Category II	3:1	6:1	12:1	12:1
Category III	2:1	4:1	8:1	8:1
Category IV	1.5:1	3:1	6:1	6:1

Notes:

- Ratios for rehabilitation, preservation, and enhancement may be reduced when combined with 1:1 replacement through re-establishment or creation. See Table 6B-2 in *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance –Version 2* (Ecology et al., 2021 or as revised).
- All proposed preservation sites need to meet the preservation criteria listed in Chapter 070.3.E of Appendix A, Sample Wetland Regulations.
- The ratios provide in Table 1 are for permanent, direct impacts to wetlands. For recommended ratios for other types of impacts (e.g., long-term temporary, conversions), see Chapters 6B4.4 through 6B4.8 of *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance –Version 2* (Ecology et al., 2021 or as revised).
- The category of impacted wetland is based on scores for functions. Compensation ratios in this table generally do not apply when impacts involve a wetland whose category is based on special characteristics. Compensation ratios for impacts to wetlands with special characteristics are provided in Table 2 below. Specific tables are provided for western and eastern Washington.

Compensation ratios for unavoidable permanent impacts to wetlands with special characteristics (western Washington)

Table 2. Western

Category of impacted wetland (based on special characteristics)	Re-establishment or creation	Rehabilitation	Preservation	Enhancement
Category I forested	6:1	12:1	24:1	24:1
Bogs	NA	NA	24:1	NA
Wetlands of High Conservation Value	Consult with WA DNR	Consult with WA DNR	24:1	Consult with WA DNR
Category I Estuarine wetlands	3:1 (re-establishment only)	6:1	12:1	Limited circumstances (case by case)
Category II Estuarine wetlands	4:1 (re-establishment only)	8:1	16:1	Limited circumstances (case by case)
Category I Interdunal wetlands	4:1	8:1 (limited circumstances)	16:1	Not considered an option
Category II Interdunal wetlands	2:1	4:1 (limited circumstances)	8:1	Not considered an option
Category III and IV Interdunal wetlands	1.5:1	3:1 (limited circumstances)	6:1	Not considered an option
Category I Wetlands in coastal lagoons	4:1 (re-establishment only)	8:1	16:1	Not considered an option
Category II Wetlands in coastal lagoons	3:1 (re-establishment only)	6:1	12:1	Not considered an option

Note: Methods of compensation are limited for certain wetlands with special characteristics. Some of these wetland types only occur naturally and have never been successfully created or rehabilitated. Some may take more than a lifetime to re-establish. Thus, avoidance is the best regulatory approach when addressing these wetlands. Refer to Chapter 6B.5 of Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance –Version 2 (Ecology et al., 2021 or as revised) for more information on methods of compensation and ratios for wetlands with special characteristics.

APPENDIX C. WDFW RMZ Checklist for Critical
Areas Ordinances

Riparian Management Zone Checklist for Critical Areas Ordinances

A Technical Assistance Tool – April 2023



Purpose

The Washington Department of Fish and Wildlife (WDFW) has developed guidance to support local jurisdictions as they designate and protect riparian ecosystems as critical areas (i.e., Fish and Wildlife Habitat Conservation Areas, FWHCAs¹) consistent with the goals of the Growth Management Act and Shoreline Management Act. *Volume 1: Science Synthesis and Management Implications* ([Quinn et al. 2020](#)) is a source of Best Available Science (BAS) that describes how riparian areas and surrounding watersheds affect ecological functions and aquatic habitats. Volume 1 is intended to inform policies related to management of riparian areas. *Volume 2: Management Recommendations* ([Rentz et al. 2020](#)) provides guidance to assist cities and counties with the protection and restoration of healthy, intact, and fully functioning riparian ecosystems, which are fundamental for clean water, healthy salmon populations, and climate-resilient watersheds. This guidance supports compliance with state statute², which calls for BAS to be included in developing policies and development regulations to protect the functions and values of critical areas.

This checklist is designed to help local planners translate BAS-based recommendations into Critical Areas Ordinance (CAO) amendments (reference [Addendum](#) for examples). If you need help updating your CAO and/or completing this checklist, use WDFW's appropriate [Land Use Planning Contact Email](#) for technical assistance.

