

CRITICAL AREAS ORDINANCE GAP ANALYSIS FOR CITY OF WOODINVILLE

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CRITICAL AREAS ORDINANCE GAP ANALYSIS

CITY OF WOODINVILLE

1 INTRODUCTION

With passage of the Growth Management Act (GMA), local jurisdictions throughout Washington State, including the City of Woodinville (City), were required to develop policies and regulations to designate and protect critical areas. Critical areas, as defined by the GMA (Revised Code of Washington (RCW) 36.70A.030(5)), include wetlands; areas with a critical recharging effect on aquifers used for potable water; fish and wildlife habitat conservation areas; frequently flooded areas; and geologically hazardous areas.

An ongoing requirement of the GMA is for local jurisdictions to periodically review and evaluate their adopted critical areas policies and regulations. In accordance with the GMA, the City last completed a comprehensive update of its critical areas policies and regulations in 2004. The City is now required to update its critical areas policies and regulations by July 2015. This includes the requirement to include the best available science (BAS). Any deviations from science-based recommendations should be identified, assessed and explained (Washington Administrative Code (WAC) 365-195-915). In addition, jurisdictions are to give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

The City's critical areas policies are currently contained in the Environmental Element (Chapter 12) of the City of Woodinville Comprehensive Plan (Comprehensive Plan). The City's critical areas regulations are currently codified in Chapter 21.24 of the Woodinville Municipal Code (WMC or Code).

This gap analysis provides a review of the current critical areas policies and regulations, noting gaps where existing policies or regulations may not be consistent with BAS or the GMA. The primary intention of this gap analysis is to help guide the update of the City's critical areas policies and regulations.

1.1 Document Organization

Recommendations for updating the City's existing critical areas policies are provided in Section 2 of this document. Recommendations for updating critical area regulations are provided in Sections 3 through 9. For example, Section 7 of this document addresses Code sections 21.24.320 through 21.24.360, which are all related to wetlands. To highlight findings of the gap analysis, a Code review summary table is provided at the beginning of Sections 3 through 9. Where a

potential gap is identified, subsections provide further discussion. Section 10 contains a discussion of clearing and grading and potential ordinance language.

2 CRITICAL AREAS POLICIES

Overall, the policies contained in the Environmental Element of the City's Comprehensive Plan provide a strong foundation for the City's critical areas regulations. The policies address all five types of GMA critical areas and incorporate specific critical areas terminology used in the GMA. The current policies also include both regulatory and non-regulatory measures to protect critical areas.

Nonetheless, some adjustments could potentially be made to better align the City's critical areas policies with the GMA. General and specific recommendations follow.

2.1 General Recommendations

The organizational structure of the Environmental Element does not directly correlate to the five types of critical areas. Moreover, the Environmental Element includes policies that are not appropriately implemented by the critical areas regulations (e.g. ENV-2.1, Support waste reduction/recycling programs for City departments and encourage procurement of recycled content materials). Understanding which policies are intended to apply to a particular type of critical area should be made clear. Consistency with the City's critical areas regulations might be improved by having policies organized by specific critical area type (or types). There might also be a section that includes policies that apply to all types of critical areas.

Additionally, while the Environmental Element generally incorporates the critical areas terminology used in the GMA, policy language could more closely parallel state terminology. For example, while the Environmental Element refers to several types of hazards, there is no mention of the term "geologically hazardous areas."

2.2 Specific Recommendations

This subsection includes recommendations for updating specific policies.

Policy ENV-3.6: Periodically review and update the Shoreline Master Program and sensitive areas regulations to ensure consistency with the policies of this Comprehensive Plan, the Shoreline Management Act and the Department of Ecology shoreline regulations.

The term “sensitive areas” is a term that was formerly used for “critical areas.” Replacing “sensitive areas” with “critical areas” would enhance consistency with the GMA and the City’s critical areas regulations. Additionally, as critical areas regulations are a GMA mandate, this policy should indicate that critical areas regulations should be reviewed and updated to ensure consistency with the GMA and Washington State Department of Commerce critical areas regulations.

Policy ENV-3.8: Consider and incorporate the best available science, consistent with the GMA and applicable rules, in developing regulations for fish and wildlife habitat areas, wetlands, and other critical areas.

This policy clearly reflects one of the key critical areas directives of the GMA (enunciated in RCW 36.70.172). However, the GMA directive (enunciated in RCW 36.70.172), for jurisdictions to “give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries,” is not clearly reflected in the City’s policies. Policy ENV-3.8 could be amended to incorporate this directive. Additionally, Policy ENV-3.8 is listed under Goal ENV-3: To preserve and enhance aquatic and wildlife habitat. Policy ENV-3.8 could potentially be included as part of a broader goal to make it clear that this policy applies to all types of critical areas.

3 GENERAL PROVISIONS (WMC 21.24.010 - 21.24.180)

Code sections 21.24.010 through 21.24.180 include general provisions that are applicable to all types of critical areas. While overall the general provisions contained in these sections are strong, some refinements could be made to further align these sections with the GMA and BAS. Table 1 (General Provisions Review Summary) below provides a summary of recommendations which are described in detail in this Section.

Table 1. General provisions review summary.

