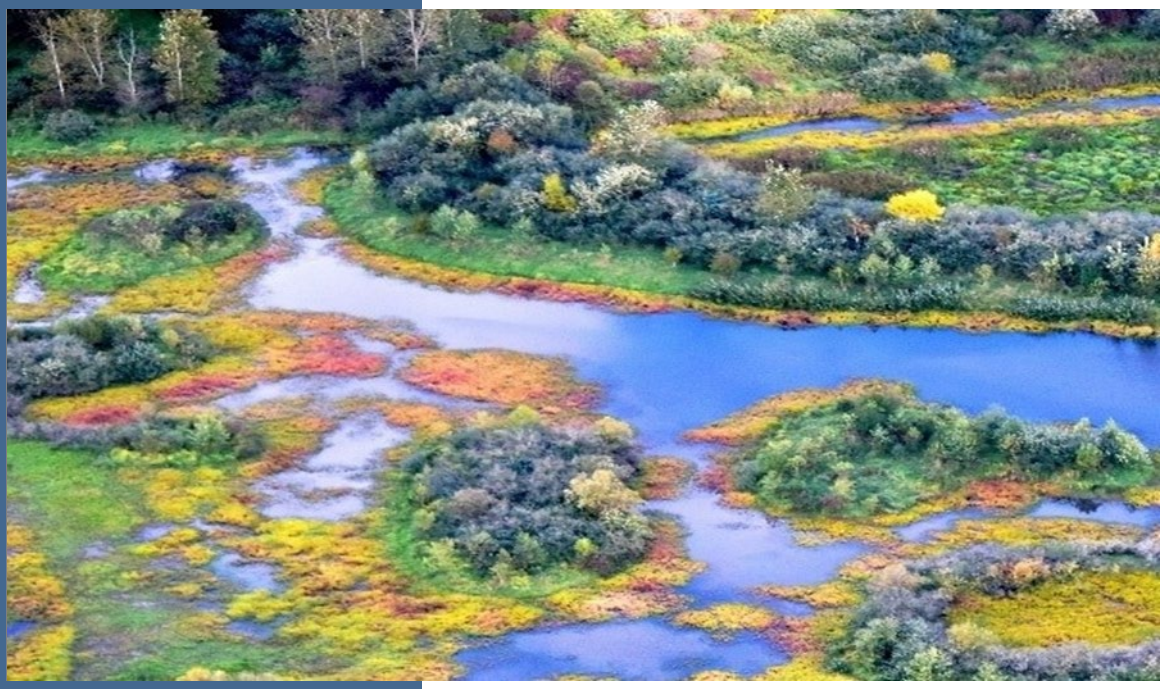


Wetland Guidance for Critical Areas Ordinance (CAO) Updates

Western and Eastern Washington

Shorelands and Environmental Assistance Program

Washington State Department of Ecology

Olympia, Washington

October 2022, Publication #22-06-014

DEPARTMENT OF ECOLOGY
State of Washington

Publication Information

This document is available on the Department of Ecology's website.[1]

Cover photo credit: *Snohomish Basin Mitigation Bank* by Long Bach Nguyen, habitatbank.com

Contact Information

Shorelands and Environmental Assistance Program
P.O. Box 47600
Olympia, WA 98504-7600
Phone: 360-407-6600

ADA Accessibility

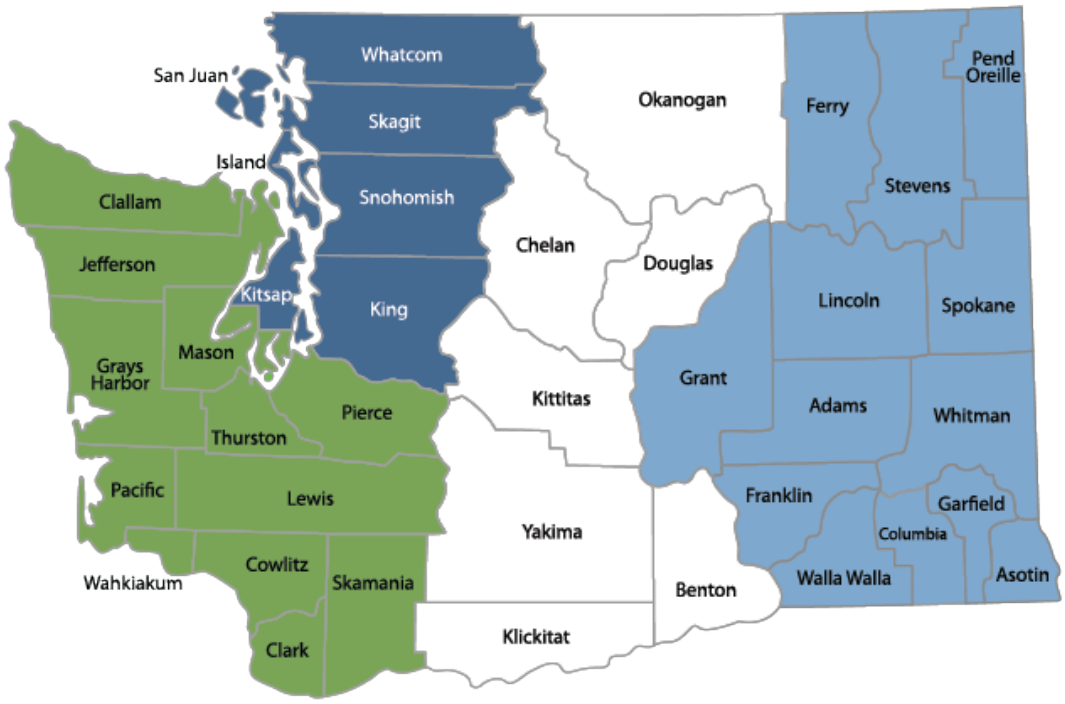
The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

To request an ADA accommodation, contact Ecology by phone at 360-407-6831 or email at ecyadacoordinator@ecy.wa.gov. For Washington Relay Service or TTY call 711 or 877-833-6341. Visit Ecology's website[2] for more information.

[1] https://apps.ecology.wa.gov/publications/summarypages/2206014.html
[2] https://ecology.wa.gov/accessibility

Department of Ecology's Regional Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 425-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	PO Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
Headquarters	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

page intentionally left blank

Table of Contents

Preface

This publication updates *Wetland Guidance for CAO Updates* (Western Washington and Eastern Washington) (Bunten et al., 2016a; Bunten et al., 2016b). It is informed by our earlier best available science (BAS) document, *Wetlands in Washington State - Volume 1: A Synthesis of the Science* (Sheldon et al., 2005) and stems from the guidance in *Wetlands in Washington State, Volume 2: Guidance for Protecting and Managing Wetlands* (Granger et al., 2005)—hereafter referred to as *Wetlands in Washington State, Volume 2*. This guidance is a concise and current representation of the many strategies and approaches for managing wetlands found in those earlier volumes. It combines both western and eastern Washington guidance into one document.

This guidance is for local jurisdictions working on designating and protecting wetlands as critical areas under the Washington State Growth Management Act (GMA).

In providing guidance to all jurisdictions of the state, the first issue we encounter is how to address the large differences among 320 jurisdictions—from the unique environments and variable climates across the state, and from small towns to large cities to counties. While these differences are complex and trigger a wide array of responses, the common trait they all have is a requirement to use BAS. Under the GMA, the regulatory approach to protection of wetlands as critical areas must be informed by BAS (WAC 365-190-080[3]).

In our role of supporting local jurisdictions, the Department of Ecology's Wetlands Section has worked to assemble, evaluate, and refine the most up-to-date scientific information available about the functions and values of wetlands. As part of this work, Ecology has provided information about the approaches, tools, and examples that are available to jurisdictions in their work to manage wetland resources. The suggestions here have evolved as BAS has evolved, and have changed as experience has given us a better understanding of the needs and questions faced by jurisdictions.

Science tells us that buffers are necessary to protect wetland functions and values. We recognize that a single buffer approach does not fit all situations. This guidance includes three different approaches to addressing buffers in the wetlands chapter of a critical areas ordinance (CAO). They range from the simplest (least flexible/most conservative) to the most detailed (adaptable/flexible). These approaches are different for wetlands in western and eastern Washington and are listed separately in Appendix C (Buffer Approaches for Western Washington) and Appendix D (Buffer Approaches for Eastern Washington).

[3] https://app.leg.wa.gov/wac/default.aspx?cite=365-190-080

The buffer recommendations contained herein are based on a moderate-risk approach. In this document, risk is addressed by tailoring the degree of protection to several factors the scientific literature says are important. The widths recommended in this guidance were selected from the middle of the range of buffers suggested in the literature. In combination with other strategies like limiting buffer reductions, buffer averaging, and exemptions, it represents a moderate-risk approach to determining buffer widths. To learn more about how Ecology evaluated these recommendations in the context of risk, see Wetlands in Washington State - Volume 2[4] (Section 1.8 and Appendix 8-E; Granger et al., 2005).

As you work on your CAO's wetlands chapter, Ecology can provide feedback, recommendations, guidance, and support. We recognize that each jurisdiction will have unique circumstances and needs. Ecology's wetland specialists can help identify appropriate protections for your jurisdiction and guide you to the available resources and tools. Contact Ecology wetland staff[5] for more information about using this guidance in your jurisdiction.

Specific changes in this updated guidance include:

- Reformatted buffer tables, including the incorporation of previous adjustments to the range of habitat scores based on review of the reference wetland data used to calibrate the Washington wetland rating system
- Updated and expanded minimization measures table for use with the buffer tables
- Improved correlation between the discussion and the sample regulations
- New section on functionally disconnected buffers
- Clarified corridor requirements and expanded applicability
- Clarified geographic scope of exemption guidance for small wetlands
- New language addressing agricultural activities in non-Voluntary Stewardship Program (VSP) jurisdictions
- Recommendations from the 2021 interagency wetland mitigation guidance document
- Updated links to resource documents and webpages
- Updated definitions
- New language addressing the role of wetland functions in mitigating climate change (e.g., carbon sequestration)

[4] https://apps.ecology.wa.gov/publications/summarypages/0506008.html
[5] https://ecology.wa.gov/Water-Shorelines/Wetlands/Tools-resources/Contacts-by-subject-region

Introduction

This publication is intended to help jurisdictions in the process of updating the wetlands chapter of their critical areas ordinance (CAO) to meet the Growth Management Act (GMA) requirements. Wetlands are one of the five types of critical areas identified in the GMA. The GMA requires specific protections for wetlands because they provide a wide variety of essential environmental benefits. Without protection or mitigation, even minor disturbances to wetlands can reduce or eliminate these benefits.

