RIDGEFIELD PLANNING COMMISSION
MEETING AGENDA

Wednesday, December 3, 2025
RACC - Columbia Assembly Room
510 Pioneer Street, Ridgefield, WA 98642

I. GENERAL SESSION CALL TO ORDER - 6:30 PM

1. **Flag Salute**
2. **Roll Call**
3. **Late changes to the agenda**

II. PUBLIC COMMENT

Anyone requesting to speak to the Commission regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

III. CONSENT AGENDA

1. **Approval of Minutes from the 11/5/2025 Meeting**

IV. BUSINESS

1. **Presentation: Critical Areas Ordinance Update Process - Claire Lust, Community Development Director**

V. PUBLIC COMMENT

Anyone requesting to speak to the Commission regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

VI. STAFF REPORTS

VII. FROM THE COMMISSION

VIII. ADJOURN

CITY OF RIDGEFIELD
REQUEST FOR COMMISSION ACTION

MEETING DATE: December 3, 2025

AGENDA ITEM NAME: Approval of Minutes from the 11/5/2025 Meeting

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SUMMARY/BACKGROUND:

STAFF CONTACT:

ATTACHMENTS:

1. 11.05.2025 Minutes

CITY OF RIDGEFIELD, WASHINGTON
PLANNING COMMISSION MEETING MINUTES
NOVEMBER 5, 2025

Regular Meeting - 6:30 PM

I. GENERAL SESSION CALL TO ORDER - 6:30 PM

1. Flag Salute

2. Roll Call

Present:
Vice Chair Patrick Flynn
Chair Mark Tyler
Commission Member Richard Wolf
Commission Member Niall Glavin
Commission Member Jeffrey Borchardt

Vice Chair Flynn moved to excuse Commissioner Butler. Seconded by Commissioner Glavin. Ayes all. Motion passed unanimously.

3. Oath of Office: Vice Chair, Patrick Flynn

Clerk Trina Siebert conducted the Oath of Office with Vice Chair Patrick Flynn.

4. Late changes to the agenda

No late changed to the agenda.

II. PUBLIC COMMENT

Anyone requesting to speak to the Commission regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

No public comments were provided.

III. CONSENT AGENDA

1. Approval of Minutes from the 10/01/2025 Meeting

Vice Chair Flynn moved to approve the minutes as presented. Seconded by Commissioner Glavin. 5 ayes. Commissioner Borchardt abstained. Motion passed.

IV. PUBLIC HEARING

1. Public Hearing: Ridgefield Development Code Amendments Part 3 - Claire Lust, Community Development Director

Claire Lust, Community Development Director, presented Ridgefield Development Code Amendments.

Discussion occurred regarding historic signs.

Discussion occurred regarding cabinet signs.

Discussion occurred regarding accessory signs.

Discussion occurred regarding definitions.

Discussion occurred regarding monument signs.

Discussion occurred regarding pole signs.

Discussion occurred regarding traffic impact fees.

PUBLIC HEARING OPENED AT 6:57 PM

NO PUBLIC COMMENTS PROVIDED.

PUBLIC HEARING CLOSED AT 6:58 PM

Commissioner Borchardt moved to approve the code amendments as drafted with consideration of Planning Commission comments. Seconded by Commissioner Glavin. Ayes all. Motion passed unanimously.

RESULT:	**(UNANIMOUS)**
MOVER:	Commissioner Borchardt
SECONDER:	Commissioner Glavin
AYES:	Vice Chair Flynn, Chair Tyler, Commission Member Wolf, Commission Member Glavin, Commission Member Borchardt

V. PUBLIC COMMENT

Anyone requesting to speak to the Commission regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

No public comments provided.

VI. STAFF REPORTS

Claire Lust, Community Development Director, advised that City Council will be reviewing the proposed commercial development code updates on November 6th. She said that a good pool of applications were received for the vacant Planning Commission seat.

VII. FROM THE COMMISSION

Commissioner Wolf thanked everyone for their generosity and time. He advised this would be his last Planning Commission meeting.

Commissioner Flynn thanked his fellow commissioners for selecting him to be Vice Chair. He said that Halloween seemed to be safe. He thanked city staff and the member of the public that attended.

Commissioner Glavin thanked Commissioner Wolf for his service on the Planning Commission.

Chair Tyler thanked Commissioner Wolf for his service on the Planning Commission and wished him luck on his future endeavors. He thanked city staff and Vice Chair Flynn. He gave a shout-out to Ryan Thamert, Public Works Director.

VIII. ADJOURN

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Trina Siebert, Planning Commission Clerk Mark Tyler, Chair

CITY OF RIDGEFIELD
REQUEST FOR COMMISSION ACTION

MEETING DATE: December 3, 2025

AGENDA ITEM NAME: Presentation: Critical Areas Ordinance Update Process

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SUMMARY/BACKGROUND:

The Growth Management Act (GMA) mandates cities and counties to adopt regulations protecting critical areas including wetlands, critical aquifer recharge areas, fish and wildlife habitat conservation areas, frequently flooded areas, and geologically hazardous areas. Ridgefield regulates development in critical areas through Chapter 18.280 of the Ridgefield Development Code (Critical Areas Ordinance or CAO).

As part of the 2025-2045 Comprehensive Plan Update, Ridgefield seeks to update its CAO to comply with legislative updates and changes to Best Available Science (BAS) that have occurred since the last overall CAO update in 2013. This presentation will introduce the update process and key focus areas. The following documents are attached as exhibits:

1. Ridgefield Critical Areas Code Update Memo. This memo summarizes the CAO update process and provides an introduction to key issues and anticipated changes. The memo includes questions for Planning Commission about the key issues. Staff is not seeking answers to the questions during this meeting. The goal is instead to share these questions with Commissioners as guidance for reviewing the material and making future recommendations to Council.

2. Best Available Science Literature Review. This document introduces the concept of Best Available Science (BAS), which cities are required to consider in developing policies and development regulations to protect functions and values of critical areas. It further details current BAS for each type of critical area regulated through RDC 18.280. Each section has a "Discussion/Finding" paragraph providing a short summary.

STAFF CONTACT: Claire Lust, Community Development Director

ATTACHMENTS:

1. Ridgefield Critical Area Code Update Memo v2 11-25-25 final
2. TABLE OF CONTENTS 11-21-25 e
3. Ridgefield CAO BAS Draft Review 11-25-25 final

Ridgefield Critical Area Code Update

Ridgefield Planning Commission - December 3, 2025

REGULATORY BACKGROUND

The Growth Management Act (GMA) mandates cities and counties to adopt regulations protecting critical areas, preserving the environment, wildlife habitats, and drinking water. (RCW 36.70.A.050(1))

Critical areas are (a) wetlands, (b) areas with a critical recharging effect on aquifers used for potable water, (c) fish and wildlife habitat conservation areas (including rivers, lakes and streams), (d) frequently flooded areas, and (e) geologically hazardous areas.[1] (RCW 36.70.A.030.12)

The City of Ridgefield protects and regulates development in or near critical areas via Chapter 18.280 of the Ridgefield Development code. Ridgefield protects and regulates development in or near frequently flooded areas via Chapter 18.750. The city protects and regulates Shorelines of the State under its Shoreline Master Program (SMP) last updated in 2021.

Washington's Growth Management Act (GMA, RCW 36.70A) requires cities and counties to review and update their critical areas policies and regulations about every ten years. Generally, jurisdictions that fully plan under the GMA update these critical area regulations in conjunction with their comprehensive plan's periodic revision. The City of Ridgefield last performed a complete update of Chapter 18.280 in July 2013. Since that time, there have been changes in legislation and regulation, updates to best available science, and changes in local policies or development patterns. To remain in compliance with current scientific knowledge and regulatory standards, the city must finish its next periodic update to the critical area regulations by June 30, 2026.

[1] "Fish and wildlife habitat conservation areas" do not include artificial features or constructs such as irrigation facilities that are maintained by a port district or an irrigation district or company. RCW 36.70A.030(12) Footnote 1.

The Washington State Department of Commerce (Commerce) provides technical support to help jurisdictions navigate the complex web of statute, regulations, science, and compliance. The public and members of the Planning Commission are encouraged to review the technical and practical guidance Commerce provides via its Critical Areas Protection webpage. The Critical Areas Protection website can direct readers toward definitions of key words and phrases, the Critical Area Handbook, examples of ordinances other jurisdictions adopted, and training programs.

During the development review process the city relies on Clark County's MapsOnline GIS system to identify potential critical areas. If you are not familiar with this tool, we encourage you to explore it. For example, this link will direct the reader to property information about Abrams Park and this link will help you explore critical areas associated with the park. The same is possible for any property within the UGA.

The city also relies on several agency mapping systems including

- Washington State DFW Priority Habitat Interactive Mapping Tool
- Washington State DNR Forest Practices Application Mapping Tool
- Washington State Department of Health Source Water Assessment Program (SWAP) mapping tools.
- Ridgefield Shoreline Management Program maps

KEY ISSUES AND ANTICIPATED CHANGES

The primary goals of the critical area regulation update are to address: updated state agency guidance, comments from agencies and stakeholders, and staff proposed edits to regulations. Hopefully, the updated regulations will be clear and internally consistent making the development review process more predictable.