Code Section	Title	Review Comment / Recommendations*
21.24.010	Purpose.	<ul style="list-style-type: none"> • Further demonstrate consistency with Comprehensive Plan.
21.24.020	Applicability.	
21.24.030	Appeals.	
21.24.040	Critical areas rules.	
21.24.050	Alteration.	
21.24.060	Complete exemptions.	<ul style="list-style-type: none"> • Potential issue: Ag exemption for maintenance and repair of ditches and drainages NOT used by salmonids. Consider implication for those which 1) are used by fish other than salmonids and/or 2) ditches and drainages which drain directly to salmon bearing waterbodies. • Recommend rewording the clearing and grading exemption (6) as needed for consistency with any changes to grading provisions in the WMC.
21.24.070	Partial exemptions.	
21.24.080	Exceptions.	
21.24.085	Density calculations for critical areas.	
21.24.090	Critical area maps and inventories.	<ul style="list-style-type: none"> • Include map disclaimer. • Ensure process to amend critical areas maps to include BAS is expeditious.
21.24.100	Disclosure by applicant.	
21.24.110	Critical area review.	
21.24.120	Critical area special study requirement.	
21.24.130	Contents of critical area special study.	<ul style="list-style-type: none"> • Expand content requirements. • Require preparation by a qualified professional.
21.24.140	Mitigation, maintenance, monitoring and contingency.	<ul style="list-style-type: none"> • Incorporate mitigation sequence. • Describe specific requirements for the contents of mitigation plans. • Include innovative mitigation regulations.
21.24.150	Security to ensure mitigation, maintenance and monitoring.	
21.24.160	Critical area markers and signs.	<ul style="list-style-type: none"> • Address fencing requirements and provide more detailed signage requirements.
21.24.170	Notice on title.	

Code Section	Title	Review Comment / Recommendations*
21.24.180	Critical area tracts or easements and designations on site plans.	<ul style="list-style-type: none"> Recommend requiring site plans to map all critical areas, including CARAs, for all building permits and clearing and grading permit applications (3).

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

3.1 Purpose (WMC 21.24.010).

3.1.1 Further demonstrate consistency with Comprehensive Plan.

This section of the Code could more clearly demonstrate consistency with the Comprehensive Plan. For example, this section might briefly reference Comprehensive Plan goals and policies that the code implements. This section of the Code also includes some duplicative statements that could be omitted to make a more concise document.

3.2 Critical area maps and inventories (WMC 21.24.090).

3.2.1 Include map disclaimer.

As recommended by WAC 365-190-180, this section could state that maps showing critical areas may be illustrative only and that additional site-specific evaluation may be needed to confirm or modify the information shown on maps.

3.2.2 Ensure process to amend critical areas maps to include BAS is expeditious.

The City should ensure that the process to amend critical areas maps to incorporate BAS is expeditious. Consider allowing updates of critical areas maps through administrative procedures.

3.3 Contents of critical area special study (WMC 21.24.130).

3.3.1 Expand content requirements.

The contents of the critical areas special study identified in this section could be expanded. For instance, an item that could be included in the critical area special study is a written description of how the applicant applied mitigation sequencing (see Subsection 3.4.1 below). This section could also specify that the critical area special study include a mitigation plan to offset any identified impacts to critical areas.

3.3.2 Require preparation by a qualified professional.

This section should specify that critical area special studies must be prepared by a qualified professional (although other sections of the Code require certain studies to be prepared by a qualified professional, this should be made a general

requirement). An all-encompassing definition of “qualified professional” addressing all critical area types could be added to this section; alternatively, multiple definitions for “qualified professional” could be provided in the appropriate sections (e.g. a definition for a “qualified professional for wetlands” could be added to a section dealing with wetlands).

3.4 Mitigation, maintenance, monitoring and contingency (WMC 21.24.140)

3.4.1 Incorporate mitigation sequence.

Mitigation sequencing is a fundamental component to the protection of critical areas and should be prominently incorporated into the Code. When an alteration to a critical area is considered, the mitigation sequence establishes the following preferred order of alternatives:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
- Rectifying the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by repairing, rehabilitating,
- Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;
- Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;
- Compensating for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by replacing, enhancing, or providing substitute resources or environments; and
- Monitoring the hazard or other required mitigation and taking remedial action when necessary.

3.4.2 Describe specific requirements for the contents of mitigation plans.

This section of the Code could describe specific requirements for the contents of mitigation plans, such as requirements for measurable performance standards and monitoring.

3.4.3 Include innovative mitigation regulations.

General regulations regarding the potential use of innovative mitigation techniques could be included in this section. More detailed regulations specific to a particular type of critical area might be added to later parts of the Code (e.g. language about mitigation banks and in-lieu fee might be added to the wetlands

regulations with a preference for mitigation within the city limits). See the Ecology publication, *Wetlands & CAO Updates: Guidance for Small Cities* (WDOE, Revised 2012) for specific examples.

3.5 Critical area markers and signs (WMC 21.24.160).

3.5.1 Address fencing requirements and provide more detailed signage requirements.

This Code section does not thoroughly address general temporary and permanent fencing requirements (though fencing for native growth protection areas is discussed in WMC 21.24.180). Signage requirements could also be more detailed. For example, sign spacing requirements could be specified (most local jurisdictions require signs to be posted every 50 feet along a critical area buffer). It is also recommended that the City codify fencing (split-rail at least 4 feet high) and sign spacing (100 foot intervals or 1 per lot) requirements as documented in the City’s supplemental “Wetland and Stream Mitigation Guidelines.”

If the City does not have critical area signs applicants can purchase, then providing standardized language for signs in the Code is recommended. The City may choose to exempt certain critical areas, such as geologically hazardous areas, from signage requirements for practical reasons.

4 CRITICAL AQUIFER RECHARGE AREAS (WMC 21.24.190 - 21.24.200)

To protect critical aquifer recharge areas (CARAs), recommended BAS-based protection measures include identifying and categorizing CARAs, identifying potential sources of contamination, assessing vulnerability of water resources, imposing protections, and managing CARA withdrawals. The existing Code generally complies with these BAS-based measures. The existing Code could be enhanced by providing specific critical area special study requirements for critical aquifer recharge areas and including general performance standards for development in CARAs.

Table 2. Critical aquifer recharge areas review summary.