This document provides guidance, tools, and suggested language that can be useful in developing CAO's for wetland protection under the GMA. We recognize that many local governments lack the planning staff and resources necessary to develop and implement wetland standards that are both locally appropriate and based on best available science (BAS). However, all jurisdictions must comply with the GMA requirement to designate and protect wetlands and are required to substantively consider BAS during that process (WAC 365-190-080[6]).[7]

Wetlands play a vital role in the overall well-being of Washington State. Washington's wetlands protect water quality, reduce flooding, provide aquifer recharge for drinking water and other uses, and provide critical habitat for fish and wildlife as well as carbon sequestration. Wetlands also provide many social values including recreational opportunities, aesthetic benefits, sites for research and education, and cultural resources important to tribes.

The first part of this document describes important topics that should be addressed in the wetlands section of a CAO. It includes a discussion of wetland protections based on BAS. The second part, the Appendices, provide sample wetland regulation language (Appendix A), definitions that are commonly used in wetland regulations (Appendix B), buffer approaches for western and eastern Washington (Appendices C and D), and recommended mitigation ratio tables (Appendix E). Appendices C and D include three different buffer approaches for jurisdictions to choose from:

- Option 1 is Ecology's preferred recommendation for regulatory language that allows for the most flexibility for individual sites. Buffer widths are based on three factors: the wetland category, the level of impacts from adjacent land uses, and the functions or special characteristics of the wetland that need to be protected.
- Option 2 is a recommendation that provides for buffer widths based on wetland categories and the level of impact from adjacent land uses.
- Option 3 is a recommendation for buffers based on wetland category alone.

[6] https://app.leg.wa.gov/wac/default.aspx?cite=365-190-080

[7] For additional information see: WEAN, 122 Wn.App. at 171, citing HEAL, 96 Wn.App. at 532.

Aside from the buffer tables, all other recommendations in this guidance apply to both western and eastern Washington wetlands. Please note that the sample wetland regulations (Appendix A) will need to be tailored to your document or code naming and numbering system.

This document addresses only the wetland-specific aspects of critical areas management and protection and does not include recommendations related to other types of critical areas. Recommendations for the other critical area types can be found in Appendix A of the Critical Areas Handbook[8] (Commerce, 2018). In addition, some aspects of wetland management are subject to other laws, such as the State Environmental Policy Act (SEPA). For example, SEPA is the primary mechanism used to regulate the impacts of wetland development related to climate change. Because this document focuses only on the requirements of the GMA to designate and protect wetlands, Ecology advises localities to consult with legal counsel on the applicability of other laws to local wetland programs.

The recommendations in this document are intended to provide guidance for all local governments, but they may need to be tailored to fit individual circumstances. Factors to consider include the nature and extent of the wetland resources at risk, a city or county's rate of growth, the nature and level of impact from land uses in the jurisdiction, and the staffing resources available for a jurisdiction to implement and administer its CAO. If you have questions about which approach to choose, we encourage you to contact us so we can help you determine which is best suited to your community's needs. To find Ecology's wetland specialist for your area, see Ecology's Wetland contacts webpage.[9]

[8] https://www.commerce.wa.gov/serving-communities/growth-management/guidebooks-and-resources/
[9] https://ecology.wa.gov/Water-Shorelines/Wetlands/Tools-resources/Contacts-by-subject-region

Wetland BAS, Guidance, and Tools

Ecology produced best available science (BAS), guidance, and tools that can help local governments develop a comprehensive wetlands protection program for their jurisdictions. In 2005, Ecology and the Washington Department of Fish and Wildlife (WDFW) published a two-volume guidance document to help local governments protect and manage wetlands:

- Wetlands in Washington State, Volume 1: A Synthesis of the Science[10] (Sheldon et al., 2005). This BAS volume is the result of a review of over 17,000 scientific articles and synthesizes over 1,000 peer-reviewed works relevant to the management of Washington's wetlands.
- Wetlands in Washington State, Volume 2: Managing and Protecting Wetlands[11] (Granger et al., 2005). This volume was developed with the assistance of local government planners and wetland consultants. It can be used to craft regulatory language that is based on BAS.

In October 2013, Ecology published a BAS update pertaining to wetland buffers. The 2013 update on buffers provides a refinement of our knowledge and revisits and confirms the conclusions and key points in the 2005 synthesis:

- Update on Wetland Buffers: The State of the Science[12] (Hruby, 2013)

Ecology developed wetland rating systems for western and eastern Washington. The rating systems are useful tools for grouping wetlands that have similar needs for protection:

- Washington State Wetland Rating System for Western Washington: 2014 Update[13] (Hruby, 2014a)
- Washington State Wetland Rating System for Eastern Washington: 2014 Update[14] (Hruby, 2014b)

Ecology developed a manual that provides procedures to characterize compliance with wetland buffers that are required under regulations both at the state and local levels. It can be used by state agencies and local governments to characterize both the implementation and the effectiveness of their requirements for wetland buffers. The results can also be used to inform management decisions on policies and regulations regarding buffers:

- Characterizing Wetland Buffers[15] (Hruby et al., 2017)

[10] https://apps.ecology.wa.gov/publications/summarypages/0506006.html
[11] https://apps.ecology.wa.gov/publications/summarypages/0506008.html
[12] https://apps.ecology.wa.gov/publications/SummaryPages/1306011.html
[13] https://apps.ecology.wa.gov/publications/SummaryPages/1406029.html
[14] https://apps.ecology.wa.gov/publications/SummaryPages/1406030.html
[15] https://apps.ecology.wa.gov/publications/SummaryPages/1706008.html

Ecology, in coordination with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency, developed a two-part guidance document aimed at improving the quality and effectiveness of compensatory mitigation in Washington. Part 1 of this guidance was updated in 2021:

- Wetland Mitigation in Washington State–Part 1: Agency Policies and Guidance (Version 2)[16] (Ecology et al., 2021). Part 1 outlines the agencies' requirements and expectations for compensatory mitigation.
- Wetland Mitigation in Washington State–Part 2: Developing Mitigation Plans (Version 1)[17] (Ecology et al., 2006). Part 2 provides technical information on preparing plans for compensatory mitigation.

Ecology developed tools to improve the quality and adequacy of compensatory mitigation. These tools incorporate BAS-based approaches for selecting mitigation sites and evaluating the adequacy of compensatory mitigation:

- Selecting Wetland Mitigation Sites Using a Watershed Approach (Western Washington)[18] (Hruby et al., 2009)
- Selecting Wetland Mitigation Sites Using a Watershed Approach (Eastern Washington)[19] (Hruby et al., 2010)
- Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington[20] (Hruby, 2012a)
- Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Eastern Washington[21] (Hruby, 2012b)

[16] https://apps.ecology.wa.gov/publications/summarypages/2106003.html
[17] https://apps.ecology.wa.gov/publications/summarypages/0606011b.html
[18] https://apps.ecology.wa.gov/publications/SummaryPages/0906032.html
[19] https://apps.ecology.wa.gov/publications/SummaryPages/1006007.html
[20] https://apps.ecology.wa.gov/publications/summarypages/1006011.html
[21] https://apps.ecology.wa.gov/publications/summarypages/1106015.html

Watershed Characterization

Ecology develops and provides watershed characterization information to help inform local planning processes, such as comprehensive planning. Land use planning and permit decisions usually incorporate information gathered at the site but not the watershed as a whole. This means decisions are rarely informed by an understanding of ecosystem processes or watershed conditions. Over the long term this can result in cumulative impacts that significantly affect the health of terrestrial and aquatic ecosystems. Therefore, it is beneficial to plan in consideration of a broader watershed scale that may extend outside of your jurisdictional boundary.

Watershed characterization results can be used to help achieve a more functional and resilient watershed ecosystem, to identify and resolve areas of conflict between proposed land use actions and protection of watershed resources, and to identify the root cause of watershed issues to inform appropriate solutions. If a watershed characterization has been done for your jurisdiction, it can be used to inform development of your wetland regulations. For more information about implementing watershed characterization, contact Ecology's wetland critical areas ordinance review coordinator.

Ecology has a webpage that describes watershed characterization and provides links to examples of how land use planners and resource managers have used watershed characterization to develop watershed-based plans:

- Ecology's watershed characterization webpage[22]

For the entire Puget Sound drainage area—from the Olympic Mountains to the Cascades—Ecology developed a tool that identifies the most important areas, across the entire Sound and within each of the 19 Water Resource Inventory Areas (WRIAs), to protect and restore, and those areas more suitable for development:

- Puget Sound Watershed Characterization Project[23]

[22] https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Watershed-characterization-project/Watershed-characterization

[23] https://apps.ecology.wa.gov/coastalatlas/wc/landingpage.html

Relationship Between the Growth Management Act (GMA) and the Shoreline Management Act (SMA)

In this section we describe two approaches to establishing critical areas protections when updating a shoreline master program (SMP). One is to integrate the critical areas ordinance (CAO) provisions into the SMP, entirely or in part, by reference. This approach may create more uniformity within your regulations. The other option is to develop critical areas regulations specifically for the SMP. Under this second option, the existing CAO would not be incorporated into the SMP.

You should be aware that the SMP may affect some provisions of your CAO. For example, certain activities allowed under a permit exemption in the CAO may not qualify for exemption under the SMP. SMP exemptions are specified and limited to those listed in the SMA (Chapter 90.58 RCW[24]).

The SMA does not allow reasonable use exceptions, providing instead a variance pathway to afford regulatory relief. If you decide to incorporate your CAO wholly, or by reference, into your SMP, an update to the SMP will need to address this potential inconsistency.

In addition, activities allowed without permits under the CAO may require permits under the SMP. If you rely on the CAO for your regulatory provisions, you may need to create some limited exceptions in your SMP. You should carefully distinguish how the differences between the two are implemented. For example, a wetland impact in areas regulated by the SMP may need to be mitigated within shoreline jurisdiction. Ecology's wetlands and shorelines staff work closely together to address these kinds of complexities and are ready to help you navigate these issues.

Ecology's role in a CAO revision and adoption process is advisory when independent of the SMP. However, the SMP is a joint document of Ecology and the local government that requires Ecology approval. Before Ecology can approve the SMP, the CAO portion must meet the "no net loss of ecological functions" requirement and incorporate the most current, accurate, and complete scientific or technical information available (WAC 173-26-186[8][b][i][25] and WAC 173-26-201[2][a][26]). CAO regulations that do not meet the standards of the SMP Guidelines[27] must be changed to meet those standards before being incorporated into the SMP.