Changes we might propose fall into several categories:

1. Changes in State legislation and administrative rules,
2. Updates to agency determined Best Available Science,
3. Stakeholder and public recommendations,
4. Amendments to the Shoreline Master Program and the city's updated Comprehensive Plan policies related to critical areas, and
4. Staff proposed textual improvements.

Questions and Comments:

This memorandum poses several comments and questions for the Planning Commission to consider and discuss at future meetings.

What are the key issues?

A. Best Available Science (BAS)

(See separate BAS Literature Review)

The Growth Management Act requires jurisdictions across the state to, *"include the best available science in developing policies and development regulations to protect the functions and values of critical areas. In addition, counties and cities shall give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries."* (RCW 36.70A.172(1))

RDC 18.280.020(C) expressly implements BAS criteria.

Cities must conduct BAS literature review as part of the critical area update process. The complexity of the BAS review should reflect the scope of the critical area amendments proposed. (WAC 365-195-901(2)) Although counties and cities may conduct their own BAS analysis, typically, jurisdictions use information that local, state or federal natural resource agencies have determined represents the best available science which is consistent with BAS criteria provided in WAC 365-195-900 through 925.

At present, the amendments to the critical area codes we will propose for your review are limited in scope. Consequently, we will rely on published BAS guidance from state and federal agencies as well as feedback from Stakeholders, the Planning Commission and the public. Kevin Grosz, SPWS, Wetland/Wildlife Biologist and owner of NRES, LLC has more than 30 years of professional experience working with private land owners and state and federal natural resource agencies. Kevin will review current BAS literature and prepare a summary report for your review. This report will document scientific sources that will be the scientific basis for revising the City's development regulations and, if necessary, Comprehensive Plan elements relating to critical areas.

B. No Net Loss – Functions and Values

The critical area regulations must ensure that development activity results in no net loss of critical area functions and value. (RCW 36.70A.172(1)) The GMA requires the prevention of further harm to critical areas, not the enhancement of critical areas that were previously damaged.

The term 'functions and values' refers to the useful purposes that critical areas serve, such as improving and protecting water quality, providing habitats for fish and wildlife, supporting food chains, storing and controlling floods, helping with groundwater recharge and release, preventing erosion, and offering recreational opportunities. (RDC 18.280.170)

In practice, development might impact critical areas but the impact cannot result in a net loss of the resource's important functions and values.

The city of Ridgefield expressly adopts "No Net Loss" - Land development and uses within the city shall result in no net loss of functions and values in the critical areas.

Comment: The goal of "no net loss" is to maintain the status quo. "No net loss" is NOT a mechanism for enhancement.

C. Avoidance through mitigation

RDC 18.280.060, critical area approval criteria establish a hierarchy of preferred strategies when proposed development could impact a critical area:

(1) avoid impacts,

(2) minimize impacts, and

(3) compensatory mitigation.

The strategy must result in no net loss of functions and values. BAS guidance now emphasizes focusing on avoidance first.

Questions:

(1) Some agencies now strongly advocate for avoidance over minimization and compensation. Ridgefield sometimes accepts compensatory mitigation over avoidance to help facilitate needed housing or commercial development that is consistent with the Comprehensive Plan. What does the Planning Commission believe is the appropriate balance between avoidance and compensations?

(2) The city has approved off site mitigation for development impacts to wetlands and riparian areas. What does the Planning Commission believe is the appropriate balance between the use of established off-site wetland and riparian banks and onsite mitigation and/or enhancement?

D. Anadromous fish

"Anadromous waters" are all waters that are not landlocked. (WAC 220-300-020) Anadromous fish hatch in freshwater, go to the ocean as juveniles, grow there to adulthood and return to the place of their birth.

There are a few streams in the Ridgefield UGA that support anadromous fish – Lake River, Gee Creek, Allen Creek, and other minor tributaries.

The GMA requires that critical area regulations must demonstrate that they 'give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries." (RCW 36.70A.172(1))

RDC 18.280.110, Fish and wildlife habitat conservation areas, regulates development within riparian areas and establishes BAS-based buffers for specific classes of streams. The buffers for fish bearing stream are 150 or 125 feet above the ordinary high water mark and 100 and 50 feet for non-fish bearing streams. This chapter does not expressly give "special consideration" to anadromous fisheries. WAC 365-195-925(3), relating to anadromous fisheries, says, *"Conservation or protection measures can include the adoption of interim actions and long-term strategies to protect and enhance fisheries resources."*

Questions:

(1) What special conservation or protection measures does the Planning Commission recommend to provide "special consideration" to anadromous fisheries?

(2) Should the city of Ridgefield develop a local salmon recovery plan?

E. Fish and wildlife habitat conservation areas

Fish and wildlife habitat areas fall into two primary categories, riparian and priority habitat species (PHS). Riparian areas are associated with stream corridors. In Ridgefield, priority habitat species are associated with non-riparian areas such as waterfowl loafing areas or Oregon white oak trees.

200-year site potential tree height standard

The Washington Department of Fish and Wildlife (WDFW) issued revised management recommendations for Riparian Priority Habitat in 2020. Key among the management recommendations in Volume 2 is the use of the 200-year Site Potential Tree Height (SPTH200) as the basis for designation of riparian habitat as defined in WDFW's Priority Habitat and Species List (2008). (See Designating Riparian Habitat Areas Using WAC 222 Site Class and 200-year Site Potential Tree Height, Clark County, Davis, 2023 and Washington Department of Fish and Wildlife. 2025. Guidelines for Determining Site Potential Tree Height from Field Measurements, Olympia, WA.)

Site potential tree height (SPTH) is a methodology that can be used to establish riparian buffers based on factors such as location, association with fish bearing and non-fish

bearing streams, soil type, tree age and species. In the past several years local WDFW staff have provided SEPA comments recommending that riparian buffers use this method to establish BAS-based buffers. Locally, the result has been an increase in riparian buffers that are associated with Douglas fir growing conditions to 200 feet or more.

The 2023 Davis study (see above) determined that applying the SPTH methodology to rural lands in Clark County would result in reduced buffers for fish bearing stream and increased buffers for non-fish bearing streams. The Davis study concluded that adoption of the SPTH methodology might conflict with housing and development goals of their Comprehensive Plan. We will make specific proposals relating to SPTH for your consideration.

Oregon white oak trees (Quercus garryana)

Oak woodlands are highly biodiverse ecosystems that are associated with a wide range of species. This includes the state-threatened western grey squirrel (Sciurus griseus) as well as a host of endangered, threatened, and sensitive species of plants are also associated with oak ecosystems in Washington. Oregon white oaks have also been identified as important breeding, nesting, and foraging habitat for many birds. (See Best management practices for mitigating impacts to Oregon white oak priority habitat, WDFW 2024.)

The Ridgefield UGA contains individual Oregon white oak trees and some Oregon white oak habitat stands. The city aims to protect these trees during the development review process and primarily uses the SEPA process, not its critical areas ordinance, to avoid or limit impacts. Following the 2024 WDFW Best Management Practices study, we will propose BAS-based protection and mitigation strategies for Oregon white oaks to the Planning Commission.

F. Wetlands

On November 7, 2025, in response to the United States Supreme Court case Sacket v Environmental Protection Agency, the Environmental Protection Agency (EPA) proposed new administrative rules relating to Waters of the United States (WOTUS) under the Clean Water Act. The EPA says these new rules will *"implement the court's direction by focusing on relatively permanent, standing or continuously flowing bodies of water—such as streams, oceans, rivers, and lakes—and wetlands that are connected and indistinguishable from such waterbodies."* A mandatory 45-day comment period will follow prior to adoption of the final rule.

Ridgefield regulates wetlands in RDC 18.280.150.

Subsection (A)(1) defines wetlands. *"Wetlands are those areas, designated in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), US Army Corps of Engineers, 2010 or as revised, that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created (but not as mitigation for impacts to wetlands) from non-wetland sites, including, but not limited to irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds and landscape amenities or those wetlands created after July 1990 that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands shall include those artificial wetlands intentionally created from non-wetland areas to mitigate conversion of wetlands. Final designations shall be based on-site conditions and other available data or information (See RDC 18.280.030.A.1).*

Subsection (A)(2) says, *"Wetlands shall be rated according to the Washington State Department of Ecology (Ecology) wetland rating system found in Hruby, 2014, Washington State Wetland Rating System for Western Washington, Ecology publication #14-06-029, or as revised by Ecology."*

In 2022 the Department of Ecology released Wetland Guidance for Critical Areas Ordinance Updates which is now considered BAS.

Currently, the US Army Corps Wetland Delineation Manual and the Ecology wetland rating publication are considered best available science under the GMA.

We cannot say with certainty what the final EPA rules, US Army Corp manuals or Ecology rating system will be. Our recommendation is to maintain the current US Army Corps/Ecology system until such time as the federal and state agencies systems are realigned.

Question: Regardless of the outcome of the EPA "Sackett" rule, should the city require an applicant to demonstrate that avoidance is not feasible before allowing compensatory mitigation?

G. Adopting the County's CAO by Reference

Adopt county critical areas regulations in their entirety.

