City of Tacoma, Washington

ONE TACOMA

A Comprehensive Plan for a Vibrant, Connected, and Sustainable City

Critical Areas Ordinance Gap Analysis DRAFT | JANUARY 2025

CONTENTS

Acronyms and Abbreviations

BAS	Best Available Science
BMP	Best Management Practices
CAO	Critical Areas Ordinance
CARA	Critical Aquifer Recharge Area
Commerce	Washington State Department of Commerce
the Corps	U.S. Army Corps of Engineers
CMZ	Channel Migration Zone
DNR	Washington State Department of Natural Resources
DOH	Washington State Department of Health
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ESA	Environmental Science Associates
FEMA	Federal Emergency Management Agency
FFA	Frequently Flooded Area
FIRM	Flood Insurance Rate Map
FWHCA	Fish and Wildlife Habitat Conservation Area
GIS	Geographic Information System
GMA	Growth Management Act
LID	Low Impact Development
OHWM	Ordinary High Water Mark
NOAA	National Oceanic and Atmospheric Administration
NFIP	National Flood Insurance Program
NMFS	National Marine Fisheries Service
RMZ	Riparian Management Zone
RCW	Revised Code of Washington
TMC	Tacoma Municipal Code
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife

1 INTRODUCTION

The Washington State Growth Management Act (GMA) requires local jurisdictions throughout Washington State, including the City of Tacoma (City), to develop and periodically update policies and regulations to designate and protect critical areas. The five critical areas, as defined by the GMA [Revised Code of Washington (RCW) 36.70A.030(5)] are listed below.

- Wetlands
- Areas with a critical recharging effect on aquifers used for potable water (i.e., critical aquifer recharge areas)
- Fish and wildlife habitat conservation areas
- Frequently flooded areas
- Geologically hazardous areas

The current periodic review cycle will be completed by December 2025 in accordance with GMA mandates. The City last completed a comprehensive update of its critical areas policies and regulations in 2015 and made partial updates the Chapter 13.11 in 2018 and 2023. Periodic updates must be based on the best available science (BAS), and any deviations from science-based recommendations should be identified, assessed and explained [Washington Administrative Code (WAC) 365-195-915]. Additionally, jurisdictions must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries; jurisdictions are encouraged to also protect both surface and groundwater resources, because these waters often recharge wetlands, streams and lakes (WAC 365-190-080). Anticipated effects of climate change must also be considered per HB 1181. A BAS document for this code update was prepared separately (Facet 2025). The City's critical areas policies are currently contained in the Environment and Watershed Health element of the Tacoma Comprehensive Plan (Comprehensive Plan). The City's critical areas regulations are currently codified in the Tacoma Municipal Code (TMC), Chapter 13.11 – Critical Areas Preservation. Critical areas in shoreline jurisdiction are regulated under TMC Title 19 – Shoreline Master Program.

This gap analysis provides a review of the current critical areas regulations under TMC Chapter 13.11, noting gaps where existing regulations may not be consistent with BAS or the GMA. It also makes recommendations for improvements to general aspects of the City's Critical Areas Preservation Ordinance (CAPO) 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 regulations.

1.1 Document Organization

Recommendations for updating the City's existing critical area regulations under TMC Chapter 13.11 – Critical Areas Preservation are provided in Sections 2 through 8. Section 2 addresses the general provisions that are applicable to all critical areas; Sections 3 through 8 address the

different types of critical areas covered by the GMA, according to how they are organized in the current code. To highlight findings of the gap analysis, a code review summary table is provided at the beginning of each section. Where a potential gap is identified, subsections following each table provide further discussion and recommendations.

General Provisions and Administration (TMC 13.11.100–290)

This section addresses code sections that are applicable to all types of critical areas. Table 1 provides a synopsis of recommended changes. See discussion of comments/recommendations in the subparts below this table.