For assistance with CAO-SMP integration, you can find the Shoreline Planning and Permitting Staff contact information on Ecology's Shoreline Management Contacts webpage.[28]

[24] https://apps.leg.wa.gov/rcw/default.aspx?cite=90.58
[25] https://app.leg.wa.gov/wac/default.aspx?cite=173-26-186
[26] https://apps.leg.wa.gov/wac/default.aspx?cite=173-26-201
[27] https://apps.leg.wa.gov/WAC/default.aspx?cite=173-26
[28] https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Contacts

Your CAO Wetlands Chapter

Below we describe important subsections in the CAO wetlands chapter and include our recommendations for protecting wetlands based on the best available science (BAS).

Purpose

The wetlands section of a CAO typically begins with a purpose statement, followed by designation criteria, which include a definition of wetlands, the methods by which they are identified and rated, and other details listed below. The purpose statement may also state that this chapter is intended to be consistent with the requirements of Chapter 36-70A RCW[29] (the GMA) and implement the goals and policies of your comprehensive plan for protecting wetlands.

Definitions

Your CAO will need to include definitions for the wetlands chapter. You may use a separate list of definitions within the wetlands section, or the definitions may be included in the general definitions section of the CAO. Appendix B contains a list of definitions relevant to your wetlands chapter. This list includes terms identified in state law and agency guidance documents. Clarity and consistency in the use of these terms will make regulatory implementation easier.

Definition of wetlands

In designating wetlands for regulatory purposes, the GMA specifies the definition of wetlands as follows**:**

> "Wetland" or "wetlands" means areas that are inundated or saturated by surface water 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 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. (RCW 36-70A-030[31][30])

[29] https://apps.leg.wa.gov/rcw/default.aspx?cite=36.70a
[30] https://app.leg.wa.gov/RCW/default.aspx?cite=36.70A.030

Counties and cities are required to use the definition of wetlands in RCW 36-70A-030(31) without any changes.

Wetlands are subject to a local government's regulatory authority if they meet the criteria in this definition. This includes non-federally regulated wetlands (sometimes referred to as isolated wetlands). The GMA requires local governments to designate and protect wetlands and grants them the authority to do so—regardless of federal jurisdiction.

Wetland identification

Many jurisdictions use the National Wetland Inventory (NWI) to help determine whether wetlands exist within their boundaries. Wetlands were identified for the NWI using aerial photographs. In many areas of Washington, the NWI has not been updated since the original maps were created using imagery from the late 1970s-1980s. As with all maps generated by remote sensing, **the NWI cannot be used alone to designate wetlands**. Wetlands are dynamic systems that can change over time. Therefore, not all wetlands will appear on the NWI, and some wetlands that do appear may no longer be present or may have a different configuration.

Wetland delineation

State laws require that wetlands protected under the GMA and the Shoreline Management Act (SMA) be delineated using the U.S. Army Corps of Engineers' (Corps) manual (U.S. Army Corps of Engineers, 1987) that is adopted into statute (RCW 36-70A-175;[31] RCW 90-58-380[32]). The Corps updated and expanded its delineation manual with the addition of regional supplements. The following regional supplements are used in Washington:

- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (U.S. Army Corps of Engineers, 2008)
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (U.S. Army Corps of Engineers, 2010)

The regional supplements are used in conjunction with the federal delineation manual. To maintain consistency between the state and federal delineation of wetlands, Ecology updated the regulations (WAC 173-22-035[33]) to state that delineations shall be done according to the currently approved federal manual and regional supplements. **Therefore, the currently approved federal manual and applicable regional supplements (Western Mountains Valleys and Coasts, Arid West, or both) must be used for delineating wetlands in GMA jurisdictions,**

[31] https://apps.leg.wa.gov/rcw/default.aspx?cite=36.70A.175
[32] https://apps.leg.wa.gov/rcw/default.aspx?cite=90.58.380
[33] https://apps.leg.wa.gov/wac/default.aspx?cite=173-22-035

and local governments should refer to this requirement in their CAOs. The Corps' delineation manual and the regional supplements can be found on the Corps' delineation manual webpage.[34]

A wetland delineation should be performed by a qualified wetland professional.[35] The delineation should result in a wetland boundary clearly marked in the field and an accurate ground-verified map of the boundaries. This map should be created using either a professional survey or using an equivalent method such as Global Positioning System (GPS) with sub-meter accuracy. The map should also include an indication of where wetlands extend off site.

Wetland characterization

CAOs should include language that characterizes different wetlands, as wetland characteristics will be used in multiple ways—from assigning buffers to evaluating different types of mitigation.

Categorizing wetlands helps establish an appropriate level of protection that should be afforded to those wetlands. Ecology developed the Washington State Wetland Rating System, with versions for western Washington (Hruby, 2014a) and eastern Washington (Hruby, 2014b), as a useful tool for grouping wetlands that have similar needs for protection. Ecology's rating system provides a quick "snapshot" characterization of wetlands, evaluating them according to a standard methodology based on BAS. This system, which is based on a current understanding of wetland functions, helps determine what is needed to protect wetlands on a case-by-case basis. It helps inform land-use planning decisions and the review of individual development proposals.

Local governments are not required to use Ecology's rating system to characterize wetlands, but if a local government uses a different wetland rating system, it must consider the criteria described in WAC 365-190-090(3)[36] and use a system that is based on BAS.

While you are not required by law to use Ecology's rating system, we strongly encourage you to adopt wetland regulations that require its use. Most jurisdictions and qualified wetland professionals are already using the rating system. In cases where state and federal permits are required, the use of the rating system will greatly assist applicants by eliminating the need to also rate wetlands according to a different local standard.

Creation of a different rating system is a complex, time-consuming (and therefore costly) process. Ecology has dedicated a large amount of resources to the creation of its rating system

[34] https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg_supp/
[35] https://ecology.wa.gov/Water-Shorelines/Wetlands/Tools-resources/Hiring-a-qualified-wetland-professional
[36] https://app.leg.wa.gov/wac/default.aspx?cite=365-190-090

using the most up-to-date BAS in order to remove the need for local governments to produce this level of work. Using Ecology's rating system is the most cost-efficient and readily accessible method available for local jurisdictions.

Use of wetland ratings, categories, and scores in the sample wetland regulations and appendices in this document are based on the Washington State wetland rating systems. If a different wetland rating system is used, the language in the sample wetland regulations (Appendix A) would be incompatible. Alternative language consistent with BAS would need to be developed, per the requirements of the GMA.

Wetlands inventory and pre-assessment

Conducting a wetlands inventory proactively may provide valuable information and benefits for local jurisdictions. This approach includes an accurate identification of some or all of the wetlands within a jurisdiction. In addition to the location of wetlands, a jurisdiction may benefit by applying wetland ratings. The jurisdiction would use the same wetland rating system, federal wetland delineation manual, and applicable regional supplements as would be required of applicants.

A map of wetland locations and pre-assessed ratings can provide valuable information to both planning staff and the public. Developing wetland maps and ratings can be resource-intensive to initiate, but such information will allow rapid review of development proposals and can help a jurisdiction prioritize areas for preservation or acquisition. It could also be accessed by land managers, developers, and property owners to facilitate more predictability in the permitting process. At least one jurisdiction has used pre-assessment to consider and support environmental justice and equitable access by providing valuable delineation information to local communities who may have economic, technological, and other barriers to accessing the data.

An inventory and pre-assessment approach is consistent with BAS. It can support the development of a broad approach to managing and protecting wetlands in your jurisdiction. Such an analysis also facilitates and informs long-range planning. The cities of Aberdeen and Sequim have used this approach in their previous CAO updates.

Older assessments will need to be revisited periodically because wetland delineations and ratings are generally considered valid for five years. However, updating existing information is an easier task than the initial assessment.

Regulated uses and activities

Your wetlands chapter should list uses and activities that are regulated under the CAO. These include vegetation removal, excavation, grading, discharging, filling or dredging of material of any kind; draining, flooding or altering the wetland water level or water table; the construction, reconstruction, demolition or expansion of any structure; etc. More extensive examples are provided in Sections 030 and 040 of Appendix A, Sample Wetland Regulations.

In general, changes in land use that would adversely affect wetland functions or established buffers, or eliminate portions of wetlands or buffers as the result of fill or grading, are the most significant[37] impacts to ecological functions. These activities will be regulated by the CAO, and appropriate protection standards (such as buffer requirements and mitigation sequencing) are required to minimize the loss of wetland area and function.

Wetlands are often impacted by unauthorized clearing and grading that takes place before application for development permits. You should make sure your CAO adequately regulates clearing, grading, and other land modifications. Your CAO should also include enforcement provisions for those activities conducted prior to approval.

Allowed uses, exemptions, and exceptions

CAOs typically contain a section that lists allowed uses, exemptions, and exceptions. Since they may not be required to obtain permits or undergo formal review, these activities should be limited to those actions that have little or no environmental effect or are in response to an emergency that threatens public health or safety.

Allowed uses

Your wetlands section should identify those activities in wetlands or buffers that are generally allowed (not regulated), those that are regulated through permits, and those that are regulated but exempt from permit requirements. In the case of emergency response activities affecting wetlands and/or buffers, the responsible party should be required to obtain after-the-fact permits and to rectify impacts. Some jurisdictions place the permit exemptions in a section near the beginning of the CAO. However, some exemptions may apply only to wetlands, so it may be more practical to have these specific exemptions in the wetlands chapter.

Exemptions

Exempt activities within your wetlands section should be restricted to those that will not have a significant impact on a wetland's structure and function (including its water, soil, or vegetation) or those that are expected to result in only short-term effects. Local governments should consider the potential for cumulative impacts from exempted activities. Cumulative impacts

[37] For context on what constitutes a significant impact see the SEPA definition of the term "significant" in WAC 197-11-794.

can result in a loss of wetland area and function that are not replaced through compensatory mitigation. Local governments should also be aware that some of these exempt activities and their impacts could be subject to the requirements of SEPA or other regulations.

Permit exemptions need to be supported by the scientific literature and be carefully stated to minimize adverse impacts. A local government cannot assume that a particular use or activity should be exempted from the regulatory process in the absence of science to support the exemption. The language needs to clearly state whether a given activity is exempt from applicable standards in the code or whether it is exempt only from needing a permit but still needs to comply with the code. Exemptions need to be limited and construed narrowly.

The scientific literature does not support exempting wetlands from the requirement to avoid or compensate for impacts based solely on size. While we recognize an administrative desire to place size thresholds on wetlands that are to be regulated, be aware that it is not possible to conclude from size alone what functions a particular wetland may be providing. That said, not all wetlands are equal in terms of their functions and values, or their ability to be replaced through compensatory mitigation.

It is reasonable, in the context of mitigation sequencing, to create some flexibility in dealing with small, low-functioning wetlands in some cases. The exemption language in Appendix A, Sample Wetland Regulations, offers an approach that includes appropriate safeguards and science-based limitations that minimize risk to wetland resources. It is limited to those wetlands where the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region[38] (U.S. Army Corps of Engineers, 2010) is applicable.