Instructions

This checklist is a voluntary tool that supplements [Commerce's Critical Areas Checklist](#), specifically the section on *Protection of Fish and Wildlife Habitat and Conservation Areas*.

1. Column 1 provides a list of WDFW's key Riparian Management Recommendations (RMR) in the form of CAO-related questions.
2. Column 2 indicates the location in Volume 2 where further detail about each RMR can be found. Definitions of terms can be found in the glossary of Volume 2.
3. In column 3, check the appropriate box and where appropriate, cite the section in your CAO where the RMR is addressed. Your response to this question may change as your CAO is amended.
4. In column 4, describe how your CAO addresses or does not address the RMR or why the RMR may not apply ("N/A").
5. If sections of your CAO do not yet address the RMR, please refer to the location cited in Volume 2 and any additional BAS-based guidance to update your CAO language (and revise columns 3 and 4 accordingly). This is meant to be an iterative process through which your CAO can better designate and protect riparian areas the more boxes are checked "Y." Rows that remain checked "N" after all CAO amendments have been proposed may represent departures from BAS that must be documented and explained³.

PREPARED FOR (Jurisdiction Name):	City of Bremerton
PREPARED BY (Name, Title, email):	Garrett Jackson, Planning Manager garrett.jackson@ci.bremerton.wa.us DATE: 09/08/2025

¹ [WAC 365-190-130](#)

² [RCW 36.70A.172\(1\)](#)

³ [WAC 365-195-915](#)

Riparian Management Recommendation (RMR)	Location in RMR Vol. 2	Citation in CAO	How Addressed in CAO (or why not addressed in CAO)
A. Does your CAO intend to protect all key riparian ecosystem functions (i.e., shade, root strength, nutrient input, wood input, and pollution control)?	Section 2.2.2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.115; BMC 20.14.170	While the current language intends to protect riparian areas, it is suggested to expand upon BMC 20.14.115(d) to provide clarity to protect priority fish and wildlife habitat and their ecosystem functions and values. Additionally, it is recommended to include a definition for " <i>Riparian protection area</i> " means the designated area contiguous or adjacent to a stream that is required for the continued maintenance, function, and structural stability of the riparian habitat. Functions of the riparian protection area include shading, input of organic debris and coarse sediments, uptake of nutrients, stabilization of banks, protection from intrusion, or maintenance of wildlife habitat.
B. Depending on your ecoregion(s), do your FWHCAs utilize the appropriate methodology (<i>whichever width is greater</i>) for delineating riparian management zones (RMZs) for all stream types? <ul style="list-style-type: none"> • the Site-Potential Tree Height (at age 200 years, SPTH200), • the extent of native riparian vegetation, or • the minimum pollution removal distance of 100 feet 	Section 2.3 and Fig. 2.4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730 Table 1	Analysis using the WDFW <i>Riparian Ecosystems</i> guidance and the supporting online SPTH ₂₀₀ mapping tool produced a range of 100 to 235 feet, based on the Technical Memorandum dated September 2, 2025. A predictive approach would establish a buffer width for Type F waters that would meet the majority of SPTH ₂₀₀ values across the City and also meets the recommended 100-foot distance for effective pollution removal for Type Np and Ns streams.
C. If your jurisdiction does <u>not</u> delineate RMZs consistent with the methodologies listed in question B, do your FWHCAs meet the intent of the RMR in Vol. 2 (or are they otherwise consistent with the BAS in Vol. 1) with regards to riparian functions? If protection varies by stream type, please address how and why protections vary by each type in your response.	Section 2.3 and Fig. 2.4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730 Table 1	See response above. Riparian buffer widths are established consistent with the methodologies in question B.
D. Where a channel migration zone (CMZ) is present, does the RMZ begin on the outer edge of the CMZ to the extent practicable (meaning, include areas having the potential to provide riparian functions and exclude functionally disconnected areas)?	Section 2.3.3(B)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730	The definition of "riparian habitat" includes measuring the buffer from the outer edge of the CMZ, where present. However, this is not included in the existing code language contained within BMC 20.14.730. Recommended code language has been included to provide consistency between the definition and regulations.
E. Is the RMZ width extended beyond a 100-foot minimum where needed to provide adequate pollution removal functions from upland adjacent land uses (i.e., especially at sites with steep slopes or poorly drained soils or where upland uses contribute nitrogen based on expert assessment)?	Section 2.3.5, step 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730	It is recommended to include a new provision to increase the riparian protection area in certain instances to protect the functions and values of the riparian habitat in accordance with the WDFW RMZ guidance.