Table 1. Water type classifications

Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.100	General Provisions		
13.11.110	Purpose		
13.11.120	Intent	Recommend matching the RCW list of critical areas	Consistency
13.11.130	Scope and Applicability		
13.11.140	Regulated Uses/Activities	Add reference to other permitting agencies	BAS / clarity
13.11.145	Pre-existing Uses/Structures	Consider expanding this section for greater clarity	Clarity
13.11.150	Repealed		
13.11.160	Abrogation and Greater Restrictions		
13.11.170	Severability		
13.11.180	Critical Area Designation and SEPA		
13.11.190	Review Process	Recommend cross-referencing ‘qualified professional’ definition and updating. Include peer-review process	BAS / clarity BAS
13.11.200	Allowed activities		
13.11.210	Activities Allowed with Staff Review	Update isolated wetland allowance	BAS
13.11.220	Application Types	Include duration of study acceptance	BAS / clarity
13.11.230	Application Submittal Requirements	Consider removing limitation on peer review.	BAS
13.11.240	Legal Test(s)	Review and update as needed for administration	BAS / clarity
13.11.250	General Standards		
13.11.260	Residential Density Credits		
13.11.270	General Mitigation Requirements	Consider updating provisions under off-site mitigation options	Clarity

13.11.280	Conditions, Notice on Title, and Appeals
13.11.290	Sureties

* See discussion of comments/recommendations in the subsections below this table.

1.2 Intent (13.11.120)

Recommendation: update the critical areas list to match RCW 36.70A.030(5). Stream corridors are a type of fish and wildlife habitat conservation area (FWHCA) and do not need to be listed separately.

1.3 Regulated Uses/Activities (13.11.140)

Recommendation: strengthen section by adding the following provision. This language was provided by the Washington State Department of Ecology during a recent review of a draft Critical Areas Ordinance (CAO) update in the region.

"Compliance with the provisions of the Title does not constitute compliance with other federal, state, and local regulations and permit requirements that may be required (for example, Shoreline Permits, HPA permits, Army Corps of Engineers Section 404 permits, Ecology Section 401 permits, NPDES permits). The applicant is responsible for complying with these requirements, apart from the process established in this Title. Where applicable, the Designated official will encourage use of information such as permit applications to other agencies or special studies prepared in response to other regulatory requirements to support required documentation submitted for critical areas review."

Critical area protections are implemented through local, state and federal guidance and permit requirements.

1.4 Pre-existing Uses/Structures (13.11.145)

RECOMMENDATION: The City may want to cross-reference the invasive plant and hazard tree sections noted below in this section to cover common issues and questions on developed sites with critical areas, such as select vegetation removal and hazard tree removal conditions. Currently, some select vegetation removal, specifically invasive plants, are covered under TMC 13.11.200.B.6 and hazard trees are addressed under TMC 13.11.210.B.11. A cross-reference may be added here if that improves use and administration.

The existing cross-reference to Section 13.06.010.L – Nonconforming parcels/uses/structures should be retained. Additionally, specific criteria could be provided to compliment zoning/non-conforming use/structure code criteria in TMC 13.05 and 13.06.

1.5 Review Process (13.11.190)

RECOMMENDATION: note in the first paragraph that all site-specific critical area assessments must be completed by a qualified professional. Further into this code section a 'geologic expert' is noted. All critical area types require specific expertise and some require state licensing. TMC 13.11.230.B.3 states that Critical Areas Reports must be prepared by a qualified professional. Recommend extending that requirement to all critical area assessments, including initial presence/absence screening.

Note: The definition of qualified professional under TMC 13.01.110 is broadly worded and does not mention applicable state licensing.

Additionally, critical area assessments are typically peer reviewed to ensure thorough and accurate documentation, and subsequently that critical area protections are applied. Peer review may be conducted by qualified City staff or a third-party prior to acceptance of findings. This general procedure is described in TMC 13.11.230.A. A cross-reference may be added to 13.11.190 to improve clarity.

Clarify applicant's responsibility for fees associated with pre-application meetings, application processing, and peer review. Again, a cross-reference to TMC 13.11.230.A is recommended. The city may also choose to cross-reference TMC 13.05.010 Land Use Permits and TMC 13.05.030 Zoning and Land Use where pre-application meetings are detailed.