RCW 36.70A.060(4) allows cities with populations under 25,000 to adopt their county's critical areas regulations by reference. A city that adopts the entirety of their county's

critical area ordinance by reference is no longer required to periodically update their critical areas regulations as required by the GMA.

If a city adopts only specific portions of the county code then the city would have to review and, if necessary, revise its code every time the county made any changes to its critical area regulations.

The Ridgefield Community Development Department currently regulates development in critical areas under its own authority. The Department of Commerce does not recommend adopting only specific portions of the county code if portions of the county code are not applicable in the city, or the city needs additional sections of code that are not present in the county's critical areas regulations. If the city decides to adopt the county's critical areas by reference but it still requires tailoring to meet city needs, those changes should be addressed in an interlocal agreement between the city and the county.

The Ridgefield Community Development Director expects that the city of Ridgefield will continue to regulate critical areas internally, not by adoption of the Clark County code.

H. Geologic Hazards, Critical Aquifer Recharge Areas, Flood Control

Geologic Hazard Areas

RDC 18.280.130 regulates geologic hazard areas. In Ridgefield, landslides and erosion control are the primary issues of concern. The city staff rely on the Clark County MapsOnline to flag potential geologic hazards. Typically, an applicant will provide a geotechnical engineering report with their development proposal which the city Public Works and Engineering staff review carefully. When necessary, city staff will impose conditions of approval to ensure that the recommendation in the geotechnical engineering report are met. In some cases, the city will impose a buffer at the head or toe of a steep slope to minimize the threat of potential landslide.

We do not anticipate any significant changes to this section of Chapter 18.280.

Critical Aquifer Recharge Areas (CARA)

RDC 18.280.140 regulates critical aquifer recharge areas. CARAs are regions with geological features that allow high infiltration, increasing the risk of groundwater contamination or facilitating groundwater replenishment for potable use. These areas are Wellhead Protection Areas, Sole Source Aquifers, Susceptible Groundwater Management Areas, Special Protection Areas, and Moderately or Highly Vulnerable Aquifer Recharge Areas.

There are two types of CARAs, Category I and Category 2. The entire city is in the CARA 2 zone. CARA 1 zones include wellhead protection areas which are source areas for potable water.

During the development review process the city does not require a CARA study for residential development unless the proposed development is within a well-head protection area or a well head 10 year time of travel estimate area. However, the city may require a Level one or a Level Two Hydrological Assessment if the development might entail the use of hazardous materials, storage tanks, fuel stations or motor vehicle repair, medical waste, and similar material which might pollute water sources.

There has been some confusion about whether and if so what type of hydrological assessment is necessary. We will propose amendments to this section to clarify the confusion.

Flood Control

RDC Chapter 18.750, Flood Control, provides the requirements and standards regarding frequently flooded areas. Lake River and Gee Creek are the primary areas of flooding concern. The city's basis for regulating flood hazard areas rests on several federal reports and maps:

- The Flood Insurance Study for Clark County, Washington, and Incorporated Areas dated September 5, 2012, and any revisions thereto.
- The Flood Insurance Rate Map (FIRM) dated September 5, 2012, and any revisions thereto.

The Flood Insurance Study and the FIRM are on file at Ridgefield City Hall, 230 Pioneer Avenue, Ridgefield, Washington. The best available information for flood hazard area identification as outlined in Section 18.750.040(D)(2) shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under section 18.750.040(D)(2).

We do not anticipate significant changes to RDC 18.750 during this update.

STAKEHOLDERS

During early stages of this update, we will engage stakeholders who have special knowledge about critical areas or have experience the city's development review process.

Potential telephone interviews include representatives from:

- Washington Department of Ecology - Wetlands and Shorelines, Floodplain Management

- Washington Department of Natural Resources - Geologic Planning and Landslide Hazards
- Washington Department of Fish and Wildlife – including the local habitat biologist
- SW Washington Clean Air Agency
- Washington State Department of Health - Source Water Protection Program
- Cowlitz Tribe - Natural Resource Division
- Clark County Community Development - Brent Davis, Manager
- Real estate development interests such as MAJ Development, MacKay Sposito, and others
- Citizens recommended by the Planning Commission and Council

PROCEDURE AND TIMELINE

Task	Timeframe
Commerce Checklist	Completed
BAS Literature review	November – December 2025
Determine consistency with the Comprehensive Plan	December 2025
Agency and Stakeholder coordination	December 2025 & January 2026
Planning Commission work session and hearing	December and February
City Council work session and hearing	March and April
Prepare ordinance and supporting documents	April - May
Notice of Intent to Adopt sent to Commerce 60-days prior to adoption	April
Final City Council hearing	June
Send a complete and accurate copy of the critical area regulations to Commerce within 10 days after final adoption	June

Questions? Contact

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RIDGEFIELD CRITICAL AREA ORDINANCE
BAS LITERATURE REVIEW
NOVEMBER 21, 2025 - DRAFT

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RIDGEFIELD CRITICAL AREA ORDINANCE

BAS LITERATURE REVIEW

NOVEMBER 25, 2025

1.0 INTRODUCTION

The City of Ridgefield (City) is undergoing its periodic Comprehensive Plan update as required by the Growth Management Act (GMA) under RCW 36.70.A. This includes a review and update of the City's Critical Areas Ordinance (CAO) Ridgefield Development Code (RDC) 18.280. Critical areas identified by the GMA under RCW 36.70A.30(12) to be regulated are as follows: (a) wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas. "Fish and wildlife habitat conservation areas" does not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district or company.

The City's last CAO update was in July 2013. The current CAO was adopted to implement the applicable goals and policies of the Ridgefield Comprehensive Plan by promoting reasonable economic use of property while protecting critical area functions and values. Critical areas provide a variety of valuable and beneficial biological and physical functions that benefit the City and its residents. Critical areas beneficial functions and values include but are not limited to water quality protection and enhancement, fish and wildlife habitat, food chain support, food storage, conveyance and attenuation of flood waters, ground water recharge and discharge, erosion control, protection form hazards, historical, archaeological, and aesthetic value protection, and recreation. Critical areas protected by the current CAO under RDC 18.280 are as follows: Fish and wildlife habitat conservation areas (18.280.110); Frequently flooded areas (18.280.120); Geologic hazard areas (18.280.130); Critical aquifer recharge areas (19.280.140); and Wetlands (18.280.150).

2.0 BEST AVAILABLE SCIENCE REVIEW

As per RCW 36.70A.172(1): cities shall include best available science (BAS) in developing policies and development regulations to protect functions and values of critical areas. In addition, counties and cities shall give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries. This draft report is a comparison of the existing CAO and a review of current BAS to make recommendations to the existing CAO. Criteria for determining BAS are outlined in WAC 365.195.900 through 365.195.925 as outlined below.

2.1 WAC 365-195-905 Criteria for determining which information is the "best available science."

(1) This section provides assessment criteria to assist counties and cities in determining whether information obtained during development of critical areas policies and regulations constitutes the "best available science."

(2) Counties and cities may use information that local, state or federal natural resource agencies have determined represents the best available science consistent with criteria set out in WAC **365-195-900** through **365-195-925**. The department will work with state agencies to identify resources that meet the criteria for best available science. Such information should be reviewed for local applicability.

(3) The responsibility for including the best available science in the development and implementation of critical areas policies or regulations rests with the legislative authority of the county or city. Cities and counties must conduct a best available science review when updating critical area regulations. The complexity of the review should reflect the scope of the amendment. When feasible, counties and cities should consult with a qualified scientific expert or team of qualified scientific experts to identify scientific information, determine the best available science, and assess its applicability to the relevant critical areas. The scientific expert or experts may rely on their professional judgment based on experience and training, but they should use the criteria set out in WAC **365-195-900** through **365-195-925** and any technical guidance provided by the department. Use of these criteria also should guide counties and cities that lack the assistance of a qualified expert or experts, but these criteria are not intended to be a substitute for an assessment and recommendation by a qualified scientific expert or team of experts.

(4) Whether a person is a qualified scientific expert with expertise appropriate to the relevant critical areas is determined by the person's professional credentials and/or certification, any advanced degrees earned in the pertinent scientific discipline from a recognized university, the number of years of experience in the pertinent scientific discipline, recognized leadership in the discipline of interest, formal training in the specific area of expertise, and field and/or laboratory experience with evidence of the ability to produce peer-reviewed publications or other professional literature. No one factor is determinative in deciding whether a person is a qualified scientific expert. Where pertinent scientific information implicates multiple scientific disciplines, counties and cities are encouraged to consult a team of qualified scientific experts representing the various disciplines to ensure the identification and inclusion of the best available science.

(5) Scientific information can be produced only through a valid scientific process. To ensure that the best available science is being included, a county or city should consider the following:

(a) **Characteristics of a valid scientific process.** In the context of critical areas protection, a valid scientific process is one that produces reliable information useful in understanding the consequences of a local government's regulatory decisions and in developing critical areas policies and development regulations that will be effective in protecting the functions and values of critical areas. To determine whether information received during the public participation process is reliable scientific information, a county or city should determine whether the source of the information displays the characteristics of a valid scientific process. When weighing scientific information contained in the record for inclusion, counties and cities must weigh the scientific information contained in the

record based on its scientific validity. The characteristics generally to be expected in a valid scientific process are as follows:

1. **Peer review.** The information has been critically reviewed by other persons who are qualified scientific experts in that scientific discipline. The criticism of the peer reviewers has been addressed by the proponents of the information. Publication in a refereed scientific journal usually indicates that the information has been appropriately peer-reviewed.