Impacts to small wetlands are NOT exempt from the requirement to provide compensatory mitigation—regardless of the wetlands' size, location, or category.

It is our experience that wetlands, in general, are less common in areas covered by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region[39] (U.S. Army Corps of Engineers, 2008). Wetlands in this geographic region, regardless of size, play an outsized role due to their rarity in the landscape. An exemption based on size or functions is not appropriate in this region.

If a mitigation bank or in-lieu fee program is available in your area, these mitigation alternatives can help prevent a net loss of wetland function and area in the watershed from impacts to small wetlands in your jurisdiction (see page 27 for additional information on these programmatic mitigation alternatives).

[38] https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7646
[39] https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7627

For more information on exemptions, please refer to Chapter 8, Section 8.3.3 of Wetlands in Washington State, Volume 2 (Granger et al., 2005).[40]

Exceptions

Exceptions for public actions are typically addressed differently from exemptions or allowed uses. This category is generally reserved for public agency projects that may have inherent constraints on aspects like location and methodology. One example would be public utilities.

If the application of the critical areas regulations would prohibit a development proposal by a public agency or utility, the CAO may allow the agency or utility to apply for an exception. Exceptions should include criteria for review and approval and may be similar to those found in variance provisions or through a reasonable use exemption process. Exceptions should address mitigation sequencing.

For more information about exceptions, see Chapter 3 of the Critical Areas Assistance Handbook[41] (Commerce, 2018).

Forest practices

Most forest practices (Class I, II, and III, as defined in Chapter 76-09 RCW[42]) are exempted from the provisions of the wetlands chapter in the CAO. These activities are regulated through Chapter 76-09 RCW, the Forest Practices Act. Lands on which forest practices are performed under WA Department of Natural Resources (WA DNR) approved permits are automatically subject to a six-year development moratorium. Local governments have the authority to lift the moratorium through a SEPA action (WAC 197-11-938[43]). If such a process is undertaken, the local government should ensure that its SEPA determination includes conditions to restore any impacts to wetlands or their buffers that resulted from the forest practice. Wetland and buffer protections are important for offsetting the loss of habitat, filtration, and climate change mitigation functions that can result from loss of forest land.

Class IV general forest practices should also be regulated. Class IV activities constitute an intentional conversion from forestry to some other use. The local government should attach permit conditions as needed to ensure forest practice permits are consistent with CAO wetland and buffer protections. Restoration actions (e.g., replanting, road removal, etc.) may be necessary to achieve compliance.

[40] https://apps.ecology.wa.gov/publications/summarypages/0506008.html
[41] https://www.commerce.wa.gov/serving-communities/growth-management/guidebooks-and-resources/
[42] http://apps.leg.wa.gov/rcw/default.aspx?cite=76.09
[43] https://apps.leg.wa.gov/wac/default.aspx?cite=197-11&full=true

Agricultural activities

In 2011 the Washington State Legislature created the Voluntary Stewardship Program (VSP) as an alternative for meeting GMA requirements related to protecting critical areas in the context of existing agricultural lands. **The VSP applies only to counties that have opted into the program.** Counties that have opted into VSP address critical area issues related to agriculture through a VSP work plan. For more information on this program, see the Washington State Conservation Commission's VSP webpage.[44] **The VSP does not apply to cities or towns.** If you are a city or town—even in VSP counties—you will need to regulate agricultural activities that affect critical areas in your CAO (see RCW 36-70A-710[45]).

Regardless of VSP status, new agricultural activities on lands not previously in agricultural use are subject to wetland regulations. Clearing and grading for new agricultural activities on lands that are wetlands or their buffers and were not previously cultivated or managed for agriculture need to be regulated. Such actions can eliminate habitat, water filtration, flood control, and groundwater recharge functions that wetlands and their buffers provide. Disturbing wetlands to support new agricultural operations can also release significant amounts of carbon into the atmosphere that undisturbed soils and vegetation sequester from the environment.

Ecology recommends that non-VSP jurisdictions include specific language to address agricultural activities as suggested in the sample wetland regulations in Appendix A of this guidance. Example topics for non-VSP jurisdictions to address are described below and include: existing and ongoing agricultural activities, irrigation-induced wetlands, and prior converted croplands.

Existing and ongoing agricultural activities

Existing and ongoing agricultural activities are often exempted from the provisions of a CAO. These activities should be clearly defined and should not include: removing trees, diverting or impounding water, excavation, ditching, draining, culverting, filling, grading, or similar activities that introduce adverse impacts to wetlands. Maintenance of agricultural ditches—those channels created solely for agricultural irrigation (not a channelized stream)—should be limited to removing sediment in existing ditches to a depth specified by your jurisdiction. Wetlands that are not currently in agricultural use that are converted to an agricultural use are subject to the same regulations that govern new development.

For existing and ongoing agricultural activities in non-VSP jurisdictions, Ecology encourages the use of Natural Resource Conservation Service (NRCS) Best Management Practices (BMPs), farm conservation plans, and incentive-based programs to improve agricultural practices in and near

[44] https://www.scc.wa.gov/vsp
[45] https://app.leg.wa.gov/RCW/default.aspx?cite=36.70A.710

wetlands. The goal of the BMPs should be to ensure that ongoing agricultural activities in non-VSP jurisdictions minimize their effects on wetlands, water quality, riparian ecology, salmonid populations, and wildlife habitat. For more information on the NRCS resources, see their Conservation Practice Standards webpage.[46]

Irrigation-induced wetlands

Some wetlands in agricultural settings may include irrigation-induced wetlands. Irrigation projects, such as the Irrigation District ditches in Sequim or the Columbia Basin Irrigation Project in eastern Washington, can result in human-created wetlands. Wetlands that are within irrigation ditches that were intentionally created in uplands are exempt from regulation by definition.

Sometimes, however, irrigation practices will augment natural sources of water and result in creation or expansion of wetlands. If the creation or expansion of a wetland is the unintentional by-product of irrigation activities, the wetland needs to be regulated. However, if a wetland were to disappear as the result of a change in irrigation practices, its loss would not be regulated. Many wetlands will not disappear completely as a result of local changes in irrigation practices because natural sources of water or regional irrigation influences will continue. For more information, see Ecology's Irrigation-influenced wetlands webpage.[47]

Prior Converted Croplands

Prior converted croplands (PCC) are wetlands that, prior to December 23, 1985, were drained or otherwise manipulated to enable production of an agricultural commodity crop. State laws continue to regulate PCCs as wetlands if they meet the definition of wetlands **and** a change of use from agriculture is proposed. Please see Ecology's Prior converted croplands webpage[48] for more information.

[46] https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards
[47] https://ecology.wa.gov/Water-Shorelines/Wetlands/Regulations/State-regulations/Irrigation-influenced-wetlands
[48] https://ecology.wa.gov/Water-Shorelines/Wetlands/Regulations/State-regulations/Prior-converted-croplands

page intentionally left blank

Protecting Wetland Functions

The current general approach to wetland regulation at the local level can be summarized as: avoid, buffer, compensate, and secure. This means:

- Avoid direct impacts to a wetland and its buffer to the extent practicable by allowing impacts only when there is no reasonable alternative.
- Buffer wetlands from impacts of adjacent land use through the retention of vegetated upland surrounding the wetland.
- Compensate for unavoidable impacts by requiring the replacement of wetland and/or buffer area and function through the restoration, creation, preservation, and/or enhancement of wetlands and/or their buffers
- Secure long-term protection of wetlands and their buffer areas through legal mechanisms.

The following paragraphs discuss key elements that should be addressed in the regulatory component of any local government's wetland program. For examples of recommended code language for each of these elements, please refer to Appendix A.

Mitigation sequencing

Applicants are required by state and federal regulatory agencies to show they have followed mitigation sequencing and have first avoided and minimized impacts to wetlands wherever practicable. Your CAO needs to include the definition of mitigation from Chapter 197-11 WAC[49] and a requirement for applicants to demonstrate that they have applied mitigation sequencing. For more information and sample checklists, see Ecology's Avoidance and Minimization webpage.[50]

Your CAO will need to include requirements on how to prevent or reduce impacts to wetlands. When an alteration to a wetland is proposed, mitigation will need to be implemented in the following order (WAC 197-11-768[51]):

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

[49] https://app.leg.wa.gov/WAC/default.aspx?cite=197-11
[50] https://ecology.wa.gov/Water-Shorelines/Wetlands/Mitigation/Avoidance-and-minimization
[51] https://app.leg.wa.gov/wac/default.aspx?cite=197-11-768

3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or
6. Monitoring the impact and taking appropriate corrective measures.

Buffers

Buffers are vegetated areas adjacent to wetlands that can reduce impacts from adjacent land uses through various physical, chemical, and/or biological processes. **The scientific literature is clear that buffers are necessary to protect wetland functions and values**. Buffers also provide their own habitat, water quality and quantity, and climate change mitigation (e.g., carbon sequestration) values independent of wetlands. Buffers are among the most important tools we have for protecting wetlands at the site level in Washington. The intent of this buffer guidance is to provide a predictable, reasonable, and straightforward approach for establishing buffers based on BAS. The literature consistently reports that the primary factors to evaluate in determining appropriate buffer widths are:

- The wetland type and the functions needing protection
- The types of adjacent land use and their expected impacts
- The characteristics of the buffer area (slope, soils, vegetation)

The recommended widths of buffers vary widely based on these three factors. For example, providing filtration of coarse sediment from residential development next to a low-quality wetland would require only a relatively flat buffer of dense grasses or forest/shrub vegetation in the range of 20 to 30 feet. However, providing forage and nesting habitat for common wetland-dependent species such as waterfowl or amphibians in a high-quality wetland adjacent to residential development would require a buffer vegetated with native trees and shrubs in the range of 200 to 300 feet. This illustrates the necessity of using an approach to buffers that incorporates a wetland's category and its functions (based on an appropriate rating system), types of land use, and the environmental characteristics of the existing buffer.

Ecology's buffer recommendations are based on a moderate-risk approach to protecting wetland functions. This means that by adopting Ecology's recommendations, there is a moderate risk that wetland functions will be impacted. Adopting narrower buffers represents a higher-risk approach, and you need to be prepared to justify, using BAS, why such an approach is necessary and to offer alternative means of protecting wetland functions that help reduce the risk.

Jurisdictions may choose to adopt a lower-risk approach. Implementation of such an approach should be based on BAS, and may necessitate such things as wider buffers with limited exemptions, exceptions, and averaging; and no administrative buffer reductions.