1.6 Activities Allowed with Staff Review (13.11.210)

RECOMMENDATION: Review and update the isolated wetland code provisions. Current BAS-based Ecology guidance limits the isolated wetland allowance to Category IV wetlands. Therefore, Category III wetlands in this code language under TMC 13.11.210.B.3 is no longer needed and should be removed for consistency with BAS. Review and update the wetland criteria for TMC 13.11.210.B.3.athrough d. Ecology updated wetland habitat function scores; the habitat score range is now 3-5 points for a low ranking. Also, the wetland mosaic reference should be reviewed relative to Ecology's current definition. Ecology defines wetland mosaic as follows (Ecology 2022).

"An area with a concentration of multiple small wetlands, in which each patch of wetland is less than one acre; patches are less than 100 feet from each other; and areas delineated as wetland are more than 50 percent of the total area of the entire mosaic, including uplands and open water."

1.7 Application Types (13.11.220)

RECOMMENDATION: For clarity and consistent administration, TMC 13.11.220.B.1 – Verification could be updated to include the length of time the verification is considered current and valid. For example, wetland studies are commonly accepted as current for a 5-year period. Geologic hazard assessments may change over time with surrounding development changes. This timeframe may be reduced if significant site alterations have occurred.

1.8 Application Submittal Requirements (13.11.230)

RECOMMENDATION: Remove the phrase, “In the event of conflicts regarding information submitted,” from the last sentence in TMC 13.11.230.A. Third party review of critical area report and documentation should be applied as necessary for standard peer review. As noted in Section 2.4 above, critical area assessments are typically peer reviewed to ensure thorough and accurate documentation, and subsequently that critical area protections are applied. Peer review is a standard practice in scientific disciplines.

1.9 Legal Test (13.11.240)

RECOMMENDATION: review and update the three legal tests as needed to ensure they are being applied and administered as intended. This code spells out three legal tests for highly encumbered sites, no practicable alternative, reasonable use, and public interest.

The no practicable alternatives provision appears to be similar to a variance option. To align with BAS for wetlands, buffer reductions should not be allowed beyond the minimum recommendations.

The issues surrounding regulatory takings are complex and the agencies recognize the need for a process to address situations where strict compliance with regulations would deprive a property owner of all reasonable use of the property. That type of project would be processed through the City’s existing reasonable use code provision.

The City should consider whether there are scenarios, outside of reasonable use and public interest, that the City would want to allow riparian/stream and wetland buffer reductions beyond the minimum or if such situations could all be handled through reasonable use.

1.10 General Mitigation Requirements (13.11.270)

RECOMMENDATION: update or consolidate the mitigation bank and fee in-lieu sections (TMC 13.11.270.I and J) under the heading ‘approved programmatic mitigation’, which includes both. Additionally, for clarity this section could clearly state that on-site mitigation must be demonstrated to be infeasible before considering off-site mitigation. Although programmatic mitigation has a higher success rate, it should not be used to increase developable land arbitrarily. Mitigation sequencing (TMC 13.11.270.F) must always be applied first. This is likely how the code is administered, but the language could be clearer.

2 WETLANDS (TMC 13.11.300–340)

This section addresses code sections that are applicable to wetlands. Table 3 provides a synopsis of recommended changes. See discussion of comments and recommendations in the subparts below this table.

Table 2. Wetlands review summary.

Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.300	Wetlands		
13.11.310	Wetland Classification	Update this section to include wetland identification Consider adding delineation map method information	BAS / clarity BAS / clarity
13.11.320	Wetland Buffers	Review vegetative buffer condition requirements Update habitat score ranges Review Ecology's current buffer recommendation	BAS BAS BAS
13.11.330	Wetland Buffer Modifications	Remove buffer reduction option Cross-reference interrupted buffers	BAS Clarity
13.11.340	Wetland Mitigation Requirements	Emphasize mitigation sequencing Review current ratios, consider adding additional options	BAS BAS

* See discussion of comments/recommendations in the subparts below this table.

2.1 Wetland Classification (13.11.310)

RECOMMENDATION: add wetland identification criteria to this code section and changing the heading to "Wetland Identification and Classification." Also recommend cross-referencing the wetland definition under TMC 13.01.110 for clarity and reviewing for consistency with RCW 36.70A.030.

Wetland delineation methodology is commonly specified in CAOs. Recommend adding to City code. Current BAS-based wetland assessment methodology follows the *Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (U.S. Army Corps of Engineers 2010).