2. **Methods.** The methods that were used to obtain the information are clearly stated and able to be replicated. The methods are standardized in the pertinent scientific discipline or, if not, the methods have been appropriately peer-reviewed to assure their reliability and validity.

3. **Logical conclusions and reasonable inferences.** The conclusions presented are based on reasonable assumptions supported by other studies and consistent with the general theory underlying the assumptions. The conclusions are logically and reasonably derived from the assumptions and supported by the data presented. Any gaps in information and inconsistencies with other pertinent scientific information are adequately explained.

4. **Quantitative analysis.** The data have been analyzed using appropriate statistical or quantitative methods.

5. **Context.** The information is placed in proper context. The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge.

6. **References.** The assumptions, analytical techniques, and conclusions are well referenced with citations to relevant, credible literature and other pertinent existing information.

(b) **Common sources of scientific information.** Some sources of information routinely exhibit all or some of the characteristics listed in (a) of this subsection. Information derived from one of the following sources may be considered scientific information if the source possesses the characteristics in Table 1. A county or city may consider information to be scientifically valid if the source possesses the characteristics listed in (a) of this subsection. The information found in Table 1 provides a general indication of the characteristics of a valid scientific process typically associated with common sources of scientific information.

Table 1 sources of scientific information	Characteristics					
	Peer review	Methods	Logical conclusions & reasonable inferences	Quantitative analysis	Context	References
A. Research. Research data collected and analyzed as part of a controlled experiment (or other appropriate methodology) to test a specific hypothesis.	**X**	**X**	**X**	**X**	**X**	**X**
B. Monitoring. Monitoring data collected periodically over time to determine a resource trend or evaluate a management program.		**X**	**X**	**Y**	**X**	**X**
C. Inventory. Inventory data collected from an entire population or population segment (e.g., individuals in a plant or animal species) or an entire ecosystem or ecosystem segment (e.g., the species in a particular wetland).		**X**	**X**	**Y**	**X**	**X**
D. Survey. Survey data collected from a statistical sample from a population or ecosystem.		**X**	**X**	**Y**	**X**	**X**
E. Modeling. Mathematical or symbolic simulation or representation of a natural system. Models generally are used to understand and explain occurrences that cannot be directly observed.	**X**	**X**	**X**	**X**	**X**	**X**
F. Assessment. Inspection and evaluation of site-specific information by a qualified scientific expert. An assessment may or may not involve collection of new data.		**X**	**X**		**X**	**X**
G. Synthesis. A comprehensive review and explanation of pertinent literature and other relevant existing knowledge by a qualified scientific expert.	**X**	**X**	**X**		**X**	**X**
H. Expert Opinion. Statement of a qualified scientific expert based on his or her best professional judgment and experience in the pertinent scientific discipline. The opinion may or may not be based on site-specific information.			**X**		**X**	**X**

X = characteristic must be present for information derived to be considered scientifically valid and reliable

Y = presence of characteristic strengthens scientific validity and reliability of information derived, but is not essential to ensure scientific validity and reliability

(c) **Common sources of nonscientific information.** Many sources of information usually do not produce scientific information because they do not exhibit the necessary characteristics for scientific validity and reliability. Information from these sources may provide valuable information to supplement scientific information, but it is not an adequate substitute for scientific information. Nonscientific information should not be used as a substitute for valid and available scientific information. Common sources of nonscientific information include the following:

(i) Anecdotal information. One or more observations which are not part of an organized scientific effort (for example, "I saw a grizzly bear in that area while I was hiking").

(ii) Nonexpert opinion. Opinion of a person who is not a qualified scientific expert in a pertinent scientific discipline (for example, "I do not believe there are grizzly bears in that area").

(iii) Hearsay. Information repeated from communication with others (for example, "At a lecture last week, Dr. Smith said there were no grizzly bears in that area").

(6) Counties and cities are encouraged to monitor and evaluate their efforts in critical areas protection and incorporate new scientific information, as it becomes available.

[Statutory Authority: RCW **36.70A.050** and **36.70A.190**. WSR 23-08-037, § 365-195-905, filed 3/29/23, effective 4/29/23. Statutory Authority: RCW **36.70A.190** (4)(b). WSR 00-16-064, § 365-195-905, filed 7/27/00, effective 8/27/00.]

2.2 WAC 365-195-910 Criteria for obtaining the best available science.

(1) Consultation with state and federal natural resources agencies and tribes can provide a quick and cost-effective way to develop scientific information and recommendations. State natural resource agencies provide numerous guidance documents and model ordinances that incorporate the agencies' assessments of the best available science. The department can provide technical assistance in obtaining such information from state natural resources agencies, developing model GMA-compliant critical areas policies and development regulations, and related subjects.

(2) A county or city may compile scientific information through its own efforts, with or without the assistance of qualified experts, and through state agency review and the Growth Management Act's required public participation process. The county or city should assess whether the scientific information it compiles constitutes the best available science applicable to the critical areas to be protected, using the criteria set out in WAC **365-195-900** through **365-195-925** and any technical guidance provided by the department. If not, the county or city should identify and assemble additional scientific information to ensure it has included the best available science.

[Statutory Authority: RCW 36.70A.050 and 36.70A.190. WSR 23-08-037, § 365-195-910, filed 3/29/23, effective 4/29/23. Statutory Authority: RCW 36.70A.190 (4)(b). WSR 00-16-064, § 365-195-910, filed 7/27/00, effective 8/27/00.]

2.3 WAC 365-195-915 Criteria for including the best available science in developing policies and development regulations.

(1) To demonstrate that the best available science has been included in the development of critical areas policies and regulations, counties and cities should address each of the following on the record:

(a) The specific policies and development regulations adopted to protect the functions and values of the critical areas at issue.

(b) The relevant sources of best available scientific information included in the decision-making.

(c) Any nonscientific information—including legal, social, cultural, economic, and political information—used as a basis for critical area policies and regulations that depart from recommendations derived from the best available science. A county or city departing from science-based recommendations should:

(i) Identify the information in the record that supports its decision to depart from science-based recommendations;

(ii) Explain its rationale for departing from science-based recommendations; and

(iii) Identify potential risks to the functions and values of the critical area or areas at issue and any additional measures chosen to limit such risks. State Environmental Policy Act (SEPA) review often provides an opportunity to establish and publish the record of this assessment.

(2) Counties and cities should include the best available science in determining whether to grant applications for administrative variances and exemptions from generally applicable provisions in policies and development regulations adopted to protect the functions and values of critical areas. Counties and cities should adopt procedures and criteria to ensure that the best available science is included in every review of an application for an administrative variance or exemption.

[Statutory Authority: RCW 36.70A.190 (4)(b). WSR 00-16-064, § 365-195-915, filed 7/27/00, effective 8/27/00.]

2.4 WAC 365-195-920 Criteria for addressing inadequate scientific information.

(1) Where there is an absence of valid scientific information or incomplete scientific information relating to a county's or city's critical areas, leading to uncertainty about which development and land uses could lead to harm of critical areas or uncertainty about the risk to critical area function of permitting development, counties and cities should use the following approach:

(a) A "precautionary or a no risk approach," in which development and land use activities are strictly limited until the uncertainty is sufficiently resolved; and

(b) As an interim approach, an effective adaptive management program that relies on scientific methods to evaluate how well regulatory and nonregulatory actions achieve their objectives. Management, policy, and regulatory actions are treated as experiments that are purposefully monitored and evaluated to determine whether they are effective and, if not, how they should be improved to increase their effectiveness. An adaptive management program is a formal and deliberate scientific approach to taking action and obtaining information in the face of uncertainty. To effectively implement an adaptive management program, counties and cities should be willing to:

(i) Address funding for the research component of the adaptive management program;

(ii) Change course based on the results and interpretation of new information that resolves uncertainties; and

(iii) Commit to the appropriate time frame and scale necessary to reliably evaluate regulatory and nonregulatory actions affecting critical areas protection and anadromous fisheries.

(2 Ongoing permit implementation monitoring and adaptive management.

(a) In addition to the use of formal scientific approaches to monitoring and adaptive management program as an interim approach as described above, the department recommends counties and cities develop and maintain ongoing monitoring and adaptive management procedures to ensure implementation of critical area regulations is efficient and effective. Counties and cities should consult department guidance documents for information.

(b) Steps in developing permit implementation monitoring and adaptive management programs include:

(i) Determining the reasons for monitoring;

(ii) Establishing key objectives and study questions;

(iii) Designing the monitoring program;

(iv) Determining the monitoring time frame; and

(v) Evaluating results and making recommendations.

[Statutory Authority: RCW **36.70A.050** and **36.70A.190**. WSR 23-08-037, § 365-195-920, filed 3/29/23, effective 4/29/23. Statutory Authority: RCW **36.70A.190** (4)(b). WSR 00-16-064, § 365-195-920, filed 7/27/00, effective 8/27/00.]