Ecology's buffer recommendations are based on the assumption that the buffer area is well vegetated with native species appropriate to the ecoregion. If the required buffer area does not consist of native vegetation adequate to provide the necessary protection, then either the buffer area should be planted or the buffer width should be increased (i.e., buffers should not be reduced in exchange for planting them). Planting a buffer with sufficient vegetation avoids an increase in buffer width.

Your CAO will require buffers for activities that impact wetland functions. Ecology's current buffer recommendations were first presented in *Wetlands in Washington State, Volume 2* (see the July 2018 modified Appendix 8-C [western WA][52] and Appendix 8-D [eastern WA][53] for reference). The present document collates the information from *Wetlands in Washington State, Volume 2,* and *Wetland Guidance for CAO Updates* (Western Washington and Eastern Washington) (Bunten et al., 2016a and 2016b), and provides further clarification and detail.

This document presents three different regulatory approaches to buffers—from Ecology's preferred recommendation of flexible and adaptive but complex, to the most rigid but simple.

These three different regulatory approaches provide ready-to-adopt buffer strategies, depending on your situation as explained below. The different buffer approaches are listed in Appendix C (western) and Appendix D (eastern) of this document. The buffer tables are in a format that you can adopt without additional study or documentation. The options are derived from *Wetlands in Washington State, Volume 2*. Buffer Option 1 is Ecology's preferred recommendation**.** Buffer Options 2 or 3, however, may be preferable for your jurisdiction. Each option is presented with language specific to western or eastern Washington in the appendices.

Buffer Option 1

This approach provides the most flexibility and site-specific buffers. Buffer widths are based on three factors: the wetland category, the level of impacts from adjacent land uses, and the functions or special characteristics of the wetland that need to be protected. Wetland category, functions, and special characteristics are determined by Ecology's wetland rating system (Hruby, 2014a; Hruby 2014b).

The buffer widths in Option 1 are larger for wetlands with higher habitat scores because BAS indicates habitat is the function that requires the largest buffer widths. Wetlands with higher

[52] https://apps.ecology.wa.gov/publications/parts/0506008part3.pdf
[53] https://apps.ecology.wa.gov/publications/parts/0506008part4.pdf

habitat scores are more likely to be in a less disturbed condition and require greater protection to maintain the habitat functions on site.

This approach includes options to reduce the buffer through provision of a habitat corridor and implementation of minimization measures to reduce the level of impact from the adjacent land use (whether proposed or existing). This is the best option for assigning buffers based on the potential for a wetland to provide functions and values and its need for protection. Using Option 1 also provides for the ability to vary the buffer widths through buffer averaging. See Appendix C (western) or Appendix D (eastern) for details on buffer Option 1.

In Option 1, the buffer widths in Table 1 require the use of the minimizing measures listed in Table 2 and provision of a corridor. These criteria allow for the reduced buffer widths listed in Table 1. Use the wider buffers in Table 3 when these criteria are not met. It is important to note that the reduced buffer widths associated with Table 1 **should not be used in conjunction with other reductions or variances** that are discussed below.

As noted above, Option 1 requires the protection of a habitat corridor, such as a stream corridor. The corridor should have a minimum width of 100' and connect wetlands that score 6 or more habitat points with any of the following:

- A legally protected, relatively undisturbed and vegetated area (e.g., Priority Habitats, other compensation sites, wildlife areas/refuges, or national, county and state parks where they have management plans with identified areas designated as Natural, Natural Forest, or Natural Area Preserve)
- An area that is the site of a Watershed Project identified within and fully consistent with a Watershed Plan, as these terms are defined by RCW 89-08-460[54]
- An area where development is prohibited per the provisions of the local shoreline master program
- An area with equivalent habitat quality that has conservation status in perpetuity, in consultation with WDFW

This requirement is particularly applicable in large or rural jurisdictions where it may be possible to provide species with access to other habitats to meet their life cycle needs. The wider buffers in Table 3 allow for greater potential for species to access other habitats to meet their life cycle needs while reductions in buffers reduce that potential. If a buffer reduction is allowed, there is no assurance that these species will have adequate access to habitat without providing a connective corridor. There may be other circumstances that would allow for the

[54] https://app.leg.wa.gov/rcw/default.aspx?cite=89.08.460

implementation of habitat corridors based on your local conditions. Ecology can work with you to identify these circumstances.

In urban areas, the best solution is a landscape-based approach that takes into account actual species use and spatial arrangement and connectivity of habitats. Without such an approach, jurisdictions should use the guidance provided in Appendix A, Sample Wetland Regulations.

Option 1 considerations

Option 1 buffer tables do not consider land-use impact in the buffer calculation since it is presumed that most urban and many rural land uses will be high or moderate impact. However, if your jurisdiction has uses or developments that can be considered low impact, such as a passive recreation area or nature park with unpaved trails, you may wish to prescribe a narrower buffer adjacent to the low-impact use only. The buffer width for any area should be no less than 75 percent of the otherwise required buffer width. Such a "low-impact" buffer is not appropriate for urban residential, commercial, or industrial uses. If your jurisdiction includes extensive areas of low-impact land uses such as large parklands or natural preserves, you may want to consider using the graduated buffer tables in Appendices 8-C or 8-D of *Wetlands in Washington State, Volume 2*, as described below.

Some wetlands with special characteristics listed in the buffer tables may not be present in your jurisdiction (e.g., wetlands in coastal lagoons, interdunal wetlands, etc.). If you are certain that these wetlands do not occur within your jurisdiction and would not be introduced by future annexations, you can remove those wetland types from the buffer tables.

An expanded table with graduated buffer widths based on habitat score is also outlined in the July 2018 Appendix 8-C (western WA)[55] and Appendix 8-D (eastern WA)[56] of *Wetlands in Washington State, Volume 2*. This is an approach for those jurisdictions that prefer to have more gradual steps in buffer widths based on individual habitat scores rather than groupings. This expanded table is not included in the present document out of a desire for simplicity and the fact that it is not commonly used.

Buffer Option 2

Widths in this option are based on wetland category as determined by Ecology's wetland rating system (Hruby, 2014a; Hruby 2014b) and the level of impact from the adjacent proposed or existing land use.

This second option decreases regulatory flexibility by eliminating the options for buffer averaging and buffer reductions through the provision of corridors and minimization measures. It includes recognition that not all proposed changes in land uses have the same level of impact.

[55] https://apps.ecology.wa.gov/publications/parts/0506008part3.pdf
[56] https://apps.ecology.wa.gov/publications/parts/0506008part4.pdf

For example, one new residence being built on five acres of land near a wetland is expected to have a smaller impact than 20 houses built on the same five acres. Three categories of impacts from proposed land uses are outlined in Option 2: land uses that can create high impacts, moderate impacts, or low impacts to wetlands. Use of this alternative necessitates inclusion of a table with levels of impacts from proposed land use types, which is included in Appendices C and D.

Buffer Option 3

The width of buffers in this option is based solely on the category of the wetland as determined by Ecology's wetland rating system (Hruby, 2014a; Hruby 2014b). It is the simplest to administer; however, it is the least flexible. Under this option, buffers need to be large enough to protect the most-sensitive wetlands from the most-damaging land use impacts.

Option 3 provides the least flexibility because all types of adjacent land uses are considered at the same level of impact when assigning buffer widths, without regard for a wetland's habitat score. The widths recommended for this option are those needed to protect the wetland from adjacent, high-intensity land uses since no distinctions between levels of impact are made.

Jurisdictions with limited staff or wetland types may prefer to use this method even though it is the least flexible. Note that with this option, Category III wetlands with high habitat function (8-9 points) will not have a sufficiently wide buffer for adequate protection. Jurisdictions should determine whether Category III wetlands with high habitat function are likely present. If so, adjustments to the buffer table may be needed.

Functionally disconnected buffer areas

In some cases, regulatory buffers include areas that are functionally disconnected from the wetland. This means that existing, legally established development blocks the protective measures that a buffer provides and increasing the buffer on the far side of the development would add no protective benefit. A local CAO should anticipate these situations and provide clear direction on how to address them. The most effective provisions provide specific criteria to reduce uncertainty about how to determine whether a given area is functionally disconnected.

You should exercise care to differentiate minor developments from significant developments that completely block wetland buffer functions. Examples of minor developments that do not fully block buffer functions include trails, minor accessory structures, paths, and driveways serving a single residence. Significant developments that are unquestionably a complete barrier to the functions of the buffer area include built public infrastructure such as paved roads and railroads, and private developments such as houses or commercial structures. In addition, you should evaluate whether the interruption will affect the entirety of the buffer. Individual

structures may not fully interrupt buffer function. In such cases, the allowable buffer exclusion should be limited in scope to just that portion of the buffer that is affected.

Signs and fencing

Installation of signs and fencing are recommended methods of ensuring protection of wetlands and their buffers. During the construction phase, constructing a temporary sediment fence or "clearing limits" fence helps to ensure that the boundary is seen by equipment operators and that the wetland and buffer are protected from erosion during construction. Following construction, a permanent, wildlife-friendly fence is generally necessary to demarcate the outer boundary of the buffer and to limit human and pet access.

Placement of signs along the buffer boundary is important for two reasons: to help mark the boundary, and to help educate landowners about the purpose and value of protecting buffer areas. In areas with high potential for human intrusion and degradation of the buffer, more extensive signage explaining the value of the buffer may be necessary to develop support for protecting the buffer. Care should be taken to develop effective and accessible signage that is easily understood by all members of the community. Such an approach supports a jurisdiction's environmental justice efforts and nondiscrimination obligations.

Buffer averaging

Local governments can allow buffer widths to vary in certain circumstances. This may be reasonable if your standard buffers are adequate. The width of buffers may be averaged if this will improve the protection of wetland functions or if it is the only way to allow for reasonable use of a parcel. Buffer averaging should not be combined with other buffer reductions.

We recommend that a request for buffer averaging include a wetland report. The report should be prepared by a qualified wetland professional describing the current functions of the wetland and its buffer, and the measures that will be taken to ensure that there is no loss of wetland or buffer function due to the buffer averaging. The width of the buffer at any given point after averaging should be no narrower than 75 percent of the standard buffer, and the total area of the buffer after averaging should be equal to that of the standard buffer before averaging. This means that part of the buffer will be wider to account for the area lost where the buffer was narrowed.

Compensatory mitigation for wetland impacts

Wetland impacts must be avoided and minimized to the greatest extent practicable. **Unavoidable impacts to wetlands must be offset by compensatory mitigation to achieve no net loss of wetland function.** Your CAO should include standards for the type, location, amount, and timing of the compensatory mitigation. It should include clear guidance on the design considerations and reporting requirements for mitigation plans.