Wetland Classification should be updated to reference the current 2023 Ecology wetland rating system *[Washington State Wetland Rating System for Western Washington: 2014 Update,*

Version 2.0 (Hruby and Yahnke 2023)]. This rating update did not substantively change the 2014 model; it contains minor updates and clarifications.

RECOMMENDATION: Consider adding delineation mapping language from the Ecology Publication 22-06-014, Appendix A – Sample Wetland Regulations:

"Wetland delineations will be documented on a ground-verified map using either professional surveying methods or an equivalent method using GPS with sub-meter accuracy."

GPS mapping is commonly used and can be a cost saving option for applicants.

2.2 Wetland Buffers (13.11.320)

RECOMMENDATION: review and update wetland buffer widths. Effective wetland buffer widths vary depending on the targeted wetland functions, intensity of surrounding land use, and buffer characteristics. The buffer width requirements should state that standard buffer widths presume the buffer is vegetated with native plants appropriate for this ecoregion. Buffers that do not meet that criteria should be increased or enhanced to maintain the standard buffer width. TMC 13.11.330 indicates buffer increases may be applied to some degraded buffers, but vegetation condition criteria could be clarified.

Some information in the wetland buffer section is out-of-date and does not align with BAS. Specifically, the high, moderate, low habitat score ranges were adjusted by Ecology in 2018. Low is now 3-5 points, moderate is 6-7 points, and high is 8-9 points. While the code includes common minimization measures, it does not address habitat corridors, at least not to the extent currently recommended by Ecology.

The CAPO existing buffer width system prescribes a standard buffer width based on wetland category and habitat score. Ecology's latest 2022 wetland guidance for CAO updates, Publication 22-06-014, Appendix C, provides three BAS-based options for wetland buffer tables which each have some similarities and some differences to the buffer system in the current code.

Ecology's preferred option, Option 1, provides the most flexibility and site-specific buffers. It is similar to the code's existing buffer system in that the buffers are based on wetland category and habitat score. Option 1 includes options to reduce the buffer through provision of a habitat corridor and implementation of minimization measures to reduce the level of impact from the adjacent land use. Use of the lowest buffer widths under this option, require the implementation of minimization measures. Minimization measures are similar to those already stated under Section (2)(a). Every effort should be made to implement as many measures that are applicable and practical, as determined by City staff. If an applicant chooses not to apply the applicable minimization measures, then an approximately 33% increase in the width of all buffers is required. Note that to use the reduced widths, the protection of a wildlife corridor is also required between higher functioning wetlands that score 6 or more habitat points and certain other protected areas. If a corridor cannot be provided, then the non-reduced (33% increase) buffer would be required for those higher functioning wetlands.

The City needs to review the Ecology recommendations (Options 1 ,2 and 3) for wetland buffer and update their code accordingly. See Appendix B of this report for Ecology recommendations.

2.3 Wetland Buffer Modifications (13.11.330)

RECOMMENDATION: Review and update wetland buffer modification. The buffer modifications currently in the code should be reviewed in conjunction with the updates to the buffer width requirements. Depending on the buffer approach chosen, some modifications may not be applicable, may not be compliant with BAS, or may need to be re-structured to fit with the chosen buffer tables. For example, if Ecology's Buffer Option 1 is chosen, the only allowed reductions will be built into the buffer table(s). BAS does not support further reductions. As discussed in Section 2.8 Legal Test (13.11.240), BAS does not support wetland buffer reductions; only wetland buffer averaging. Exceptions are made for allowed buffer uses and exceptions, such as reasonable use and public agency or utility projects. See Sample Wetland Regulations in Appendix A.

Other jurisdictions commonly cover this information in sections for reasonable use, exemptions, allowed uses, and exceptions.

It may be helpful to cross-reference the interrupted buffer regulations under TMC 13.11.210. Ecology does recommend addressing disconnected or interrupted buffers in wetland regulations. Ecology defines functionally disconnected buffer as blocked by a road or other significant development, where that feature blocks the protective measure provided by a buffer.