Code Section	Title	Review Comment / Recommendations*
21.24.190 - 21.24.200	Critical aquifer recharge areas.	<ul style="list-style-type: none"> Specific critical area special study requirements for critical aquifer recharge areas are not included—consider including.
21.24.190	Critical aquifer recharge areas – Designation and rating.	

Code Section	Title	Review Comment / Recommendations*
21.24.200	Critical aquifer recharge areas – Development regulations.	<ul style="list-style-type: none"> • Consider including general performance standards.

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

4.1 Critical aquifer recharge areas (WMC 21.24.190-21.24.200).

4.1.1 Specific critical area special study requirements for critical aquifer recharge areas are not included—consider including.

The sections of the Code addressing critical aquifer recharge areas (WMC 21.24.190 through 21.24.200) do not include requirements for critical area special studies specific to critical aquifer recharge areas. Such requirements might include when a hydrogeologic assessment must be prepared and the professional qualifications necessary to prepare such an assessment. Study requirements may differ based on the mapped CARA designation or category.

4.2 Critical aquifer recharge areas – Development regulations (WMC 21.24.200).

4.2.1 Consider including general performance standards.

This Code section currently includes development regulations that prohibit certain new uses and activities in Category I and II CARAs; provide standards for specific types of development in CARAs such as storage tanks; and reference other regulations that may be applicable. However, this section does not currently include general performance standards that apply broadly to development in CARAs. For example, this section might include a general regulation such as the following:

- Activities may only be permitted in a critical aquifer recharge area if the applicant can show that the proposed activity will not cause contaminants to enter the aquifer and that the proposed activity will not adversely affect the recharging of the aquifer.

5 FLOOD HAZARD AREAS (WMC 21.24.210 - 21.24.280)

The existing Code restricts development within flood hazard areas. Regulations prohibit reductions in the base flood storage volume, and require compensatory storage if a reduction is proposed. This flood hazard management approach is concurrent with BAS findings on this topic. The existing flood hazard areas regulations could be enhanced by providing specific critical area special study requirements for flood hazard areas.

Table 3. Flood hazard areas review summary.

Code Section	Title	Review Comment / Recommendations*
21.24.210 - 21.24.280	Flood hazard areas.	<ul style="list-style-type: none"> • Specific critical area special study requirements for flood hazard areas not included—consider including. • Require a habitat assessment (FEMA BiOp process) for development in the floodway or floodplain
21.24.210	Flood hazard areas – Components.	
21.24.220	Flood Insurance Study adopted.	
21.24.230	Flood fringe – Development standards and permitted alterations.	
21.24.240	Zero-rise floodway – Development standards and permitted alterations.	
21.24.250	FEMA floodway – Development standards and permitted alterations.	
21.24.260	Flood hazard – Certification by engineer or surveyor.	
21.24.270	Alteration of watercourses, notice and maintenance required.	
21.24.280	Building Official to approve alternate design and methods of construction.	

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

5.1 Flood hazard areas (WMC 21.24.210 - 21.24.280).

5.1.1 Specific critical area special study requirements for flood hazard areas are not included—consider including.

The sections of the Code addressing flood hazard areas (WMC 21.24.210 through 21.24.280) do not include requirements for a critical area special studies specific to frequently flooded areas. Such requirements might include when a flood hazard assessment must be prepared and the professional qualifications necessary to prepare such an assessment.

The City may either develop specific floodplain regulations or require [habitat](#) assessments for development in the floodway or floodplain. As a result of the 2008 National Marine Fisheries Service (NMFS) Biological Opinion (BiOp) on the implementation of the National Flood Insurance Program (NFIP) in the Puget Sound region, the City is required to adopt one of three following approaches to managing development within the floodplain:

1. Adopt the model ordinance;
2. Develop floodplain regulations that protect floodplain functions on a programmatic basis;
3. Require the completion of a floodplain habitat assessment for any development within the floodplain. Habitat assessments must evaluate impacts to stormwater, floodplain capacity, and vegetative habitat.

Unless the City adopts the model ordinance or develops customized floodplain regulations that are reviewed and approved by FEMA, the third option, also referred to as “Door 3” is the default requirement. Option 1, the model ordinance, would likely represent the most conservative approach to protecting floodplain functions, but it also would also be expected to be the most restrictive option in terms of future development and provide the least flexibility in implementation. The second option, or “Door 2,” allows local jurisdictions to establish regulations that recognize local conditions and may incorporate programs that enhance floodplain functions into the evaluation of how floodplain functions are maintained. However, FEMA must approve any “Door 2” approach before it is implemented. As of March, 2014, only 5 jurisdictions have chosen to use the model ordinance (Graves, J., personal communication 4/1/2014). Of the 36 jurisdictions that have proposed “Door 2” approaches, only 12 have been approved by FEMA (Graves, J., personal communication 4/1/2014). [The timing to get approval for “Door 2” depends on the approach and detail in the application submittal.](#) The remaining 81 jurisdictions are using “Door 3” (Graves, J., personal communication 4/1/2014).

6 GEOLOGICALLY HAZARDOUS AREAS (WMC 21.24.290 - 21.24.310)

The current Code safeguards against potential geologic hazards through several mechanisms, including buffers and rigorous design standards. This Code section is generally in agreement with BAS. However, the Code section might be improved by providing specific critical area special study requirements for geologically hazardous areas, providing an up-to-date map of Citywide geologically hazardous areas, and refining when geotechnical reports are required.

In light of the recent Snohomish County landslide near Oso, which spanned approximately one-square mile, the City of Woodinville is conducting a detailed review of potential geological hazards and best management strategies. Any recommendations for updates to this code section will be considered upon completion of that review team’s study.