In 2008, the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) issued a federal rule governing compensatory mitigation. This rule established comprehensive standards for all types of mitigation under the Clean Water Act Section 404 Regulatory Program. For more information on the federal rule, see the EPA's Background about Compensatory Mitigation Requirements under CWA Section 404.[57]

Ecology, the Corps, and the EPA recently updated the state interagency mitigation guidance, which includes requirements from the federal rule and other advances in mitigation policies and tools. The updated guidance contains the policies and requirements for compensatory mitigation under both state and federal regulations. For example, compensatory mitigation should be permanently protected and include appropriate perimeter buffers. We urge all jurisdictions to consult both parts of the interagency guidance on mitigation: Wetland Mitigation in Washington State, Part 1 - Agency Policies and Guidance[58] (Ecology et al., 2021) and Developing Mitigation Plans[59] (Ecology et al., 2006). We recommend referring to Ecology's Interagency wetland mitigation guidance webpage[60] to make sure you are using the most up-to-date versions of the mitigation guidance.

By adopting mitigation standards based on the state and federal guidance and rules, you will be providing consistency for applicants who also apply for state and federal permits.

Approaches to compensatory mitigation

Applicants with unavoidable impacts to wetlands have options for meeting their compensatory mitigation requirements. The options for compensatory mitigation generally fall into two categories—programmatic approaches and permittee-responsible approaches—and are based on who bears the responsibility for successfully establishing the compensatory mitigation site. These are described as follows:

- Programmatic mitigation: the permittee pays a third-party sponsor to assume responsibility for successfully compensating for unavoidable impacts.
- Permittee-responsible mitigation (PRM): the permittee retains full responsibility to successfully compensate for unavoidable impacts.

[57] http://water.epa.gov/lawsregs/guidance/wetlands/wetlandsmitigation_index.cfm
[58] https://apps.ecology.wa.gov/publications/summarypages/2106003.html
[59] https://apps.ecology.wa.gov/publications/summarypages/0606011b.html
[60] https://ecology.wa.gov/Water-Shorelines/Wetlands/Mitigation/Interagency-guidance

Programmatic mitigation

Programmatic mitigation refers to compensatory mitigation done by a third-party sponsor. The sponsor accepts payment from the permittee with the authorized wetland impacts. In exchange, the sponsor assumes responsibility for successfully compensating for the permittee's unavoidable impacts.

Programmatic mitigation generally involves combining compensatory mitigation for two or more projects affecting wetlands or other aquatic resources. These approaches often involve compensatory mitigation projects designed to restore and maintain environmental processes in a larger landscape context. Two programmatic approaches are currently being used in Washington:

- Wetland mitigation banking (mitigation banks)
- In-lieu fee (ILF) mitigation

These two approaches are described in more detail below. It is important to note that not all programmatic approaches (if any) are available in all locations. If mitigation banks or ILF programs are available, or may be available in the future, we recommend that your CAO allow for these options. They can be effective and valuable tools in preventing a net loss of wetland area and functions.

Wetland mitigation banking

A wetland mitigation bank is a site or group of sites where a third-party sponsor re-establishes, rehabilitates, creates, preserves, or enhances wetlands to generate compensatory mitigation credits. Mitigation bank sponsors can be local jurisdictions, public agencies, tribes, or private entrepreneurs.

The mitigation bank credits are sold to permittees who need to compensate for their unavoidable impacts[61] to wetlands or other aquatic resources within the designated service area of the bank. Bank site locations and service areas are required to be chosen using a watershed approach and they are established in advance of the unavoidable impacts for which they compensate. This ensures that the banks are ecologically successful before credits are sold.

[61] Banks cannot be used to circumvent the requirement to avoid and minimize impacts.

Wetland mitigation banking has the potential to restore and preserve ecological functions, save money for project applicants, and improve efficiencies in application and permitting processes. Across the state, numerous banks have been approved through the certification process or are currently under review. To learn more about wetland mitigation banking, see Ecology's Wetland mitigation banking webpage.[62]

In-lieu fee (ILF) mitigation

In this approach to compensatory mitigation, a permittee pays a fee to a third party in lieu of conducting project-specific mitigation or buying credits from a mitigation bank. The collected fees are combined to implement a single, larger compensation site. An ILF program uses the fees collected to restore, establish, preserve, and/or enhance wetland functions within the same service area (i.e., watershed or river basin) as the wetland impacts. Only governmental or non-profit natural resource management entities may serve as ILF program sponsors since ILF programs are not-for-profit efforts.

Fees for an ILF program represent the expected costs to a third party for replacing the wetland functions lost or degraded as a result of the permittee's unavoidable impacts. Fees are typically held in trust until sufficient funds have been collected to finance a mitigation project. Federal rules require that initial work on the mitigation project must begin no more than three years after the first fees have been collected. All ILF programs have to be approved by the Corps in order to be used for Section 404 permits. Not all jurisdictions have an ILF program currently available. To learn more about ILF programs, see Ecology's In-lieu fee mitigation webpage.[63]

If a proposed project is located within the service area of a Corps-approved mitigation bank or ILF Program, per the 2008 Federal Mitigation Rule, the applicant must first consider their use as compensatory mitigation before considering the permittee-responsible mitigation options discussed in the next section.

[62] https://ecology.wa.gov/Water-Shorelines/Wetlands/Mitigation/Wetland-mitigation-banking
[63] https://ecology.wa.gov/Water-Shorelines/Wetlands/Mitigation/In-lieu-fee-mitigation

Permittee-responsible mitigation

Permittee-responsible mitigation (PRM) is an approach in which the permittee retains full responsibility to successfully compensate for unavoidable impacts. In other words, the individual or entity proposing the impact(s) must successfully implement all aspects of the compensation, including site selection, site design, construction, planting, maintenance, monitoring, and site protection. PRM is further defined by the timing of its implementation.

Concurrent mitigation

Concurrent mitigation is when the permittee performs the compensation after the permit is issued and at the time of the impacts. It may occur at the site of the permitted impacts or at an off-site location, usually within the same watershed or sub-drainage basin to support a watershed approach. The permittee is responsible for implementation and success of the compensation.

Wetland compensatory mitigation sites take time to develop. Temporal loss of wetland functions is unavoidable even though concurrent mitigation occurs at the time of impact. It can take from five to over 100 years for the compensation site to mature and replace functions or provide similar functions. In addition, there is a risk that the compensatory mitigation site will fail to provide the required amount of wetland area, the planned wetland functions, or both. Therefore, the amount of compensation required by the agencies is almost always greater than the area of impact (i.e., greater than a 1:1 ratio).

Advance mitigation

When compensatory mitigation is implemented before, and in anticipation of, future impacts to wetlands, it is referred to as "advance mitigation." Specific impacts do not need to be known at the time an advance mitigation site is established. However, the advance mitigation agreement should specify a geographic service area (i.e., the proposed area in which all potential future impacts may occur). Since the mitigation would already be in place, it would provide reduced temporal loss, decreased risk of failure, and is generally more cost effective. Advance mitigation lets an applicant provide compensation needed for one or more future projects or phases of construction affecting wetlands at one time.

Although similar to mitigation banking, advance mitigation is different in several ways. Most importantly, advance mitigation may only be used to compensate for the permittee's own impacts to wetlands. Credits cannot be sold or transferred to another permittee. If a permittee wants the ability to sell or transfer credits to another entity, the compensation project must go through the wetland mitigation banking certification process. To learn more about advance mitigation, see Ecology's Advance mitigation webpage.[64]

[64] https://ecology.wa.gov/Water-Shorelines/Wetlands/Mitigation/Advance-mitigation

Determining mitigation adequacy

Choosing the location for compensatory mitigation using a watershed approach

Selecting an appropriate location to conduct compensatory mitigation is one of the most critical aspects of providing acceptable wetland compensation. State and federal regulatory agencies require applicants to use a watershed approach for compensatory mitigation to the extent appropriate and practicable. The goal of a watershed approach is to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites.

A watershed approach may include on-site compensatory mitigation, off-site compensatory mitigation (including mitigation banks or in-lieu fee programs), or a combination of on-site and off-site compensatory mitigation. Where relevant watershed plans are available, compensation sites should be located in areas targeted by those plans for restoring environmental processes.

Ecology recommends including a stepwise watershed approach for choosing the location of a compensatory mitigation site in your wetlands chapter. An example approach can be found in Chapter 6A of Wetland Mitigation in Washington State, Part 1 - Agency Policies and Guidance[65] (Ecology et al., 2021).

Compensating for area

Compensatory mitigation has traditionally focused on the wetland area needed to offset the loss or degradation of wetland area and functions. Regulatory agencies use area-based ratios to account for authorized impacts and compensation because it is relatively easy to determine the area of a wetland. Many CAOs have ratio-based mitigation tables.

Ecology's recommendations for the amount of compensatory mitigation (ratios) are based on wetland category, function, special characteristics, risk, and temporal loss. Requiring a greater area for mitigation than the wetland area that will be impacted helps offset both the risk that compensatory mitigation will fail and the temporal loss of functions that may occur. We recommend using the recently updated ratio tables shown in Appendix E, Mitigation Ratio Tables. They are derived from the more-detailed tables in Part 1 of the interagency guidance on mitigation, Wetland Mitigation in Washington State, Part 1 – Agency Policies and Guidance[66] (Ecology et al., 2021).

[65] https://apps.ecology.wa.gov/publications/summarypages/2106003.html
[66] ibid

Some wetlands with special characteristics listed in Appendix E, Table 2, may not be present in your jurisdiction (e.g., wetlands in coastal lagoons, interdunal wetlands, etc.). If you are certain that these wetlands do not occur within your jurisdiction and would not be introduced by future annexations, you can remove those wetland types from the ratio tables.

Wetlands with special characteristics

Some types of wetlands have special characteristics that determine their rating category according to Ecology's rating system (see Hruby, 2014a; Hruby, 2014b). The Washington wetland rating system was designed to differentiate between wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the functions they provide. The first four criteria can be considered as values that are somewhat independent of the functions provided by a wetland. Wetlands with Special Characteristics (as identified in the Ecology's rating system) have an importance or value that may supersede their functions or that is not addressed by the rating of functions.

Methods of compensation are severely limited for certain wetlands with special characteristics. Some of these wetland types only occur naturally and have never been successfully created or rehabilitated. Some may take more than a lifetime to re-establish. Thus, avoidance is the best regulatory approach when addressing these wetlands. Refer to Chapter 6B.5 of Wetland Mitigation in Washington State Part 1 – Agency Policies and Guidance[67] for more information on methods of compensation and ratios for wetlands with special characteristics.