Riparian Management Recommendation (RMR)	Location in RMR Vol. 2	Citation in CAO	How Addressed in CAO (or why not addressed in CAO)
F. In locations where riverine wetlands are present, do the RMZs incorporate them using the appropriate wetland delineation, assessment methodology, and protection (per Ecology)?	Section 2.3.5, step 2 Section 3.2.2, #2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730(d)(3)	BMC 20.14.730(d)(3) states, "The buffer width shall be increased to include streamside wetlands which provide overflow storage for stormwaters, feed water back to the stream during low flows or provide shelter and food for fish. In braided channels, the OHM or top of bank shall be defined so as to include the entire stream feature."
G. Does FWHCA designation also support terrestrial species, habitat connectivity, and Priority Habitats within and adjacent to RMZs?	Section 3.2.2, #2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730; BMC 20.14.730(d)(8)(i)	Yes, the existing code supports terrestrial habitat, connectivity and PHS. BMC 20.14.730(d)(8)(i) also states if according to the buffer enhancement plan, additional buffer mitigation is not sufficient to protect the habitat, the City may require larger buffers where it is necessary to protect habitat functions based on site-specific characteristics.
H. Does your CAO apply the mitigation sequence to ensure no net loss of riparian ecological functions and values due to permitted activities within RMZs delineated consistent with question B (or equivalent methods)?	Section 3.2.1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.750(d); BMC 20.14.740(e)(10)	When impacts on a FWHCA are identified, a requirement of a Habitat Management Plan includes 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 the mitigation sequencing described in BMC 20.14.750(d).
I. Does your CAO require that applicants provide a Critical Areas Report prepared by a qualified professional for projects in or near known or suspected FWHCAs, and require that a Habitat Management Plan be provided if FWHCAs are found to be present and/or impacted by the project?	Section 3.2.2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730	BMC 20.14.730 requires a Habitat Management Plan as a site investigation to evaluate the potential presence or absence of a regulated fish or wildlife species or habitat affecting a subject property and proposed development.
J. Does your CAO require that On-Site Sewage Systems are located outside of RMZs?	Section 3.2.1, #1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730(l)(3)	BMC 20.14.730(l)(3) provides criteria for limiting placement of on-site septic components within the FWHCA or their buffer only when the applicant demonstrates it is necessary to meet state and/or local health code requirements, there are no other feasible alternatives available, and construction meets the requirements of the Chapter.

Riparian Management Recommendation (RMR)	Location in RMR Vol. 2	Citation in CAO	How Addressed in CAO (or why not addressed in CAO)
K. Does your CAO prohibit new development that requires bank protection/hardening now or in the future (taking into consideration channel migration, wind and wave action, and climate change)?	Section 3.2.1, #2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 21.14.730	The updated riparian protection area widths should prevent new development from being constructed that may require bank protection now or in the future.
L. Could other regulations conflict with your CAO and inadvertently impact riparian functions (e.g., clearing, grading, and filling ordinances)? If so, does your code include a provision that the regulation which provides greater protection to critical areas shall apply?	Section 3.2.1, #3 CA Handbook , Ch. 4	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 21.14.125	BMC 21.14.125 states, "Where this chapter imposes greater restriction than existing regulations, easements, covenants or deed restrictions, the provisions of this chapter shall prevail."
M. Does the issuance of an exemption letter or permit for invasive and/or noxious plant removal require that impacts to fish, wildlife, and habitat are minimized (e.g., hand weeding with light equipment, use only Ecology-approved aquatic herbicides and adjuvants, avoid use of hazardous substances, and avoid soil compaction)?	Section 3.2.1, #4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation:	Recommend including an exemption with associated criteria to address this.
N. Does your CAO include all of the following provisions? <ul style="list-style-type: none"> • define a "hazard tree" as a threat to life, property, or public safety, • require that the method of hazard tree removal not adversely affect riparian ecosystem functions to the extent practicable, • encourage the creation of snags (Priority Habitat features) rather than complete tree removal, • involve an avoidance and minimization of damage to remaining trees and vegetation within the RMZ, and • require a qualified arborist to evaluate requests for hazard tree removal 	Section 3.2.1, #7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.190(a); BMC 20.14.200	BMC 20.14.200 provides a definition of "Danger tree." The existing language in BMC 20.14.190(a) includes the requirement for removal of danger trees within the critical area or associated buffers to be allowed only if such activity is approved by the Department, provided a certified arborist in the State of Washington makes a written determination that the trees proposed for elimination present a legitimate safety hazard. This section could be expanded to address the additional provisions referenced.