2.5 WAC 365-195-925 Criteria for demonstrating "special consideration" has been given to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

(1) RCW 36.70A.172(1) imposes two distinct but related requirements on counties and cities. Counties and cities must include the "best available science" when developing policies and development regulations to protect the functions and values of critical areas, and counties and cities must give "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries. Local governments should address both requirements in RCW 36.70A.172(1) when developing their records to support their critical areas policies and development regulations.

(2) To demonstrate compliance with RCW 36.70A.172(1), a county or city adopting policies and development regulations to protect critical areas should include in the record evidence that it has given "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries. The record should be developed using the criteria set out in WAC 365-195-900 through 365-195-925 to ensure that conservation or protection measures necessary to preserve or enhance anadromous fisheries are grounded in the best available science.

(3) Conservation or protection measures necessary to preserve or enhance anadromous fisheries include measures that protect habitat important for all life stages of anadromous fish, including, but not limited to, spawning and incubation, juvenile rearing and adult residence, juvenile migration downstream to the sea, and adult migration upstream to spawning areas. Special consideration should be given to habitat protection measures based on the best available science relevant to stream flows, water quality and temperature, spawning substrates, instream structural diversity, migratory access, estuary and nearshore marine habitat quality, and the maintenance of salmon prey species. Conservation or protection measures can include the adoption of interim actions and long-term strategies to protect and enhance fisheries resources.

3.0 FISH AND WILDLIFE HABITAT CONSERVATION AREAS

3.1 RDC 18.280.110 Definitions/Designations

A. The City designates and regulates fish and wildlife habitat conservation areas as follows:
   1. There are established in the city the following identified fish and wildlife habitat conservation areas:
      a. Habitat for any life stage of state or federally designated endangered, threatened, and sensitive fish or wildlife species. A current list of federally and state identified species is available from the community development director or designee.
      b. Priority habitats and areas associated with priority species. Current lists of priority habitats and species and applicable management recommendations promulgated by the Washington Department of Fish and Wildlife are available from the community development director or designee.
      c. Water bodies including lakes, streams, rivers and naturally occurring ponds.
   2. Fish and wildlife habitat conservation areas do 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. Habitat Location Information. Information on the approximate location and extent of habitat conservation areas is available from the community development director or designee. The habitat location information is based on:
   a. Washington Department of Fish and Wildlife Priority Habitat and Species Maps.
   b. Washington Department of Fish and Wildlife Anadromous and Resident Salmonid Distribution Maps in the Salmon and Steelhead Habitat Inventory Assessment Program (SSHIAP).
   c. Washington Department of Natural Resources Official Water Type Reference Maps.
   d. Other information acquired by the city.

3.2 WAC 365-190-130 Definitions/Designations

(1) "Fish and wildlife habitat conservation" means land management for maintaining populations of species in suitable habitats within their natural geographic distribution so that the habitat available is sufficient to support viable populations over the long term and isolated subpopulations are not created. Fish and wildlife habitat conservation areas do 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. This does not mean maintaining all individuals of all species at all times, but it does mean not degrading or reducing populations or habitats so that they are no longer viable over the long term. Counties and cities should engage in cooperative planning and coordination to help assure long term population viability.

Fish and wildlife habitat conservation areas contribute to the state's biodiversity and occur on both publicly and privately owned lands. Designating these areas is an important part of land use planning for appropriate development densities, urban growth area boundaries, open space corridors, and incentive-based land conservation and stewardship programs.

(2) Fish and wildlife habitat conservation areas that must be considered for classification and designation include:
   (a) Areas where endangered, threatened, and sensitive species have a primary association;
   (b) Habitats and species of local importance, as determined locally;
   (c) Commercial and recreational shellfish areas;
   (d) Kelp and eelgrass beds; herring, smelt, and other forage fish spawning areas;
   (e) Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat;
   (f) Waters of the state;
   (g) Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; and
   (h) State natural area preserves, natural resource conservation areas, and state wildlife areas.

(3) When classifying and designating these areas, counties and cities must include the best available science, as described in chapter **365-195** WAC.

(a) Counties and cities should consider the following:

(i) Creating a system of fish and wildlife habitat with connections between larger habitat blocks and open spaces, integrating with open space corridor planning where appropriate;

(ii) Level of human activity in such areas including presence of roads and level of recreation type (passive or active recreation may be appropriate for certain areas and habitats);

(iii) Protecting riparian ecosystems including salmonid habitat, which also includes marine nearshore areas;

(iv) Evaluating land uses surrounding ponds and fish and wildlife habitat conservation areas that may negatively impact these areas, or conversely, that may contribute positively to their function;

(v) Establishing buffer zones around these areas to separate incompatible uses from habitat areas;

(b) Counties and cities may also consider the following:

(i) Potential for restoring lost and impaired salmonid habitat;

(ii) Potential for designating areas important for local and ecoregional biodiversity; and

(iii) Establishing or enhancing nonregulatory approaches in addition to regulatory methods to protect fish and wildlife habitat conservation areas.

(4) Sources and methods.

(a) Endangered, threatened and sensitive species. Counties and cities should identify and classify seasonal ranges and habitat elements where federal and state listed endangered, threatened and sensitive species have a primary association and which, if altered, may reduce the likelihood that the species will persist over the long term. Counties and cities must consult current information on priority habitats and species identified by the Washington state department of fish and wildlife. Recovery plans and management recommendations for many of these species are available from the Unites States Fish and Wildlife Service, the National Marine Fisheries Service and the Washington state department of fish and wildlife. Additional information that must be consulted is available from the Washington state department of natural resources, natural heritage program, and aquatic resources program.

(b) Habitats and species areas of local importance. Counties and cities should identify, classify and designate locally important habitats and species. Counties and cities must consult current information on priority habitats and species identified by the Washington state department of fish and wildlife. Priority habitat and species information includes endangered, threatened and sensitive species, but also includes candidate species and other vulnerable and unique species and habitats. While these priorities are those of the Washington state department of fish and wildlife, they should be considered by counties and cities as they include the best available science. The Washington state department of fish and wildlife can also provide assistance with identifying and mapping important habitat areas at various landscape scales. Similarly, the Washington state department of natural resources' natural heritage program

includes a list of high quality ecological communities and systems and rare plants that must be consulted.

(c) Shellfish areas. All public and private tidelands or bedlands suitable for shellfish harvest shall be classified as critical areas. Counties and cities should consider both commercial and recreational shellfish areas. Counties and cities should consider the Washington state department of health classification of commercial and recreational shellfish growing areas to determine the existing condition of these areas. Further consideration should be given to the vulnerability of these areas to contamination. Shellfish protection districts established pursuant to chapter **90.72** RCW shall be included in the classification of critical shellfish areas.

(d) Kelp and eelgrass beds; herring, smelt and other forage fish spawning areas. Counties and cities must classify kelp and eelgrass beds, identified by the Washington state department of natural resources and the department of ecology. Though not an inclusive inventory, locations of kelp and eelgrass beds are compiled in the Washington coastal atlas published by the department of ecology. Herring, smelt and other forage fish spawning times and locations are outlined in WAC **220-110-240** through **220-110-271**.

(e) Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat. Naturally occurring ponds do not include ponds deliberately designed and created from dry sites, such as canals, detention facilities, wastewater treatment facilities, farmponds, temporary construction ponds (of less than three years duration) and landscape amenities. However, naturally occurring ponds may include those artificial ponds intentionally created from dry areas in order to mitigate conversion of ponds, if permitted by a regulatory authority.

(f) Waters of the state.

(i) Waters of the state are defined in RCW **90.48.020** and include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses in Washington. Stream types are classified in Title 222 WAC, the forest practices regulations. Counties and cities may use the classification system established in WAC **222-16-030** to classify waters of the state. Counties and cities using the water types defined in WAC **222-16-030** or **222-16-031** (interim) should not rely solely on Washington state department of natural resources maps of these stream types for purposes of regulating land uses or establishing stream buffers.

(ii) Counties and cities that use the stream typing system developed by the department of natural resources should develop a process to verify actual stream conditions, identify flow alterations, and locate fish passage barriers by conducting a field visit. Field verification of all intermittent or nonfish bearing streams should occur during the wet season months of October to March or as determined locally.

(iii) Counties and cities may consider the following factors when classifying waters of the state as fish and wildlife habitat conservation areas:

(A) Species present which are endangered, threatened or sensitive, and other species of concern;

(B) Species present which are sensitive to habitat manipulation (e.g., priority habitats and species program);

(C) Historic presence of species of local importance;
(D) Existing surrounding land uses that are incompatible with salmonid habitat;
(E) Presence and size of riparian ecosystems;
(F) Existing water rights; and
(G) The intermittent nature of some waters of the state.

(g) Lakes, ponds, streams, and rivers planted with game fish. This includes game fish planted in these water bodies under the auspices of a federal, state, local, or tribal program or which supports priority fish species as identified by the Washington State Department of Fish and Wildlife.

(h) State natural area preserves, natural resource conservation areas, and state wildlife areas. Natural area preserves and natural resource conservation areas are defined, established, and managed by the department of natural resources. State wildlife areas are defined, established, and managed by the Washington State Department of Fish and Wildlife, which provides information about state wildlife areas for each county.