[67] https://apps.ecology.wa.gov/publications/summarypages/2106003.html

Compensating for functions

In addition to accounting for the area of proposed impacts and compensation, the applicant should analyze the wetland functions at both the proposed wetland impact site and the proposed compensation site. The analysis of functions at the proposed compensation site, pre- and post-mitigation, provides an estimate of the gain in functions, or "functional lift," that is expected. This lift is then compared to the functions to be lost or degraded at the impact site. In most cases, the compensatory mitigation would be sufficient only if the expected "lift" at the compensation site equals or exceeds the loss of wetland functions at the impact site.

The 2008 Federal Mitigation Rule states, "In cases where appropriate function or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required."

Credit-Debit Method

Ecology has developed a Credit-Debit Method for calculating when a proposed wetland mitigation project adequately replaces the functions and values lost when wetlands are impacted. The tool is designed to provide guidance for both regulators and applicants during two stages of the mitigation process:

1. Estimating the functions and values lost when a wetland is altered (debits), and
2. Estimating the gain in functions and values that result from the mitigation (credits).

Ecology encourages use of the Credit-Debit Method and recommends that your CAO allow for its use. This tool provides a quantitative method for determining the adequacy of compensatory wetland mitigation, and it allows review of compensation for specific wetland functions. It is also a way to demonstrate functional lift. See the Credit-Debit web page[68] for the documents and worksheets.

Most ILF programs use the Credit-Debit Method for determining the number of debits generated by an impact project and the credits available for compensation. Mitigation banks do not currently use the Credit-Debit Method and instead rely on traditional area-based ratios. The amount of mitigation (credits) needed should be evaluated in a manner consistent with the crediting methodology found in the mitigation program's certification documents (i.e., the ILF Instrument or Mitigation Bank Instrument).

[68] https://ecology.wa.gov/Water-Shorelines/Wetlands/Tools-resources/Credit-debit-method

Securing long-term protection

Wetlands and their buffers need long-term protection to prevent degradation over time. Protection includes site ownership with legal mechanisms to prevent future development and buffers that serve to maintain the wetland functions. Site ownership, deed restrictions, and conservation easements are examples of legal mechanisms.

The most effective long-term protection is to place the wetland and buffer in a non-buildable tract that is owned and maintained by an organization dedicated to protecting them. The boundaries of that tract should be clearly marked to help prevent unintentional encroachments. Delineation, recording, and signage clearly denoting the buffer and wetland area helps prevent degradation over time. Following project approval, and prior to site construction, the buffer and wetland should be measured, recorded on binding legal documents, and clearly marked on the ground.

At a minimum, the wetland and buffer tract should be recorded on the property deed with language restricting actions that may adversely impact the wetland and buffer.

Compensatory mitigation for buffer impacts

Ecology recommends that buffer impacts be mitigated at a ratio of at least 1:1, area for area. However, if an entire wetland is lost, we do not recommend that your CAO require compensatory mitigation for the lost buffer area. In absence of the wetland, a buffer would not provide functions that protect the wetland. Instead, we recommend that the compensatory mitigation site for the lost wetland have adequate buffers, per the buffer guidance in this document.

Enforcement/Penalty Provisions

Enforcement of critical areas ordinances is vital to maintain the clean air, land and water, and reliable water supplies that residents and businesses in Washington depend on to flourish. The wetlands chapter of your CAO should contain provisions establishing enforcement authority and penalties. Appendix A includes sample language. The Critical Areas Handbook[69] (Commerce, 2018) also provides sample language for enforcement and penalty provisions. However, each jurisdiction may already have general policies and procedures regarding enforcement and penalties. Ecology advises that you work with your jurisdiction's legal counsel on how to address critical areas ordinance violations in context with this larger framework.

Regulatory Takings

Regulatory takings are complex legal issues that can arise when government regulations restrict the use of private property. You should be aware that regulatory takings can arise in the administration of your CAO. Therefore, we recommend that your CAO include a variance and reasonable use exception process to address situations where strict compliance with regulations would deprive a property owner of all reasonable use of the property. However, this does not preclude governments from imposing reasonable limitations or restrictions. The variance or reasonable use exception process should be available only in the most extreme cases. Ecology advises that you contact your jurisdiction's legal counsel to determine the best approach. A helpful summary of takings issues can be found at the Municipal Research Services Center webpage.[70] You may also consult the Critical Areas Handbook[71] (Commerce, 2018; see Chapter 3, page 12) on how to address regulatory takings.

[69] https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/critical-areas/

[70] http://mrsc.org/Home/Explore-Topics/Environment/Special-Topics/Flexibility-in-Environmental-Regulation.aspx

[71] https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/critical-areas/

Summary

To effectively protect wetlands in your jurisdiction and to meet your responsibility to protect critical areas, you should address the issues discussed in this publication in your CAO. Ecology endeavors to present these issues in a format that is easy to understand. The complexities of your individual regulatory structure will inform how you address these issues in your jurisdiction. Ecology is eager to assist you in what can seem like a complex and formidable task. Developing the wetlands chapter of your CAO can be challenging, but Ecology's technical resources and assistance can make the task more manageable and understandable.

The following is a general outline of the issues you should address in the wetlands section of your CAO and for which you will find specific guidance in this document:

1. Purpose statement
2. Definition of terms—include RCW definition of wetlands
3. Identifying wetlands
4. Delineation—use the federal wetlands delineation manual with the appropriate regional supplement
5. Characterization—we strongly recommend you use the Washington State Wetland Rating System
6. Regulated uses and activities
7. Allowed uses, exemptions, and exceptions
8. Forest practices
9. Agricultural activities
10. Mitigation sequencing
11. Buffers
12. Functionally disconnected buffers
13. Signs and fencing
14. Buffer averaging
15. Compensatory mitigation for wetland impacts
16. Mitigation approaches
17. Determining mitigation adequacy
18. Securing long-term protection
19. Enforcement/penalty provisions
20. Regulatory takings

If you have general questions about this document or need additional assistance with the wetlands chapter of your critical areas ordinance update, please contact Ecology's wetland critical areas ordinance review coordinator. You may also contact Ecology's regional wetland specialist who covers your area. They are available to work with you during your update process. For example, they may be able to offer presentations to elected officials, planning commissions, and planning staff. They can also provide technical assistance, including help with review of wetland ratings, ordinary high water mark determinations, questions about wetland delineations, and project review.

For current Ecology contacts go to Ecology's wetland contacts webpage.[72]

The Department of Commerce offers tools, resources, and assistance for a wide range of issues and situations. For example, Commerce is working with four Puget Sound counties on a Transfer of Development Rights[73] (TDR) program. For jurisdictions in these four counties, you may wish to explore their publication, A Resource Guide to Designing Transfer of Development Rights Programs in Washington State.[74]

For assistance with topics other than the wetlands section of your CAO, please contact the Department of Commerce directly. And for general information on a broad range of local government issues, see Commerce's Local Government Portal.[75]

[72] https://ecology.wa.gov/Water-Shorelines/Wetlands/Tools-resources/Contacts-by-subject-region
[73] http://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/development-rights/
[74] https://deptofcommerce.app.box.com/s/pbi8qhqijcv6jn6u5raztdw028htjimc
[75] https://www.commerce.wa.gov/serving-communities/local-government/

References

This publication is part of a significant agency action under RCW 34-05-272. To meet the requirements of the law, the sources of information used to support this action are identified. The required 11 types of sources are listed below by number. Each reference is followed by a bracketed number that indicates the source.

1. Independent peer review: Review is overseen by an independent third party.
2. Internal peer review: Review by staff internal to the Department of Ecology.
3. External peer review: Review by persons that are external to and selected by the Department of Ecology.
4. Open review: Documented open public review process that is not limited to invited organizations or individuals.
5. Federal and state statutes.
6. Court and hearings board decisions.
7. Federal and state administrative rules and regulations.
8. Policy and regulatory documents adopted by local governments.
9. Data from primary research, monitoring activities, or other sources, but that has not been incorporated as part of documents reviewed under the processes described in numbers 1, 2, or 3 of this list.
10. Records of best professional judgment of Department of Ecology employees or other individuals.
11. Other: Sources of information that do not fit into one of the other categories listed.

Bunten, D., Mraz, R., Driscoll, L., & Yahnke, A. (2016a). *Wetland Guidance for CAO Updates: Western Washington Version* (Ecology Publication #16-06-001). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/summarypages/1606001.html [2]

Bunten, D., Mraz, R., Driscoll, L., & Yahnke, A. (2016b). *Wetland Guidance for CAO Updates: Eastern Washington Version* (Ecology Publication #16-06-002). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/summarypages/1606002.html [2}

Commerce. See Washington State Department of Commerce.

Compensatory Mitigation for Losses of Aquatic Resources; Final Rule, 33 CFR Sections 325 and 332 and 40 CFR Section 230 (2008). https://www.epa.gov/cwa-404/compensatory-mitigation-losses-aquatic-resources-under-cwa-section-404-final-rule [7]

Corps. See U.S. Army Corps of Engineers.

Ecology. See Washington State Department of Ecology.

Federal Geographic Data Committee. (2013). *Classification of wetlands and deepwater habitats of the United States* (2nd ed.) (FGDC-STD-004-2013). Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service. https://www.fgdc.gov/standards/projects/FGDC-standards-projects/wetlands/nvcs-2013 [4]

Federal Mitigation Rule. See Compensatory Mitigation for Losses of Aquatic Resources; Final Rule. 2008. [7]

Granger, T., Hruby, T., McMillan, A., Peters, D., Rubey, J., Sheldon, D., Stanley, S., & Stockdale, E. (2005). *Wetlands in Washington State - Volume 2: Guidance for Protecting and Managing Wetlands* (Ecology Publication #05-06-008). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/summarypages/0506008.html [4]

Hruby, T., Bunten, D., Yahnke, A., & Franklin, J. (2017). *Characterizing Wetland Buffers in Washington State*. (Ecology Publication #17-06-008). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/SummaryPages/1706008.html [4]

Hruby, T., Harper, K., & Stanley, S. (2009). *Selecting Wetland Mitigation Sites Using a Watershed Approach (Western Washington)* (Ecology Publication #09-06-032). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/SummaryPages/0906032.html [4]

Hruby, T., Harper, K., & Stanley, S. (2010). *Selecting Wetland Mitigation Sites Using a Watershed Approach (Eastern Washington)* (Ecology Publication #10-06-007). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/SummaryPages/1006007.html [4]

Hruby, T. (2012a). *Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington* (Ecology Publication #10-06-011). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/summarypages/1006011.html [4]

Hruby, T. (2012b). *Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Eastern Washington* (Ecology Publication #11-06-015). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/summarypages/1106015.html [4]

Hruby, T. (2013). *Update on Wetland Buffers: The State of the Science, Final Report* (Ecology Publication #13-06-11). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/SummaryPages/1306011.html [4]