7 WETLANDS (WMC 21.24.320 - 21.24.360)

The wetlands sections of the Code could be upgraded to be more consistent with BAS. Notable recommendations include updating to the Ecology Rating System and providing more detailed mitigation regulations.

Table 4. Wetlands review summary.

Code Section	Title	Review Comment / Recommendations*
21.24.320 - 21.24.360	Wetlands.	<ul style="list-style-type: none"> • Specific critical area special study requirements for wetlands are not included—consider including.
21.24.320	Wetlands – Designation and rating.	<ul style="list-style-type: none"> • Designation of wetlands must include the Corps Manual and Regional Supplement. • Rate wetlands using Ecology Rating System.
21.24.330	Wetlands – Development standards.	<ul style="list-style-type: none"> • Update buffer width requirements based on Ecology Rating System and BAS-based buffer alternatives.
21.24.340	Wetlands – Permitted alterations.	<ul style="list-style-type: none"> • Provide more detailed regulations.
21.24.350	Wetlands – Mitigation requirements.	<ul style="list-style-type: none"> • Update type and location of mitigation provisions to reflect BAS. • Mitigation requirements should be amended along with the wetland classification system.
21.24.360	Wetlands – Limited exemption.	<ul style="list-style-type: none"> • Revise exemption criteria.

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

7.1 Wetlands (WMC 21.24.320 - 21.24.360).

7.1.1 Specific critical area special study requirements for wetlands are not included—consider including.

The sections of the Code addressing wetlands (WMC 21.24.320 through 21.24.360) do not include detailed requirements for critical area special studies specific to wetlands. Such requirements might include specific contents to be included and the professional qualifications necessary to produce such a study. For example, the wetland development standards section (WMC 21.24.330) should clearly reference the required contents of critical area special study as per WMC 21.24.130. If the critical area special study requirements are referenced in the wetlands section, the professional qualifications for each critical area discipline should be added to WMC 21.24.130.

Although the City's supplemental document, "Wetland and Stream Mitigation Guidelines" provides requirements for compensation plan reports and mitigation plans, this information is not clearly referenced or provided in the current code. To strengthen the City's ability to consistently apply these standards to permit applications, at a minimum the "Wetland and Stream Mitigation Guidelines" should be referenced in the code. This reference should also be readily available to the public; documents of this type are commonly posted on City websites for easy reference.

7.2 Wetlands – Designation and rating (WMC 21.24.320).

7.2.1 Designation of wetlands must include Regional Supplement.

Currently, identification of jurisdictional wetlands in the City is based on the Washington State Department of Ecology *Wetlands Identification and Delineation Manual* (Ecology Manual)(Ecology publication #96-94). In May 2010 the U.S. Army Corps of Engineers (Corps) issued a new guidance document, titled *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*(Regional Supplement)(Corps Publication #ERDC/EL TR-10-3). The Regional Supplement is intended to be used along with the 1987 Corps Manual to increase accuracy and efficiency of wetland delineation procedures. Updating the City's critical areas regulations to define wetlands based on the Corps Manual and the Regional Supplement is required to be consistent with the GMA.

Per the Washington State Department of Ecology (Ecology) and changes to the WAC, the *Wetlands Identification and Delineation Manual* is no longer in use. Ecology has repealed WAC 173-22-080 (the state delineation manual) and replaced it with a revision of WAC 173-22-035 that states delineations should be done according to the currently approved federal manual and supplements. Ecology recommends the following language for CAO updates to the delineation provisions:

- Identification of wetlands and delineation of their boundaries pursuant to this Chapter shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplements. All areas within the [City or County] meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this Chapter.

7.2.2 Rate wetlands using Ecology Rating System.

The current Code rates wetlands using a three-tiered system based on specific physical attributes, such as the presence of endangered or threatened species, connectivity to other waterbodies, wetland size, and vegetation characteristics.

This approach, which was a commonly used prior to 2004, has been replaced by a more refined rapid-assessment tool.

The current BAS tool for wetland classifications is the *Washington State Wetland Rating System for Western Washington* (Ecology Rating System) (Ecology Publication #04-06-025). The Ecology Rating System is a four-tiered rating system, with wetland categories (I through IV) based on a functional score that evaluates the water quality functions, hydrologic functions, and habitat functions provided by a given wetland. This system also recognizes how wetland functions and values are linked to a wetland’s landscape position or hydrogeomorphic class.

Ecology continues to review current scientific knowledge of wetland functions and values and periodically new information is integrated into key publications, including the *Washington State Wetland Rating System for Western Washington*. To keep City regulations in step with adopted BAS, adding language to this section of the Code stating that “Ecology Publication #04-06-025 or as revised and approved by Ecology shall be used to rate wetlands” is recommended.

7.3 Wetlands – Development standards (WMC 21.24.330).

7.3.1 Update buffer width requirements based on Ecology Rating System and BAS-based buffer alternatives.

A direct comparison of wetland buffer width requirements in the current Code (WMC 21.24.330) and BAS is not possible because the underlying rating systems are different. Standard wetland buffers under the current Code are listed in Table 6 below.

Table 5. Wetland class and buffer widths under current city code.

Wetland Class	Standard Wetland Buffer (feet)
Class 1	150
Class 2	100
Class 3	50

As discussed above in Subsection 7.2.2, the current BAS tool for wetland classifications has been updated compared with the tool the City currently uses. Accordingly, if the City updates its wetland classification system, the current wetland buffer requirements will also need to be updated in order to work with the new classification system.

Effective wetland buffer widths vary depending on the targeted wetland functions, intensity of surrounding land use, and buffer characteristics. The City may continue to assign a single standard fixed buffer width for each wetland category or to vary buffer widths according to land use intensity and/or habitat

functions. Three BAS-based wetland buffer options, Buffer Alternatives 1, 2 and 3, from the Ecology publication *Wetlands in Washington State – Volume 2* (see Appendix C), are discussed below.