2.4 Wetland Mitigation Requirements (13.11.340)

Emphasize mitigation sequencing requirements

RECOMMENDATION: state at the start of this section that any proposed wetland or wetland buffer modification must adhere to mitigation sequencing requirements per TMC 13.11.270.F.

Consider expanding on compensatory mitigation options

RECOMMENDATION: Mitigation ratios are intended to replace lost functions and values stemming from a proposed land use while also accounting for temporal losses. BAS wetland mitigation ratios are based on the current Ecology Rating System and type of mitigation used. The code currently has a mitigation ratios table that aligns with current BAS. See recommend ratios in Ecology Publication 22-06-014, Appendix E (provided in Appendix C of this report). The City could add preservation to the mitigation ratio table. If preservation is added as a mitigation option, it should also be defined under TMC 13.01.

3 STREAMS AND RIPARIAN HABITATS (TMC 13.11.400–450)

This section addresses code sections that are applicable to streams and riparian habitats. Table 4 provides a synopsis of recommended changes. See discussion of comments and recommendations in the subsections below this table.

Table 3. Streams and riparian habitats review summary.

Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.400	Streams and riparian habitats	Move code into FWHCA section below	Consistency
13.11.410	Stream classification	Consider updating the stream classification system and buffers.	BAS
13.11.420	Stream buffers	Review WDFW recommendation	BAS
13.11.430	Stream buffer modifications	Review buffer modification allowances Consider relocated CMZ buffer increase to standard buffer requirements Consider providing requirements for buffer conditions	BAS Clarity BAS
13.11.440	Stream standards	Consider addressing stream daylighting and voluntary restoration.	BAS
13.11.450	Stream mitigation requirements	Recommend updating to cross-reference general mitigation requirements and sureties.	BAS / clarity
Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.400	Streams and riparian habitats	Move code into FWHCA section below	Consistency
13.11.410	Stream classification	Consider updating the stream classification system and buffers.	BAS
13.11.420	Stream buffers	Review WDFW recommendation	BAS
13.11.430	Stream buffer modifications	Review buffer modification allowances Consider relocated CMZ buffer increase to standard buffer requirements Consider providing requirements for buffer conditions	BAS Clarity BAS
13.11.440	Stream standards	Consider addressing stream daylighting and voluntary restoration.	BAS
13.11.450	Stream mitigation requirements	Recommend updating to cross-reference general mitigation requirements and sureties.	BAS / clarity

* See discussion of comments/recommendations in the subparts below this table.

3.1 Streams and Riparian Habitats (13.11.400)

RECOMMENDATION: For consistency with state definitions, move this stream code section into the Fish and Wildlife Habitat Conservation Areas (FWHCA) section. Streams and Riparian Habitats are not listed as a separate critical area type under WAC 36.70A.030. They are a part of the FWHCA.

3.2 Stream Classification (13.11.410)

RECOMMENDATION: Currently, Tacoma uses the water typing system in WAC 222-16-030, which includes Type F, S, Np and Ns waters. Tacoma further divides stream classifications into F1 or F2 based on presence or absence of salmonid fish, and Ns1 or Ns2 based on surface water connections.

As summarized in the Tacoma BAS Review, WDFW recommends a shift away from stream typing toward a Site Potential Tree Height (SPTH) model. The City needs to consider current BAS, including WDFW's site potential tree height (SPTH) model. The SPTH model relies on soil mapping to determine the dominant tree species. It does not use the water typing system. The SPTH model is WDFW also recommends a minimum buffer width of 100 feet for all streams to protect water quality. Where data gaps in the SPTH model occur, and/or application of the tool is unclear, consultation with WDFW would be necessary. Additionally, buffer width requirements should be reviewed in relation to non-conforming use regulations.

How the City chooses to classify streams is linked to administration of buffers. Ultimately, BAS is focused on riparian areas, which consider in-stream and riparian buffer functions wholistically. Jurisdictions in the region have taken the following approaches: 1) adopted the SPTH model (e.g. Skagit County); 2) retained/updated the stream typing system and increased buffer widths (Pierce County); and 3) retained stream typing and buffer widths while increasing vegetation condition standards for buffers (Sammamish).