(i) Salmonid habitat. Counties and cities should consider recommendations found in salmon recovery plans (see the governor's salmon recovery office). Counties and cities may use information prepared by the United States Department of the Interior Fish and Wildlife Service, National Marine Fisheries Service, the Washington State Department of Fish and Wildlife, the state recreation and conservation office, and the Puget Sound partnership to designate, protect and restore salmonid habitat.

3.3 Fish And Wildlife Habitat Conservation Areas BAS & Management Recommendations

Discussion/Finding

The current fish and wildlife habitat conservation ordinance RDC 18.280.110 is based on BAS available at the time of adoption in 2013. The ordinance provides protection for state priority habitats/species (PHS), state and federal endangered, threatened, and sensitive species, streams, lake, streams, rivers and naturally occurring ponds, and locally important habitat. The City's ordinance identifies and protects the majority of the habitats and species protected by the State under WAC 365-190-130. Although, the State's list is more extensive, due to the diversity of habitats and species that occur across the state. BAS at that time was provided by Washington Department of Fish and Wildlife (WDFW), Washington Department of Natural Resources (DNR), Washington Department of Ecology (Ecology), U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS).

BAS for most habitats and species has not changed significantly except for streams and associated riparian buffers. Under the existing code, stream protection/riparian management zones are based on stream type as defined by DNR under their stream typing protocol under WAC 222-16-030, and stream width and mass wasting potential as outlined by WDFW. Riparian buffer widths range from 150 feet for Shoreline of the State (Type S) and Type F (fish-bearing) streams down to 50 feet for Type Np (non-fish-bearing, perennial) and Ns (non-fish-bearing, seasonal) with low mass wasting potential. In 2020, WDFW released two publications that address updated BAS related to riparian management zone (RMZ) widths based the estimated

average of the two hundred year site potential tree height as measured from the ordinary high water mark (OHWM) and the soil site class. RMZs range in width from 235 feet for Class II site class soils and Type S and F waters down to 100 feet for Class IV site class soils and Type Np and Type Ns waters.

3.4 Fish And Wildlife Habitat Conservation Areas BAS Citations/Sources

Azerrad, J.M., J.L. Michalak, and T.P. Johnson. 2023 PHS Local Government User Guide: Biodiversity Areas and Corridor Map. Habitat Program, Washington Department of Fish and Wildlife, Olympia, Washington.

Nola, M.P. and J.M. Azerrad. 2024. Management Recommendations for Washington's Priority Habitats: Best management practices for mitigation impacts to Oregon white oak priority habitat. Washington Department of Fish and Wildlife, Olympia, Washington.

U.S. National Oceanic and Atmospheric Administration Fisheries. ESA Listed Species. 18 Nov 2025. https://fisheries.noaa.gov/species directory.

Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications (Volume 1) (Quinn et al. 2020).

Riparian Ecosystems, Volume 2: Management Recommendations (Volume) (Rentz et al. 2020).

Washington Department of Fish and Wildlife. 2008 (Revised 2023). Priority Habitat and Species List. Olympia, Washington. 177pp + Appendices.

U.S. Fish and Wildlife Service. ESA Listed Species Planning and Consultation (IPAC). hhtps://ecos.fws.gov/ipac/

U.S. Fish and Wildlife Service. ESA Listed Species Summary. 18 Nov 2025. https://ecos.fws.gov.

Washington Department of Fish and Wildlife. 2009. Landscape Planning for Washington's Wildlife Managing for Developing Areas. 88pp+. Olympia, Washington.

Washington Department of Fish and Wildlife. 2015 (updated 2025). Washington's State Wildlife Action Plan. Washington Department of Fish and Wildlife. Olympia, Washington.

Washington Department of Fish and Wildlife. Revised 2024. State Listed Endangered, Threatened, and Sensitive Species. Olympia, Washington.

Washington Department of Fish and Wildlife. 2025. Guidelines for Determining Site Potential Tree Height from Field Measurements. Olympia, Washington.

Washington Department of Natural Resources. Washington rare plant species list: https://dnr.wa.gov/NHPlists

Washington Department of Natural Resources. Field Guide to Rare Plants of Washington: https://dnr.wa.gov/NHPfieldguide

Washington Department of Natural Resources. Ecological Systems of Washington: https://dnr.wa.gov/NHPPecololgicalsys

Washington Department of Natural Resources. Plan Communities of Washington: https://dnr.wa.gov/NHP-USNVC

Washington Department of Natural Resources. Natural Heritage Program: https://dnr.wa.gov/natural-heritage-program

Washington Department of Natural Resources. Natural Heritage Program Wetland of High Conservation Value Map Viewer: https://dnr.wa.gov/NHPmapviewer

4.0 FREQUENTLY FLOODED AREAS

4.1 RDC 18.280.120 Definitions/Designations defers to RDC Chapter 18.750 (Flood control)

Under the definitions section of RDC 18.750.110 areas regulated by this chapter include the following:

"Area of special flood hazard" means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letter A.

"Base flood" means the flood having a one percent chance of being equaled or exceeded in any given year (also referred to as the "one-hundred-year flood"); designated on flood insurance rate maps by the letter A.

"Flood" or "flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters; and/or
2. The unusual and rapid accumulation of runoff of surface waters from any source. "Flood Insurance Rate Map (FIRM)" means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

"Flood Insurance Study (FIS)" means the official report provided by the Federal Insurance Administration that includes flood profiles and the water surface elevation of the base flood.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

4.2 RDC 18.750.020(B) Purpose

The purpose of the Flood Control chapter is stated in RDC 18.750.020(B) as follows:

Statement of Purpose. It is the purpose of this chapter to promote the public health, safety, and general welfare; reduce the annual cost of flood insurance; and minimize public and private losses due to flood conditions in specific areas by provisions designed:

1. To protect human life and health;
2. To minimize expenditure of public money and costly flood control projects;
3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. To minimize prolonged business interruptions;
5. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
6. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
7. To ensure that potential buyers are notified that property is in an area of special flood hazard;
8. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

4.3 WAC 365-190-110 Definitions/Designations

Flood plains and other areas subject to flooding perform important hydrologic functions and may present a risk to persons and property.

(1) Classifications of frequently flooded areas should include, at a minimum, the 100-year flood plain designations of the Federal Emergency Management Agency and the National Flood Insurance Program.

(2) Counties and cities should consider the following when designating and classifying frequently flooded areas:
   (a) Effects of flooding on human health and safety, and to public facilities and services;
   (b) Available documentation including federal, state, and local laws, regulations, and programs, local studies and maps, and federal flood insurance programs, including the provisions for urban growth areas in RCW **36.70A.110**;
   (c) The future flow flood plain, defined as the channel of the stream and that portion of the adjoining flood plain that is necessary to contain and discharge the base flood flow at build out;
   (d) The potential effects of tsunami, high tides with strong winds, sea level rise, and extreme weather events, including those potentially resulting from global climate change;
   (e) Greater surface runoff caused by increasing impervious surfaces.

4.4 Frequently Flooded Areas BAS & Management Recommendations

Discussion/Finding

Ecology identifies information provided by Federal Emergency Management Agency mapping data as the sources for BAS for this critical area. In addition, stream channel migration and other flood areas identified outside of the 100-year floodplain should be taken into consideration for protection measures.

4.5 Frequently Flooded Areas BAS Citations/Sources

Federal Emergency Management Agency. Effective Flood Insurance Maps: https://msc.fema.gov/portal

Federal Emergency Management Agency. Preliminary Flood Insurance Rate Maps: https://hazards.fema.gov/femaportal/prelimdownload

Washington Department of Ecology. 2014. Channel Migration Processes and Patterns in Western Washington: A Synthesis for Floodplain Management and Restoration. Publication No. 14-06-028.

Washington Department of Ecology. 2014. The Channel Migration Toolbox: ArcGIS Tools for Measuring Stream Channel Migration. Publication No. 14-06-032.

5.0 GEOLOGIC HAZARDOUS AREAS

5.1 RDC 18.280.130 Definitions/Designations

Geologic hazardous areas regulated under18.280.130 are as follows:

A. Designation. Designated or potential geologic hazard areas include landslide, seismic, and erosion hazard areas. With the exception of bank erosion hazard areas and fault rupture hazard areas, their potential locations are shown on maps available from the community development director or designee. Final designations shall be based on site conditions and other available data or information.