Buffer Alternative 1 assigns a standard buffer width based only on wetland category (the current approach used by the City). While this is a simple approach, it does not account for wetland functions and surrounding land use in determining buffer width. As a result, buffers must be set at the most protective level to be inclusive of all conditions that may exist (Table 7).

Table 6. Wetland buffer widths under Buffer Alternative 1.

Wetland Category ¹	Buffer Width (feet)
I	300
II	300
III	150
IV	50

¹ Wetland Categories based on Ecology Rating System.

Buffer Alternative 2 modifies the buffer width in accord with adjacent land use, while Buffer Alternative 3 considers both adjacent land use and wetland habitat functions when determining an appropriate buffer width for each wetland category. Buffers under these alternatives are shown below in Table 8. In the table, land use intensity is characterized as high, moderate or low. Examples of high intensity land uses are commercial, institutional, dense residential (>1 unit/acre), and high-intensity recreation, such as ball fields. Moderate intensity land uses include residential (≤ 1 unit/acre), moderate-intensity open space, paved trails, and maintained utility corridors. Low intensity land uses include low-intensity open space, unpaved trails, and low maintenance utility corridors.

Table 7. Wetland buffer widths under Buffer Alternatives 2 and 3.

Wetland Category ¹	Buffer Alternative 2			Buffer Alternative 3			
	Land Use Impact			Habitat Score	Land Use Impact		
	Low	Moderate	High		Low	Moderate	High
I	150 ft	225 ft	300 ft	29-36	150 ft	225 ft	300 ft
				20-28	75 ft	110 ft	150 ft
				< 20	50 ft	75 ft	100 ft
II	150 ft	225 ft	300 ft	29-36	150 ft	225 ft	300 ft
				20-28	75 ft	110 ft	150 ft
				< 20	50 ft	75 ft	100 ft
III	75 ft	110 ft	150 ft	20-28	75 ft	110 ft	150 ft
				< 20	40 ft	60 ft	80 ft
IV	25 ft	40 ft	50 ft	N/A	25 ft	40 ft	50 ft

¹ Wetland Categories based on Ecology Rating System.

Yet another BAS-based approach to wetland buffers, similar to Buffer Alternative 3 above, is provided in sample CAO language in *Wetlands Guidance for Small Cities Western Washington Version*, page A-6 (Ecology publication # 10-06-002). A summary of buffer widths for wetlands in Woodinville using this approach (called Buffer Alternative 4 in this report) is provided in Table 9 below.

Table 8. Wetland buffer widths under Buffer Alternative 4.

Wetland Category ¹	Buffer Width according to Habitat Score			
	< 21 points	21-25 points	26-29 points	30-36 points
Category I: Based on total score	75 ft	105 ft	165 ft	225 ft
Category I: Forested	75 ft	105 ft	165 ft	225 ft
Category I: Bogs	190 ft			225 ft
Category II	75 ft	105 ft	165 ft	225 ft
Category III	60 ft	105 ft	165 ft	165 ft
Category IV	40 ft			

¹ Wetland Categories based on Ecology Rating System.

For further details and examples see the following guidance documents (Appendices B and C, respectively).

- *Wetlands and CAO Updates: Guidance for Small Cities* (Ecology 2012)
- *Wetlands in Washington State – Volume 2, Appendix 8C* (Ecology 2005)

It should be noted that Ecology is in the process of reviewing current science on wetland buffers and revisions to the *Washington State Wetland Rating System for Western Washington*, specifically the habitat functions scoring values, are anticipated (Pers. Com. Tom Hruby 2014). In light of this pending change, Buffer Alternatives 1, 2 or 3 may be easier to implement while allowing the City to use the revised wetland rating form as it becomes available.

7.4 Wetlands – Permitted alterations (WMC 21.24.340).

7.4.1 Provide more detailed regulations.

In general, this section could provide more detailed regulations regarding permitted alterations. The Code could better clarify which types of alterations require or do not require a critical areas special study. For example, WMC 21.24.340(1)(a) allows alteration of wetlands that do “...not serve any of the valuable functions of wetlands...” However, all wetlands provide some level of

functions. To ensure wetland functions and values are maintained, wetland and wetland buffer alterations should be reviewed through the Critical Area Special Study process.

The Code could also clarify what uses are allowed in a wetland buffer and the process necessary to authorize specific uses. BAS supports allowing discrete tasks in wetlands and buffers, including activities conducted under the Forest Practices Act (WAC 222-12-030), wild crop harvest, utility drilling, removal of invasive plants, education and scientific research, and routine maintenance of an existing facility.

Additionally, the language for some specific uses that are currently allowed will need to be updated. For example, language in WMC 21.24.320(6) will need to be updated to reflect that stormwater management facilities may only be allowed in the outer buffer of lower classes of wetlands (Category III or IV only).

7.5 Wetlands – Mitigation requirements (WMC 21.24.350).

7.5.1 Update type and location of mitigation provisions to reflect BAS.

The type and location of mitigation provisions (WMC 21.24.350(5)) should be updated to reflect BAS. For example, these provisions do not explicitly address newer innovative approaches such as mitigation banking or in-lieu fee programs. Example code language for BAS mitigation options is provided in *Wetlands and CAO Updates: Guidance for Small Cities* (Ecology 2012).

7.5.2 Mitigation requirements should be amended along with the wetland classification system.

Currently, since wetland mitigation ratios in the Code are based on an outdated wetland rating system, a direct comparison with BAS mitigation ratios is not possible. For reference, existing mitigation ratios in WMC 21.24.350(7)(a) are listed in Table 10 below.

Table 9. Wetland mitigation ratios under the current city code.