<p>O. Does your CAO incorporate a pathway to mitigate or compensate for impacts to RMZs arising from emergency activities (e.g., bank stabilization to address imminent threats to homes)?</p>	<p>Section 3.2.1, #9</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.145(a)</p>	<p>The existing language contained within BMC 20.14.145(a) requires that after the emergency, the person or agency shall fully restore and/or mitigate any impacts to the critical areas and buffers resulting from the action in accordance with an approved critical area report and mitigation plan.</p>
<p>P. Does your CAO require that impacts and disturbances from recreational trails and interpretive facilities are minimized to the extent practicable, informed by Priority Habitats and Species data and management recommendations?</p>	<p>Section 3.2.1, #10</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730(k)(2)</p>	<p>It is recommended to expand BMC 20.14.730(k)(2) to include consideration of the WDFW PHS data and management recommendations.</p>

Riparian Management Recommendation (RMR)	Location in RMR Vol. 2	Citation in CAO	How Addressed in CAO (or why not addressed in CAO)
Q. Does your CAO include watershed-scale management considerations such as protecting and restoring watershed processes (e.g., channel movement, sediment transport); stormwater management; land management for stream temperatures; and protecting and restoring longitudinal, lateral, and vertical connectivity?	Section 3.4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation:	It is recommended to add purpose statement similar to the following, <i>"The review of critical areas will consider the cumulative impacts of the proposed action that includes past, present, and reasonably foreseeable future actions to facilitate the goal of no net loss of critical areas. Such impacts shall include those to wildlife, habitat, and migration corridors; water quality and quantity; and other geologic or watershed processes that relate to critical area condition, process, or service."</i>
R. Does the CAO include measures for bolstering climate resilience within critical areas (i.e., increase habitat connectivity, plan for a wider range of stream flows, and increase stream shading)?	Section 1.4, #6 Section 3.4.1, GMA Climate Guidance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 21.14.750	The Habitat Management Plan requirements include consideration of best available science, enhancement of any degraded buffer areas, and detailed mitigation and monitoring requirements. This section could be bolstered by expanding the mitigation requirements in BMC 21.14.750 to include <i>"Mitigation sites shall be located to preserve or achieve contiguous wildlife habitat corridors to minimize the isolating effects of development on habitat areas; where possible."</i>
S. Is there a stated goal or intent in your CAO to retain and restore CMZs and RMZs to the extent practicable to maximize riparian function over time?	Section 4.2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation:	A purpose statement could be added that states, <i>"These regulations are intended to restore and protect riparian habitats to the extent practicable to maximize functions and values over time."</i> or revise 21.14.115(d) to include similar language.
T. Does your CAO promote incentives and include a streamlined review process for riparian restoration or enhancement projects to help facilitate projects that go "above and beyond" minimum regulatory requirements?	Section 4.3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.730	The City could consider incorporating additional allowances in BMC 20.14.730 which streamline requirements for certain restoration projects.
U. Does your CAO establish a monitoring and adaptive management program designed to: <ul style="list-style-type: none"> • collect information on CAO effectiveness, • evaluate the potential for exemptions and variances to cumulatively affect riparian functions across your jurisdiction, and • improve permit implementation? 	Section 3.2, Chapter 5; CA Handbook , Ch. 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Citation: BMC 20.14.130	BMC 20.14.200 includes a definition for "Adaptive management" that states, <i>"relies on scientific methods to evaluate how well regulatory and nonregulatory actions protect the critical area. An adaptive management program is a formal and deliberate scientific approach to taking action and obtaining information in the face of uncertainty."</i> However, this is not included in the code. To better align with this recommendation additional language could be included in BMC 20.14.130 which states, <i>"The Department will consider developing a monitoring and adaptive management program to establish a baseline and provide performance measures to determine whether the Department is achieving no net loss through its policies and regulations."</i>