3.3 Stream Buffers (13.11.420)

RECOMMENDATION: The SPTH model relies on soil mapping and the dominant tree species to determine the riparian management area or buffer width needed to achieve full riparian functions, including large woody debris recruitment. Riparian areas or buffers under this system do not use the water typing system. SPTHs with the City of Tacoma are generally mapped as red alder at 103-feet or Douglas-fir at 208-feet. Riparian management zones or buffers that vary

by location may present practical challenges for implementation at the parcel-scale and have considerations in equity.

WDFW also recommends a minimum buffer width of 100 feet for all streams to protect water quality. Currently, Type Ns1 and Ns2 stream buffers are below that recommendation.

In urban environments, the riparian buffer functions that BAS focuses on are shade, bank stability, large woody debris recruitment, nutrient inputs, and pollutant removal. Urban riparian areas also function as wildlife corridors. In-stream habitat and fish passage are also priorities. WDFW recommendations for urban riparian ecosystems include, restore degraded areas, maintain and improve functions through voluntary and regulatory means, identify and prioritize restoration opportunities, protect riparian vegetation, manage stormwater, and replace or remove existing infrastructure (Rentz, et al. 2020).

Consider adding vegetation condition standards to the stream buffer regulations. Apply a larger buffer if those standards are not met. Include language to incentivize or require restoration of degraded buffers on urban non-conforming sites. Using the Ecology wetland model ordinance as a guide, a 33 percent increase in buffer widths could be applied.

3.4 Stream Buffer Modification (13.11.430)

Stream Buffer Increases

13.11.430.A.1

RECOMMENDATION: The Director discretion to increase buffers to prevent habitat degradation could be revised to provide clear conditions what would potentially require a buffer increase. For example, if a buffer is not densely vegetated with native trees and shrubs, a width increase may be necessary to achieve intended buffer functions. The City may chose to tailor this language to urban environments with non-conforming uses and degraded buffers. As noted in Section 4.3 above restoration of degraded buffers benefits ecosystem functions.

13.11.430.A.3

RECOMMENDATION: Relocate provision to the stream buffers section (TMC 13.11.430), since it is the baseline requirement and not a modification. No additional updates are needed for the provision because when a channel migration zone (CMZ) is present, the stream buffer is measured from the outer edge of the CMZ. This is consistent with BAS.

13.11.430.B

RECOMMENDATION: Review stream buffer averaging and reduction allowances for consistency with BAS. Buffer reduction with enhancement is generally not supported by the science. Recommend removing 'and reduction' from this section heading and removing the buffer reduction option since it does not align with BAS. Recommend removing or revising provision TMC 13.11.430.B.8 to remove buffer reduction. Buffer reductions would be considered under exemptions, exceptions, and allowances only (TMC 13.11.240).

WDFW recommendations for urban riparian ecosystems include, quantifying current conditions with a goal of maintaining and improving functions through regulatory and voluntary means (Quinn, Wilhere and Krueger 2020). Riparian functions are dependent on vegetated composition and structure as documented in the 2025 BAS Review – Critical Areas, One Tacoma Comprehensive Plan Update (Facet 2025). Providing clear and robust vegetated buffer condition requirements would help achieve that goal.

3.5 Stream Standards (13.11.440)

RECOMMENDATION: This code currently addresses stream relocation or placement in culverts. Consider addressing stream daylighting and voluntary restoration to this code section. This could be added with a cross-reference to TMC 13.11.210 – Allowed Activities with Staff Review. For example, City of Kirkland Zoning Code (KZC) 90.75 Daylighting of Streams provides details on the process, plan requirements, and reporting; Kirkland also provides criteria for when the City may require an applicant to daylight a stream.

3.6 Stream Mitigation Requirements (13.11.450)

RECOMMENDATION: Consider updating to reference the General Mitigation Requirements (TMC 13.11.270) to ensure goals and performance standards are incorporated, and monitoring, maintenance and financial sureties (TMC 13.11.290) are applied to the project.

4 FISH AND WILDLIFE HABITAT CONSERVATION AREAS (TMC 13.11.500–560)

The City's fish and wildlife habitat conservation areas (FWHCAs) regulations should be updated to better align with current BAS. Table 5 provides a synopsis of recommended changes. See discussion of comments and recommendations in the subparts below this table.