Wetland Class	Creation or Restoration Ratio
Class 1	4 to 1
Class 2	2 to 1
Class 3	1.5 to 1

Current BAS-based wetland mitigation ratios (Appendix C, Table 8C-11) are tied to the current Ecology Rating System. Compensatory mitigation ratios for a wetland can be determined by wetland category and mitigation approach. This gives the applicant more mitigation options while focusing on maintaining wetland functions and values. See the summary in Table 11 below.

Table 40. Wetland mitigation ratios recommended by Ecology¹.

Category of Impact Wetland ²	Creation or Re-establishment	Rehabilitation	Enhancement
Category I: based on total score	4:1	8:1	16:1
Category I: Forested	6:1	12:1	24:1
Category I: Bogs	Not possible	Case-by-case	Case-by-case
Category II	3:1	6:1	12:1
Category III	2:1	4:1	8:1
Category IV	1.5:1	3:1	6:1

¹ *Wetlands and CAO Updates: Guidance for Small Cities* (Ecology 2012).

² Wetland categories based on Ecology Rating System.

Finally, buffer requirements for created wetlands are not clearly stated in the Code. To adequately protect mitigation wetlands, they should be subject to the same buffer requirements as existing wetlands.

7.6 Wetlands – Limited exemption (WMC 21.24.360).

7.6.1 Revise exemption criteria.

This section indicates that Class 3 wetlands less than 1,000 square feet may be exempted from City wetland regulations if determined “that the cumulative impacts do not unduly counteract the purposes of this chapter and are mitigated pursuant to an approved mitigation plan.”

However, BAS does not support exempting wetlands that are below a certain size. The reason for this is that it is not possible based on size alone to determine what functions a particular wetland may be providing. However, Ecology has developed a strategy for exempting wetlands less than 1,000 square feet when other criteria besides size are considered. Under this strategy, isolated Category III and IV wetlands less than 1,000 square feet that are not associated with riparian areas or buffers, are not part of a wetland mosaic, and do not contain essential habitat, may be exempted when a critical areas report demonstrates the above. See Appendix B, *Wetlands Guidance for Small Cities Western Washington Version*, pages A-3 and A-4 for more specific model language.

8 STREAMS (WMC 21.24.370 - 21.34.400)

The City's stream regulations should be updated to better align with current BAS. Several considerations for updates to stream designation and rating and development are discussed below.

Table 11. Streams review summary.

Code Section	Title	Review Comment / Recommendations*
21.24.370	Streams – Designation and rating.	<ul style="list-style-type: none"> Consider updating stream classification to use the Permanent Water Typing System (WAC 222-16-030).
21.24.380	Streams – Development standards.	<ul style="list-style-type: none"> If Permanent Water Typing System is adopted, amend stream buffer protocol. Consider allowing stream buffer averaging. Clarify where the “urban” stream designation might apply.
21.24.390	Streams – Permitted alterations.	<ul style="list-style-type: none"> Review permitted alterations to determine if common alterations consistent with BAS are permitted.
21.24.400	Streams – Mitigation requirements.	

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

8.1 Streams – Designation and rating (WMC 21.24.370).

8.1.1 Consider updating stream classification to use the Permanent Water Typing System (WAC 222-16-030).

To standardize stream classifications across the State, the Department of Natural Resources recommends adopting the Permanent Water Typing System (WAC 222-16-030). The Permanent Water Typing System is more descriptive and inclusive than the stream classification system defined in the current Code.

Table 13 below describes the Permanent Water Typing System.

Table 52. Permanent Water Typing System (WAC 222-16-030).

Permanent Water Typing	Brief Description	Full Description
Type S	Shoreline of the State	All waters, within their bank-full width, as inventoried as "shorelines of the state" under chapter 90.58 RCW and the rules promulgated pursuant to chapter 90.58 RCW including periodically inundated areas of their associated wetlands.
Type F	Fish bearing stream (may be	Segments of natural waters other than Type S Waters, which are within the bankfull widths of defined channels and periodically inundated areas of their associated wetlands, or within lakes, ponds, or impoundments having a surface area of 0.5 acre or

Permanent Water Typing	Brief Description	Full Description
	perennial or seasonal)	<p>greater at seasonal low water and which in any case contain fish habitat or are described by one of the following four categories:</p> <p>(a) Waters, which are diverted for domestic use by more than 10 residential or camping units or by a public accommodation facility licensed to serve more than 10 persons, where such diversion is determined by the department to be a valid appropriation of water and the only practical water source for such users. Such waters shall be considered to be Type F Water upstream from the point of such diversion for 1,500 feet or until the drainage area is reduced by 50 percent, whichever is less;</p> <p>(b) Waters, which are diverted for use by federal, state, tribal or private fish hatcheries. Such waters shall be considered Type F Water upstream from the point of diversion for 1,500 feet, including tributaries if highly significant for protection of downstream water quality. The department may allow additional harvest beyond the requirements of Type F Water designation provided the department determines after a landowner-requested on-site assessment by the department of fish and wildlife, department of ecology, the affected tribes and interested parties that:</p> <p>(i) The management practices proposed by the landowner will adequately protect water quality for the fish hatchery; and</p> <p>(ii) Such additional harvest meets the requirements of the water type designation that would apply in the absence of the hatchery;</p> <p>(c) Waters, which are within a federal, state, local, or private campground having more than 10 camping units: Provided, That the water shall not be considered to enter a campground until it reaches the boundary of the park lands available for public use and comes within 100 feet of a camping unit, trail or other park improvement;</p> <p>(d) Riverine ponds, wall-based channels, and other channel features that are used by fish for off-channel habitat. These areas are critical to the maintenance of optimum survival of fish. This habitat shall be identified based on the following criteria:</p> <p>(i) The site must be connected to a fish habitat stream and accessible during some period of the year; and</p> <p>(ii) The off-channel water must be accessible to fish.</p>
Type Np	Non-fish bearing perennial stream	All segments of natural waters within the bankfull width of defined channels that are perennial nonfish habitat streams. Perennial streams are flowing waters that do not go dry any time of a year of normal rainfall and include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.
Type Ns	Non-fish bearing seasonal stream	All segments of natural waters within the bankfull width of the defined channels that are not Type S, F, or Np Waters. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an above-ground channel system to Type S, F, or Np Waters.