1. Landslide Hazard Areas. Potential landslide hazard areas are identified from the sources listed below:
    a. Slopes greater than twenty-five percent on the property and adjacent areas within fifty feet except engineered slopes such as cut and fill slopes along transportation routes (including trails), railroad and other berms, or dikes.
    b. Areas of historic or active landslides, potential instability, or older landslide debris identified on the 1975 map by Allen Fiksdal of the Washington State Department of Natural Resources entitled, Slope Stability: Clark County Washington as revised or superseded.
    c. Identified from other available data or in the field by a qualified professional and adjacent areas within fifty feet.
2. Seismic Hazard Areas. Seismic hazard areas include liquefaction or dynamic settlement, ground shaking amplification, and fault rupture hazard areas:
    a. Liquefaction or Dynamic Settlement. The following are designated liquefaction or dynamic settlement hazard areas:
        i. Areas with low to moderate, moderate, moderate to high, or high liquefaction susceptibility or peat deposits as indicated on the Alternative Liquefaction Susceptibility Map of Clark County, Washington based on Swanson's Groundwater Model by Stephen P. Palmer, Sammantha L. Magsino, James L. Poelstra, and Rebecca A. Niggemann, September, 2004, as revised or superseded.
        ii. Areas of fill (Fn) identified by the 1972 USDA Soil Conservation Service Soil Survey of Clark County Washington and by the community development director, based on other reliable evidence.
    b. Ground Shaking Amplification. Designated ground shaking amplification hazard areas: include site classes C to D, D to E, E and F as indicated on the Site Class Map of Clark County, Washington by Stephen P. Palmer, Sammantha L. Magsino, James L. Poelstra, and Rebecca A. Niggemann, September, 2004 as revised or superseded.
    c. Fault Rupture Hazard Areas. Potential fault rupture hazard areas are faults identified on geological maps prepared and maintained by the Washington Department of Natural Resources (DNR), U.S. Geological Survey (USGS), Oregon Department of Geology and Mineral Industries (DOGAMI), Clark County, Washington, or identified from other available data or in the field by a qualified professional and adjacent areas within fifty feet.
3. Erosion Hazard Areas. Erosion hazard areas include soil erosion and bank erosion hazard areas.
    a. Soil Erosion Hazard Areas. Soil erosion hazard areas are those areas with soils identified as having a severe erosion hazard by the 1972 USDA Soil Conservation Service Soil Survey of Clark County Washington.

b. Bank Erosion Hazard Areas. Bank erosion hazard areas are areas along lakes, streams, and rivers that are subject to regression or retreat due to lacustrine or fluvial processes and adjacent land within fifty feet.

5.2 WAC 365-190-120 Definitions/Designations

(1) Geologically hazardous areas include areas susceptible to erosion, sliding, earthquake, or other geological events. They pose a threat to the health and safety of citizens when incompatible commercial, residential, or industrial development is sited in areas of significant hazard.

(2) Some geological hazards can be reduced or mitigated by engineering, design, or modified construction or mining practices so that risks to public health and safety are minimized. When technology cannot reduce risks to acceptable levels, building in geologically hazardous areas must be avoided. The distinction between avoidance and compensatory mitigation should be considered by counties and cities that do not currently classify geological hazards, as they develop their classification scheme.

(3) Areas that are susceptible to one or more of the following types of hazards shall be classified as a geologically hazardous area:
   (a) Erosion hazard;
   (b) Landslide hazard;
   (c) Seismic hazard; or
   (d) Areas subject to other geological events such as coal mine hazards and volcanic hazards including: Mass wasting, debris flows, rock falls, and differential settlement.

(4) Counties and cities should assess the risks and classify geologically hazardous areas as either:
   (a) Known or suspected risk;
   (b) No known risk; or
   (c) Risk unknown - data are not available to determine the presence or absence of risk.

(5) Erosion hazard areas include areas likely to become unstable, such as bluffs, steep slopes, and areas with unconsolidated soils. Erosion hazard areas may also include coastal erosion areas: This information can be found in the Washington state coastal atlas available from the department of ecology. Counties and cities may consult with the United States Department of Agriculture Natural Resources Conservation Service for data to help identify erosion hazard areas.

(6) Landslide hazard areas include areas subject to landslides based on a combination of geologic, topographic, and hydrologic factors. 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.

(7) Seismic hazard areas must include areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement or subsidence, soil liquefaction, surface faulting, or tsunamis. Settlement and soil liquefaction conditions occur in areas underlain by cohesionless soils of low density, typically in association with a shallow groundwater table. One indicator of potential for future earthquake damage is a record of earthquake damage in the past. Ground shaking is the primary cause of earthquake damage in Washington, and ground settlement may occur with shaking. The strength of ground shaking is primarily affected by:

(a) The magnitude of an earthquake;

(b) The distance from the source of an earthquake;

(c) The type or thickness of geologic materials at the surface; and

(d) The type of subsurface geologic structure.

(8 Other geological hazard areas:

(a) Volcanic hazard areas must include areas subject to pyroclastic flows, lava flows, debris avalanche, or inundation by debris flows, lahars, mudflows, or related flooding resulting from volcanic activity.

(b) Mine hazard areas are those areas underlain by, adjacent to, or affected by mine workings such as adits, gangways, tunnels, drifts, or air shafts. Factors which should be considered include: Proximity to development, depth from ground surface to the mine working, and geologic material.

5.3 Geologic Hazardous Areas BAS & Management Recommendations

Discussion/Finding

Geological hazards pose a threat to the health and safety of citizens, fish and wildlife, and commercial, residential, or industrial development when permitted in areas of significant hazard. RDC 18.280.130 identifies geologic hazardous areas that are susceptible erosion, sliding, earthquake, or other geological events. The City's ordinance provides protection against risks caused by geologic hazards within the UGB through permitting requirements and meets or exceeds the requirements of WAC 365-190-120. No substantial new BAS was found for this critical area.

5.4 Geologic Hazardous Areas BAS Citation/Sources

Washington Department of Natural Resources. Washington Geological Survey: https://dnr.wa.gov/washington-geological-survey.

Washington Department of Natural Resources. 2020. Safeguarding our lands, waters, and communities: WDNR's plan for climate resilience. Washington State Department of Natural Resources.

U.S. Geological Survey. Maps/Data. https://usgs.gov/products/publications.

6.0 CRITICAL AQUIFER RECHARGE AREAS

6.1 RDC 18.280.140 Definitions/Designations

A. Designating Critical Aquifer Recharge Areas. Critical Aquifer Recharge Areas Designation. Critical aquifer recharge areas (CARAs) are those areas with a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030-2. CARAs have prevailing geologic conditions associated with infiltration rates that create a high potential for contaminants of groundwater resources or contribute significantly to the replenishment of groundwater. These areas are:
    1. Wellhead Protection Areas. Wellhead protection areas are defined by the boundaries of the ten-year time of groundwater travel or boundaries established using alternate criteria approved by the Washington State Department of Health in those settings where groundwater travel is not a reasonable delineation criterion in accordance with WAC 246-290-135.
    2. Sole Source Aquifers. Sole source aquifers are areas that have been designated by the U.S. Environmental Protection Agency pursuant to the Federal Safe Water Drinking Act.
    3. Susceptible Groundwater Management Areas. Susceptible groundwater management areas are areas that have been designated as moderately or highly vulnerable or susceptible in an adopted groundwater management program pursuant to WAC173-100.
    4. Special Protection Areas. Special protection areas are those areas defined by WAC-173-200-090.

5. Moderately or Highly Vulnerable Aquifer Recharge Areas. Aquifer recharge areas that are moderately or highly vulnerable to degradation or depletion because of hydrogeologic characteristics are those areas meeting the criteria established by the state department of ecology.

6.2 WAC 365-190-100 Definitions/Designations

(1) Potable water is an essential life sustaining element for people and many other species. Much of Washington's drinking water comes from groundwater. Once groundwater is contaminated it is difficult, costly, and sometimes impossible to clean up. Preventing contamination is necessary to avoid exorbitant costs, hardships, and potential physical harm to people and ecosystems.

(2) The quality and quantity of groundwater in an aquifer is inextricably linked to its recharge area. Where aquifers and their recharge areas have been studied, affected counties and cities should use this information as the basis for classifying and designating these areas. Where no specific studies have been done, counties and cities may use existing soil and surficial geologic information to determine where recharge areas exist. To determine the threat to groundwater quality, existing land use activities and their potential to lead to contamination should be evaluated.

(3) Counties and cities must classify recharge areas for aquifers according to the aquifer vulnerability. Vulnerability is the combined effect of hydrogeological susceptibility to contamination and the contamination loading potential. High vulnerability may be indicated by hydrogeological conditions that facilitate degradation, particularly where combined with land uses that contribute, or may potentially contribute, directly or indirectly to contamination that may degrade groundwater. Low vulnerability may be indicated by the combination of hydrogeological conditions that do not facilitate degradation and land uses that do not contribute, or are not likely to contribute, contaminants that will degrade groundwater. Hydrological conditions may include those induced by limited recharge of an aquifer. Reduced aquifer recharge from effective impervious surfaces may result in higher concentrations of contaminants than would otherwise occur.

(a) To characterize hydrogeologic susceptibility of the recharge area to contamination, counties and cities may consider the following physical characteristics:
  (i) Depth to groundwater;
  (ii) Aquifer properties such as hydraulic conductivity, gradients, and size;
  (iii) Soil (texture, permeability, and contaminant attenuation properties);
  (iv) Characteristics of the vadose zone including permeability and attenuation properties; and
  (v) Other relevant factors.

(b) The following may be considered to evaluate vulnerability based on the contaminant loading potential:
  (i) General land use;
  (ii) Waste disposal sites;
  (iii) Agriculture activities;
  (iv) Well logs and water quality test results;
  (v) Proximity to marine shorelines; and

(vi) Other information about the potential for contamination.

(4) A classification strategy for aquifer recharge areas should be to maintain the quality, and if needed, the quantity of the groundwater, with particular attention to recharge areas of high susceptibility.