Table 4: Fish and wildlife habitat conservation areas review summary.

Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.500	Fish and wildlife habitat conservation areas (FWHCAs)		
13.11.510	Classification	Review and update PHS list for Tacoma Review and update biodiversity areas/corridor size constraints	BAS BAS
13.11.520	Standards	Strengthen general standards to cover all potential FHWCA disturbances	BAS
13.11.530	*Repealed*		
13.11.540	*Repealed*		
13.11.550	FWHCA modification		
13.11.560	FWHCA biodiversity area and corridor mitigation		
Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.500	Fish and wildlife habitat conservation areas (FWHCAs)		
13.11.510	Classification	Review and update PHS list for Tacoma Review and update biodiversity areas/corridor size constraints	BAS BAS
13.11.520	Standards	Strengthen general standards to cover all	BAS

		potential FHWCA disturbances	
13.11.530	*Repealed*		
13.11.540	*Repealed*		
13.11.550	FWHCA modification		
13.11.560	FWHCA biodiversity area and corridor mitigation		

* See discussion of comments/recommendations in the subparts below this table.

4.1 Classification (13.11.510)

RECOMMENDATION: The WDFW Priority Habitats and Species (PHS) List was updated in 2023. The City may choose to adopt the current PHS List or as amended, or review it and update the current Tacoma-specific list accordingly.

Review and update the 2-acre threshold for biodiversity area/corridor under TMC 13.11.510.B.1.b(3) for consistency with BAS and WDFW recommendations. Corridors typically have width requirements, but not total area requirements.

4.2 Standards (13.11.520)

RECOMMENDATION: Consider updating the general standard to make it clear that no disturbance, including temporary clearing and grading are allowed in a FWHCA without review and approval. FWHCAs must be maintained in a native vegetated condition to serve their intended functions. As summarized in the 2025 BAS Review, Critical Areas, Tacoma One Comprehensive Plan Update, FWHCA functions are dependent in part on vegetation composition and structure. TMC 13.11.520.A.2 could be updated to cross-reference TMC 13.11.550 mitigation and documentation requirements.

5 FLOOD HAZARD AREAS (TMC 13.11.600–640)

The goals of frequently flooded area regulations are to protect people and property from potential damage associated with flooding, and to protect floodplain habitat. Table 6, below, evaluates this code section.

Table 5. Special flood hazard areas review summary.

Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.600	Flood hazard areas		
13.11.610	Classification		
13.11.620	Standards	Review Title 2 usage, update if needed to increase protections Confirm continued use of FEMA BiOp option 3 Provide FEMA Habitat Assessment report content requirements Cross-reference submittal requirements	BAS, clarity Clarity Clarity Clarity
13.11.640	General development standards		

* See discussion of comments/recommendations in the subparts below this table.

5.1 Standards (13.11.620)

RECOMMENDATION: Frequently flooded areas are regulated for compliance with Title 2 Building and Development Code; according to City staff Title 2 reviews areas with a 1% chance of flooding. The City may also consider addressing other FEMA flood map layers, such as 2% chance of flooding or 500-year flood maps, since more frequent and higher magnitude floods are predicted with climate change.

RECOMMENDATION: This code section could also be updated to clearly state the FEMA BiOp requirements. The City is a National Flood Insurance Program (NFIP) community that uses Option 3, which requires applicants to demonstrate compliance with the Endangered Species Act (ESA) before permitting work in a floodplain on a permit-by-permit basis. ESA compliance is typically demonstrated through a FEMA Habitat Assessment completed by a qualified professional. Reporting content standards for FEMA Habitat Assessments are not currently provided in this code section.

RECOMMENDATION: Add a cross-reference to application submittal requirements to make it clear to applicants and administrators that a peer review will be conducted (TMC 13.11.230).

6 GEOLOGICALLY HAZARDOUS AREAS (TMC 13.11.700–730)

Geologically hazardous areas addressed in the Tacoma Municipal Code include erosion, landslide, seismic, mine, volcanic, and tsunami hazard areas. The goal of geologically hazard regulations is to protect people and property from potential damage associated with these areas.