It should be noted that the current City Code requires greater buffers on streams used by salmonids (Type 2), than streams containing other non-salmonid fish (Type 3). The permanent water typing system would result in equal treatment of all fish-bearing streams. Presence or absence of fish habitat should be determined using a current BAS approach consistent with WAC 222-16-030 and the Washington State Forest Practices Board Manual, Section 13.

8.2 Streams – Development standards (WMC 21.24.380).

8.2.1 If Permanent Water Typing System is adopted, amend stream buffer protocol.

As mentioned above in Subsection 8.1.1, the Department of Natural Resources recommends adopting the Permanent Water Typing System. If the City chooses to adopt the Permanent Water Typing System, the City will also need to amend its stream buffer protocol. Table 14 below provides sample buffer ranges under the Permanent Water Typing System derived from BAS and other local jurisdictions.

Table 63. Appropriate buffer ranges by stream type per BAS.

Stream Type	Sample Buffer Ranges (feet)
S	115 - 165
F	100 - 165
Np	50 - 65
Ns	50 - 65

Current stream types and buffer widths under City Code are compared to the BAS recommendation in the table below.

Table 14. A comparison of current and recommended stream types and buffer widths.

Stream Type		Sample Buffer Ranges (feet)	
Per City Code	Recommended by DNR	Per City Code	Recommended, BAS-based
1	S	115 ¹ - 150	115 - 165
2, 3	F	50 - 115	100 - 165
4	Np	35 - 50	50 - 65
4	Ns	35 - 50	50 - 65

¹ A 100-foot buffer may be allowed by the Development Services Director when a special study (based on BAS) determines that functions achieved in 100 feet are equal to the functions achieved in 115 feet for the site in question.

² Type S streams are regulated as Shorelines of the State under the City’s Shoreline Master Program (SMP). Under the SMP, existing conditions may warrant the use of buffers which more appropriately match the current land cover and land use conditions. This may be further evaluated in the Comprehensive Plan EIS.

Under the current City code, narrower buffer widths are allowed when the buffer is enhanced with native trees, shrubs and groundcover plants. This same approach may be used with the recommended BAS-based buffer width ranges listed in Table 15 above.

Additionally, among the more developed areas within the City of Woodinville, where existing development (e.g., roads or structures) interrupt buffer functions, it may be appropriate to limit the buffer requirement to the width waterward of the development.

8.2.2 Consider allowing stream buffer averaging.

Currently, the only general method for reducing a stream buffer is through buffer enhancement. Similar to the wetland regulations, the City could also allow stream buffer averaging as another alternative to provide applicants with more flexibility. Buffer averaging is particularly effective where wider buffers are applied to areas that would benefit from additional protections. For example, wider buffers would be beneficial in areas with steeper slopes, along a flowpath that concentrates runoff that may require broader areas for effective filtration, or to protect areas of large trees that contribute to temperature regulation and future large woody debris loading. Buffer averaging could also be used to help account for potential future channel migration.

8.2.3 Clarify where the “urban” stream designation might apply.

Currently the Code provides four criteria that must be met in order for a stream to be considered “urban.” However, the Code provides no indication of where in the City the “urban” designation might apply. Consider providing more clarity to applicants and City staff where the “urban” designation might apply (e.g. sub-basins where restoration opportunities are limited) or consider eliminating the urban designation and relying on non-conforming use standards and a standard that allows for buffer reduction where intervening structures or roadways truncate buffer functions. This alternative approach would better allow redevelopment in areas where buffer functions are already impaired by structures, while protecting buffer functions elsewhere.

8.2.4 Review permitted alterations to determine if common alterations are permitted.

The existing Code does not appear to allow certain common alterations that may occur with only minor impacts to buffer functions. Such alterations might include road expansion where no other feasible alternative exists or utility line placement provided there is restoration of conditions. Such alterations could occur consistent with BAS if sufficient mitigation is provided.

9 FISH AND WILDLIFE HABITAT CONSERVATION AREAS (WMC 21.24.410 - 21.24.440)

To better incorporate BAS into the fish and wildlife habitat conservation areas (FWHCAs) Code section several Code revisions are recommended (see Table 15).

Table 75. Fish and wildlife habitat conservation areas review summary.

Code Section	Title	Review Comment / Recommendations*
21.24.410	Fish and wildlife habitat conservation areas – Designation.	<ul style="list-style-type: none"> • Definition of “fish and wildlife habitat conservation areas” needs updating to match GMA definition. • Code does not currently include a list of species of local importance.
21.24.420	Fish and wildlife habitat conservation area report requirements.	<ul style="list-style-type: none"> • Specific critical area special study requirements for fish and wildlife habitat conservation areas are not included— consider including.
21.24.430	Fish and wildlife habitat conservation areas – Performance standards.	<ul style="list-style-type: none"> • Consider relocating existing regulations concerning habitat management plans. • Apply BAS in the decision to require an HMP. • Strengthen HMP requirements to better reflect BAS.
21.24.440	Fish and wildlife habitat conservation areas – Performance standards for specific habitats.	