(a) In recharge areas that are highly vulnerable, studies should be initiated to determine if groundwater contamination has occurred. Classification of these areas should include consideration of the degree to which the aquifer is used as a potable water source, feasibility of protective measures to preclude further degradation, availability of treatment measures to maintain potability, and availability of alternative potable water sources.

(b) Examples of areas with a critical recharging effect on aquifers used for potable water may include:

(i) Recharge areas for sole source aquifers designated pursuant to the Federal Safe Drinking Water Act;

(ii) Areas established for special protection pursuant to a groundwater management program, chapters **90.44**, 90.48, and **90.54** RCW, and chapters **173-100** and **173-200** WAC;

(iii) Areas designated for wellhead protection pursuant to the Federal Safe Drinking Water Act;

(iv) Areas near marine waters where aquifers may be subject to saltwater intrusion; and

(v) Other areas meeting the definition of "areas with a critical recharging effect on aquifers used for potable water" in these guidelines.

(c) Some aquifers may also have critical recharging effects on streams, lakes, and wetlands that provide critical fish and wildlife habitat. Protecting adequate recharge of these aquifers may provide additional benefits in maintaining fish and wildlife habitat conservation areas.

6.3 Critical Aquifer Recharge Areas BAS & Management Recommendations

Discussion/Finding

BAS for critical aquifer recharge areas is provided by Ecology in their Critical Aquafer Recharge Areas Guidance (2021). The guidance provides details on aquifer recharge areas that need protection and sources (maps & other data) that identify areas needing protection. In addition, RDC 365-190-120 and WAC 365-190-100 define and designate critical aquifer recharge area protection.

6.4 Critical Aquifer Recharge Areas BAS Citations/Sources

Washington Department of Ecology. 2021. Critical Aquifer Recharge Areas: Guidance Document. Publ. No. 05-100028 149 pp.

7.0 WETLANDS

7.1 RDC 18.280.150 Definitions/Designations

1. Designating Wetlands. Wetlands are those areas, designated in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), US Army Corps of Engineers, 2010 or as revised, that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created (but not as mitigation for impacts to wetlands) from non-wetland sites, including, but not limited to irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds and landscape amenities or those wetlands created after July 1990 that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands shall include those artificial wetlands intentionally created from non-wetland areas to mitigate conversion of wetlands. Final designations shall be based on-site conditions and other available data or information (See RDC 18.280.030.A.1).

365-190-090 Definitions/Designations

(1) The wetlands of Washington state are fragile ecosystems that serve a number of important beneficial functions. Wetlands assist in reducing erosion, siltation, flooding, ground and surface water pollution, and provide wildlife, plant, and fisheries habitats. Wetlands destruction or impairment may result in increased public and private costs and property losses.

(2) In designating wetlands for regulatory purposes, counties and cities must use the definition of wetlands in RCW 36.70A.030. Counties and cities are requested and encouraged to make their actions consistent with the intent and goals of "protection of wetlands," Executive Orders 89-10 and 90-04 as they existed on September 1, 1990. Additionally, counties and cities should consider wetlands protection guidance provided by the Department of Ecology, including the management recommendations based on the best available science, mitigation guidance, and provisions addressing the option of using wetland mitigation banks.

(3) Wetlands rating systems. Wetland functions vary widely.

(a) When designating wetlands, counties and cities should use a rating system that evaluates the existing wetland functions and values to determine what functions must be protected.

(b) In developing wetlands rating systems, counties and cities should consider using the wetland rating system developed jointly by the Department of Ecology and the United States Army Corps of Engineers.

(c) If a county or city chooses to use an alternative rating system, it must include the best available science.

(d) A rating system should evaluate, at a minimum, the following factors:

(i) Wetlands functions and values;

(ii) Degree of sensitivity to disturbance;

(iii) Rarity;

(iv) The degree to which a wetland contributes to functions and values of a larger ecosystem. Rating systems should generally rate wetlands higher when they are well-connected to adjacent or nearby habitats, are part of an intact ecosystem or function in a network of critical areas; and

(v) The ability to replace the functions and values through compensatory mitigation.

(4) Counties and cities may use the National Wetlands Inventory and a landscape-scale watershed characterization as information sources for determining the approximate distribution and extent of wetlands. The National Wetlands Inventory is an inventory providing maps of wetland areas according to the definition of wetlands issued by the United States Department of Interior Fish and Wildlife Service. A landscape-scale watershed characterization may identify areas that are conducive to forming wetlands based on topography, soils and geology, and hydrology. Regardless, any potential locations of wetlands should be confirmed by field visits, either before or as part of permitting activities, and identified wetlands should have their boundaries delineated for regulation consistent with the wetlands definition in RCW 36.70A.030.

(5) Counties and cities must use the methodology for regulatory delineations in the adopted state manual identified in RCW 36.70A.175.

7.2 RCW.70A.030(52) Definitions/Designations

(52) "Wetland" or "wetlands" means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas created to mitigate conversion of wetlands.

7.3 Wetlands BAS & Management Recommendations

Discussion/Finding

Since the last critical areas update in 2013, Ecology has prepared numerous BAS documents (see below) that discuss wetland ratings, buffers, compensatory mitigation, and sequencing. These documents have become the standard by which most cities and counties use for establishing BAS. The City's current wetland ordinance RDC 18.280.150 follows the recommendations of these documents. There may be some adjustments to the current code to ensure compliance with Ecology's BAS primarily with buffer widths. One adjustment would be to change the low habitat function score from 3-4 to 3-5, moderate to 6-7 and high would remain 8-9 (Table 18.280.150-2) as recommended by Ecology. This could potentially decrease buffer widths listed in Tables 18.280.150-3, 4, 5, and 6.

7.4 Wetlands Areas BAS Citations/Sources

Sheldon, D., T. Hruby, P. Johnson, K Harper, A. McMillan, T. Granger, S. Stanley, and E. Stockdale. 2005. Wetlands in Washington State – Volume 1: A Synthesis of the Science. Washington State Department of Ecology. Publ. No. 05-06-006. Olympia, Washington.

Granger, T., T. Hruby, A. McMillan, D. Peters, J. Rubery, D. Sheldon, S. Stanley, and E. Stockdale. 2005. Wetlands in Washington State – Volume 2: Guidance for Protecting and Managing Wetlands. Washington State Department of Ecology. Publ. No. 05-06-008. Olympia, Washington.

Hruby, T. 2013. Update on Wetland Buffers: The State of the Science, Final Report. Washington State Department of Ecology. Publ. No. 13-06-011. Olympia, Washington.

Hruby, T. D Bunten, A. Yahnke, and J. Franklin. 2017. Characterizing Wetland Buffers in Washington State. Washington State Department of Ecology. Publ. No. 17-06-008. Olympia, Washington.

Hruby, T. & A. Yahnke. 2023. Washington State Wetland Rating System for Western Washington. 2014 Update (Version 2). Washington State Department of Ecology, Publ. No. 23-06-009.

U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y87-1. U.S. Army Corps of Engineers Waterway Experiment Station.

U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2). U.S. Army Engineer Research and Development Center.

Washington Department of Ecology, U.S. Army Corps of Engineers, and U.S. Environmental Protection Agency. 2006. Wetland Mitigation in Washington State: Part 2 – Developing Mitigation Plans. Publ. No. 06-06-011b.

Washington Department of Ecology, U.S. Army Corps of Engineers, and U.S. Environmental Protection Agency. 2021. Wetland Mitigation in Washington State: Part 1 – Agency Policies and Guidance (Version 2). Publ. No. 21-06-003.

Washington State Department of Ecology. 2022. Wetland Guidance for Critical Areas Ordinance Updates, Western and Eastern Washington. Ecology Publ. No. 22—6-014

CONCLUSIONS

Based on a review of the RDC, WAC, RCW, and BAS information for each critical area provided above, it appears that some changes to the existing critical areas ordinance will result in an update that will be consistent with current BAS.

Potential amendments include:

Fish and Wildlife Habitat Conservation Areas – the BAS for riparian areas has been updated by WDFW to increase riparian management zones based on soil class site and the two hundred year site potential tree height as measured from the ordinary high water mark.

Frequently Flooded Areas – the current ordinance closely follows the recommended actions for this critical area. FEMA maps/data provide updated floodplain information.

Geologic Hazard Areas - the City's existing ordinance provides protection against risks caused by geologic hazards within the UGB through permitting requirements and meets or exceeds the requirements of WAC 365-190-120. Little new BAS was found for this critical area. A more detailed literature review and consultation with geology professions will be conducted to determine if there is updated BAS that should be incorporated into the updated critical areas ordinance.

Critical Aquifer Recharge Areas – follow the recommendations of Ecology as outlined in their 2021 Critical Aquifer Recharge Areas: Guidance Document. Publ. No. 05-10-028. This is similar to the existing RDC for this critical area.

Wetlands – Ecology has provided significant updated BAS that should be incorporated into the updated wetland critical areas ordinance. These updates include rating and buffer widths based on wetland category, land-use intensity and habitat function score; sequencing where avoidance of wetland impacts should be given a higher priority; and compensatory wetland mitigation criteria.