Table 6. Geologically hazardous areas review summary.

Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.700	Geologically hazardous areas		
13.11.710	Designation	Consider recommended updates to designation list	BAS, clarity
13.11.715	Applicability	Recommend update to address other potential impacts	BAS, clarity
13.11.720	Classification	Recommend minor reorganization	BAS, clarity
13.11.730	General development standards	Recommend considering buffer and setback terminology Review and update qualified professional definition as needed	BAS, clarity

* See discussion of comments/recommendations in the subparts below this table.

6.1 Designation (13.11.710)

RECOMMENDATION: cross-referencing TMC 13.11.720 for further descriptions of these geologic hazard areas.

Seismic hazard and Tsunami hazard

RECOMMENDATION: Tsunami hazards are triggered by seismic events and therefore, are under the umbrella of seismic hazards, along with liquefaction (i.e., lateral spreading). The City could consider updating the definition of seismic hazards to include secondary seismic hazards, such as surface rupture, seismic induced landslides, and lateral spreading.

6.2 Applicability (13.11.715)

RECOMMENDATION: Review and clarify this section to address all potential geologic hazard area, including buffer/setback impacts that may occur with a development proposal, such as temporary impacts due to clearing and grading.

6.3 Classification (13.11.720)

RECOMMENDATION: Move the tsunami hazard area details (A.6) to the seismic hazards provision (A.3) for consistency with the designations.

6.4 General Standards (13.11.730)

RECOMMENDATION: replace the terms ‘geo-setback’ and ‘geo-buffer’ with setback and buffer. These areas are managed just like other critical area buffers and setbacks. The unique name implies these areas are managed differently, but given the definitions, that doesn’t appear to be the case.

RECOMMENDATION: define ‘geotechnical specialist’ and/or define the qualifications for that professional to ensure rigorous and thorough review of potential hazards in the required reports.

7 CRITICAL AQUIFER RECHARGE AREAS (TMC 13.11.800–820)

The City's existing Critical Aquifer Recharge Areas (CARA) regulations are brief and would benefit from additional information.

Table 7. Critical aquifer recharge areas review summary.

Code Section	Title	Review Comment / Recommendations*	Reason for Recommendation
13.11.800	Aquifer recharge areas	Recommend map reference	BAS
13.11.810	Classification	Classify mapped CARAs	BAS
13.11.820	Standards	Fix cross-reference link	BAS

* See discussion of comments/recommendations in the subparts below this table.

7.1 Aquifer Recharge Areas (13.11.800)

RECOMMENDATION: Cross-reference publicly available potential CARA map for the City. This reference could be updated to include other publicly available CARA maps.

7.2 Classification (13.11.810)

RECOMMENDATION: Classify mapped CARAs in the City to manage this resource. Specific hydrogeologic assessment parameters can be developed with the help of a professional hydrogeologist.

7.3 Standards (13.11.820)

RECOMMENDATION: Update information on standards for development in CARAs. The current code states that standards for development in CARAs are provided in TMC Chapter 13.09 – South Tacoma Groundwater Protection District. However, that Chapter is listed as repealed under Title 13. This broken link needs to be corrected and more detailed regulations regarding land use restrictions in CARAs need to be reviewed for consistency with BAS.

8 TECHNICAL TERMS AND LAND USE DEFINITIONS

Concurrent with this code update, recommend reviewing technical terms and land use definitions (TMC 13.01.110) for consistency with proposed code language and clarity. For example, if geo-setback and geo-buffer language in this chapter are replaced with buffer and setback terms, then definitions should be updated accordingly. The current content of TMC 13.01.110 is brief and lacking in content typically provided in the definitions section of a critical areas ordinance.

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APPENDIX A

Buffer Approaches for Western Washington, Appendix C of Ecology's Wetland Guidance for CAO Updates

APPENDIX B

Sample Wetland Regulations, Appendix A of Ecology's Wetland Guidance for CAO Updates

APPENDIX C

Buffer Approaches for Western Washington, Appendix C of Ecology's Wetland Guidance for CAO Updates

APPENDIX D

Buffer Approaches for Western Washington, Appendix C of Ecology's Wetland Guidance for CAO Updates