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

9.1 Fish and wildlife habitat conservation areas – Designation (WMC 21.24.410).

9.1.1 Definition of “fish and wildlife habitat conservation areas” needs updating to match GMA definition.

The Code needs to be updated to reflect a revised version of the GMA definition of "fish and wildlife habitat conservation areas." The GMA definition now states that FWHCAs “does 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.”

9.1.2 Consider including a list of species of local importance.

While the current Code includes some specific priority species and habitats, a list of specific species and habitats of local importance is not provided. Species that

BAS suggests for consideration may include those that require a special habitat feature, PHS species, and high-risk (non-listed) species. Other jurisdictions include snag-dependent species: pileated woodpecker, Vaux’s swift (both State candidate species), and *myotis* bats. Riparian environments are unique habitat components and several Washington species of interest occur in the City.

A list of potential vulnerable species within the City that could be considered as species of local importance is provided in Table 16 below. Species of local importance are considered priorities for conservation and management. Species on the list below are likely to occur in Woodinville. Generating a list of species of local importance would accomplish several purposes. First, it would help planners to identify species that may possibly occur in the City and exclude those that are highly unlikely to. Second, species that have “candidate” or “monitor” status could be considered for inclusion, preempting continued declines and future listing. Finally, a list would clarify the status of species and simplify the definition of FWHCA to some extent.

Table 86. Recommended species of local importance list for the City of Woodinville.

Common Name	Scientific Name	Rationale or Species Status
Bald eagle	<i>Haliaeetus leucocephalus</i>	State status: sensitive Federal status: species of concern
Peregrine falcon	<i>Falco peregrines</i>	State status: sensitive Federal status: species of concern
Common loon	<i>Gavia immer</i>	State status: sensitive
Pileated woodpecker	<i>Dryocopus pileatus</i>	State status: candidate
Vaux’s swift	<i>Chaetura vauxi</i>	State status: candidate
Purple martin	<i>Progne subis</i>	State status: candidate
Western grebe	<i>Aechmophorus occidentalis</i>	State status: candidate
Great blue heron	<i>Ardea herodias</i>	WDFW - Priority species
Green heron	<i>Butorides striatus</i>	State status: monitor species
Western big-eared bat	<i>Plecotus townsendii</i>	State status: sensitive Federal status: species of concern
Keen’s myotis	<i>Myotis keenii</i>	WDFW - Priority species
Long-legged myotis	<i>Myotis volans</i>	WDFW - Priority species
Long-eared myotis	<i>Myotis evotis</i>	State status: candidate
Oregon spotted frog	<i>Rana pretiosa</i>	State status: endangered Federal status: candidate
Osprey	<i>Pandion haliaetus</i>	State status: monitor species
Western pond turtle	<i>Clemmys marmorata</i>	State status: endangered Federal status: species of concern
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	State status: sensitive Federal status: threatened
Bull trout	<i>Salvelinus confluentus</i>	State status: candidate Federal status: threatened
Coho salmon	<i>Oncorhynchus kisutch</i>	Federal status: species of concern

Common Name	Scientific Name	Rationale or Species Status
River lamprey	<i>Lampetra ayresi</i>	State status: candidate Federal status: species of concern

9.2 Fish and wildlife habitat conservation area report requirements (WMC 21.24.420).

9.2.1 Specific critical area special study requirements for fish and wildlife habitat conservation areas are not included—consider including.

This section states that requirements for critical areas reports for FWHCAs are available at the City planning department. Consider including the requirements directly into the Code to elevate their status and promote ease of access. And, as mentioned below, consider locating the first three regulations in Section WMC 21.24.430, which concern the preparation of habitat management plans, with the requirements for critical areas reports.

9.3 Fish and wildlife habitat conservation areas – Performance standards (WMC 21.24.430).

9.3.1 Consider relocating existing regulations concerning habitat management plans.

The first three regulations in Section WMC 21.24.430 concern the preparation of habitat management plans (HMPs). These regulations might be relocated with the critical areas report requirements.

9.3.2 Apply BAS in the decision to require an HMP.

Currently, an HMP is required when a FWHCA is on-site or within 200 feet of the subject property (WMC 21.24.430(3)(a)(ii)). However, recommended nest-site buffers for a number of PHS and listed species exceed this minimum, and thus 200 feet is not adequate for protection of these species. BAS should be applied in the decision to require an HMP. WDFW management recommendations exist for some species and may be used for guidance in requiring HMPs.

9.3.3 Strengthen HMP requirements to better reflect BAS.

The HMP requirements in this section could be strengthened to better reflect BAS. WDFW management recommendations may be useful in defining site- and species-specific performance standards. Performance standards refer to benchmarks by which effectiveness of implemented protection actions are measured. Performance standards in HMPs should focus specifically on pertinent habitat components, e.g., a plan that requires retained vegetation of a specific height should set a minimum height standard for retained trees. Other factors regarding habitat protection and management should be addressed in HMPs and may include mitigation sequencing, construction timing restrictions,

disturbance limits, line-of-sight standards, corridor preservation, and an analysis of habitat quality and distribution in the surrounding area.

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APPENDIX A

City of Woodinville Critical Areas Map

(See maps included in May 29, 2014 draft Environmental Element in Planning Commission packet. Also, available in Existing Conditions Report:
<http://www.ci.woodinville.wa.us/Work/ComprehensivePlan2015.asp>.)

A P P E N D I X B

**Wetlands and CAO Updates:
Guidance for Small Cities**
(Ecology 2012)

See Link to Wetlands & CAO Updates: Guidance for Small Cities (Western Washington Version), here: <https://fortress.wa.gov/ecy/publications/publications/1006002.pdf>

A P P E N D I X C

**Wetlands in Washington State –
Volume 2, Appendix 8C**
(Ecology 2005)

(See link available here:

<https://fortress.wa.gov/ecy/publications/publications/0506008.pdf>)