Hruby, T. (2014a). *Washington State Wetland Rating System for Western Washington–2014 Update* (Ecology Publication #14-06-029). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/SummaryPages/1406029.html [4]

Hruby, T. (2014b). *Washington State Wetland Rating System for Eastern Washington–2014 Update* (Ecology Publication #14-06-030). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/SummaryPages/1406030.html [4]

Sheldon, D., Hruby, T., Johnson, P., Harper, K., McMillan, A., Stanley, S., & Stockdale, E. (2005). *Wetlands in Washington State–Volume 1: A Synthesis of the Science* (Ecology Publication #05-06-006). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/summarypages/0506006.html [4]

U.S. Army Corps of Engineers. (1987). *Corps of Engineers Wetlands Delineation Manual* (Technical Report Y-87-1 [online edition]). U.S. Army Corps of Engineers Waterways Experiment Station. https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4530 [4]

U.S. Army Corps of Engineers. (2008). *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (J. S. Wakeley, R. W. Lichvar, & C. V. Noble Eds.). U.S. Army Engineer Research and Development Center. https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7627 [4]

U.S. Army Corps of Engineers. (2010). *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (J. S. Wakeley, R. W. Lichvar, & C. V. Noble Eds.). U.S. Army Engineer Research and Development Center. https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7646 [4]

Washington State Department of Commerce. (2018). Critical Areas Handbook: A Handbook for Reviewing Critical Areas Regulations. https://deptofcommerce.box.com/shared/static/3s5d5or3tdn21i7lhf9y22v8hgoqoodu.pdf [4]

Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. (2006). *Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1)*. (Ecology Publication #06-06-011b). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/summarypages/0606011b.html [4]

Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. (2021). *Wetland Mitigation in Washington State–Part 1: Agency Policies and Guidance (Version 2)*. (Ecology Publication #21-06-003). Washington State Department of Ecology. https://apps.ecology.wa.gov/publications/summarypages/2106003.html [4]

Appendix A. Sample Wetland Regulations

page intentionally left blank

Subchapter 100
(individual numbering will vary)
Wetlands

Sections

010 Purpose

The purposes of this Chapter are to:

010.A. Recognize and protect the beneficial functions performed by many wetlands, which include, but are not limited to, providing food, breeding, nesting and/or rearing habitat for fish and wildlife; recharging and discharging ground water; contributing to stream flow during low flow periods; stabilizing stream banks and shorelines; storing storm and flood waters to reduce flooding and erosion; carbon sequestration; thermal refugia, and improving water quality through biofiltration, adsorption, retention, and transformation of sediments, nutrients, and toxicants.

010.B. Regulate land use to avoid adverse effects on wetlands and maintain the functions and values of wetlands throughout [City/County].

010.C. Establish review procedures for development proposals in and adjacent to wetlands.

1. Compliance with the provisions of this Chapter does not necessarily constitute compliance with other federal, state, and local regulations and permit requirements that may be required (for example, Shoreline permits, Hydraulic Project Approval permits, Clean Water Act Section 404 permits and 401 certifications, Ecology Administrative Orders, or NPDES permits). The applicant

is responsible for complying with these requirements, apart from the processes established in this Chapter.

020 Identification, Delineation, and Rating

020.A. Identification and Delineation. 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 supplement. All areas within the [City/County] meeting the wetland definition and designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this Chapter. Wetland delineations are valid for five years; after such date the [City/County] shall determine whether a revision or additional assessment is necessary. Wetland delineations will be documented on a ground-verified map using either professional surveying methods or an equivalent professional method using GPS with sub-meter accuracy.

020.B. Rating. Wetlands shall be rated according to the Washington State Wetland Rating System for [Eastern or Western] Washington: 2014 Update (Ecology Publication [14-06-030 or 14-06-029] or as revised). Wetland ratings are valid for five years; after such date the [City/County] shall determine whether a revision or additional rating is necessary.

020.C. Illegal modifications. Wetland rating categories shall not change due to illegal modifications made to the wetland.

030 Regulated Activities

030.A. For any proposed regulated activity, a critical area report may be required to support the requested activity (see Section 060 of this Chapter).

030.B. The following activities are regulated if they occur in a wetland or its buffer:

1. The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind
2. The dumping of, discharging of, or filling with any material
3. The draining, flooding, or disturbing of the water level or water table
4. Pile driving
5. The placing of obstructions
6. The construction, reconstruction, demolition, or expansion of any structure
7. The destruction or alteration of wetland vegetation through clearing, harvesting, shading, intentional burning, or planting of vegetation that would alter the character of a wetland

8. Class IV General Forest Practices under the authority of the 1992 Washington State Forest Practices Act Rules and Regulations, WAC 222-12-030, or as thereafter amended

9. Activities that result in:

   a. A significant change of water temperature

   b. A significant change of physical or chemical characteristics of the sources of water to the wetland

   c. A significant change in the timing, frequency, depth, or duration of water entering or within the wetland

   d. The introduction of pollutants

030.C. Subdivisions. The subdivision and/or short subdivision of land where wetlands and/or associated buffers are present are subject to the following:

1. Land that is located wholly within a wetland and/or wetland buffer may not be subdivided

2. Land that is located partially within a wetland and/or wetland buffer may be subdivided provided that an accessible and contiguous portion of each new lot is:

   a. Located outside of the wetland and buffer; and

   b. Meets the minimum lot size requirements of [the zoning code]

040 Exemptions and Allowed Uses in Wetlands

040.A. Wetlands that meet the following criteria are not subject to the avoidance and minimization requirements of the mitigation sequence (Chapter 070.A.1 and 070.A.2) in accordance with the following provisions, and they may be filled if the impacts are fully mitigated based on the remaining actions in Chapter 070.A.3 through 6. Impacts should be mitigated through the purchase of credits from a mitigation bank or in-lieu fee program, if available, consistent with the terms and conditions of the bank or program. In order to verify whether the following criteria are met, it is essential that a critical area report for wetlands meeting the requirements in Chapter 060 be submitted.

1. All Category IV wetlands less than 4,000 square feet that:

   a. Are located in the areas covered by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (U.S. Army Corps of Engineers, 2010)

   b. Are not associated with riparian areas or their buffers

   c. Are not associated with shorelines of the state or their associated buffers

d. Are not part of a wetland mosaic

e. Do not score 6 or more points for habitat function based on the Washington State Wetland Rating System for [Western or Eastern] Washington: 2014 Update (Ecology Publication [#14-06-029 or #14-06-030]), or as revised by Ecology)

f. Do not contain a Priority Habitat or a Priority Area for a Priority Species identified by the Washington Department of Fish and Wildlife and do not contain state or federally listed species or their critical habitat or species of local importance identified in the [City/County] code [if there is a locally adopted regulation]

2. Wetlands less than 1,000 square feet that meet the above criteria are exempt from the buffer provisions contained in this Chapter.

040.B. Activities Allowed in Wetlands. The activities listed below are allowed in wetlands. These activities do not require submission of a critical area report, except where such activities have the potential to result in a loss of the functions, values or area of a wetland or wetland buffer. These activities include:

1. [For counties enrolled in the VSP] Agricultural activities in and around critical areas that are addressed by the implementation of the VSP work plan, or

   [For counties not enrolled in the VSP, and all cities/towns] Existing and ongoing agricultural activities, provided they implement applicable Best Management Practices (BMPs) contained in the latest edition of the USDA Natural Resources Conservation Service (NRCS) Field Office Technical Guide (FOTG); or develop a farm conservation plan in coordination with [the local conservation district]. BMPs and/or farm plans should address potential impacts to wetlands from livestock, nutrients, chemicals, soil erosion, sediment control, and agricultural drainage infrastructure. BMPs and/or farm plans should ensure that ongoing agricultural activities minimize their effects on wetlands, water quality, riparian ecology, salmonid populations, and wildlife habitat.

2. Those activities and uses conducted pursuant to the Washington State Forest Practices Act and its rules and regulations, WAC 222-12-030, where state law specifically exempts local authority, except those developments requiring local approval for a Class IV General Forest Practice Permit (conversions) as defined in Chapter 76.09 RCW and Chapter 222-12 WAC, provided conditions of that permit are met.

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

4. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling

of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.

5. Drilling for utilities/utility corridors under a wetland, with entrance/exit portals located completely outside of the wetland buffer, provided that the drilling does not alter the ground water connection to the wetland or percolation of surface water down through the soil column. Specific studies by a hydrologist are necessary to determine whether the ground water connection to the wetland or percolation of surface water down through the soil column will be altered. Trenching is not allowed by this provision.
6. Enhancement of a wetland through the removal of non-native, invasive plant species. Removal shall be restricted to hand removal unless permits from the appropriate regulatory agencies have been obtained for approved biological or chemical treatments or mechanical methods. All removed plant material shall be taken away from the site and disposed of properly. Plants that are on the Washington State Noxious Weed Control Board list of noxious weeds should be handled and disposed of according to a noxious weed control plan appropriate to that species. Re-vegetation with appropriate native species to achieve natural densities is allowed and encouraged in conjunction with removal of invasive plants.
7. Educational and scientific research activities that do not result in altering the structure or functions of the wetland.
8. Normal and routine maintenance and repair of any existing, legally established public or private facilities within an existing right-of-way, provided that the maintenance or repair does not expand the footprint of the facility or right-of-way and has no adverse effect on the wetland or buffer.
9. Stormwater management facilities. A wetland or its buffer can be physically or hydrologically altered to meet the requirements of a Low Impact Development (LID) methodology or Flow Control BMP if **ALL** of the following criteria are met:

   a. The wetland is classified as a Category IV or a Category III wetland with a habitat score of 3-5 points.

   b. There will be no net loss of functions and values of the wetland.

   c. The wetland does not contain a breeding population of any native amphibian species.

   d. The hydrologic functions of the wetland can be improved as outlined in questions 3, 4, and 5 of Chart 4 and questions 2, 3, and 4 of Chart 5 in Selecting Mitigation Sites Using a Watershed Approach, [Western Washington or Eastern Washington] (Ecology Publication [#09-06-032 or #10-06-007], or as revised); or the wetland is part of a restoration plan intended to achieve restoration goals identified in a shoreline master program or a local or regional watershed plan.

e. The wetland lies in the natural routing of the runoff, and the discharge follows the natural routing.

f. All regulations regarding stormwater and wetland management are followed, including but not limited to local and state wetland and stormwater codes, manuals, and permits.

g. Modifications that alter the structure of a wetland or its soils will require permits. Existing functions and values that are lost will need to be compensated.

Stormwater LID BMPs required as part of new and redevelopment projects may potentially be authorized within wetlands and their buffers. However, these areas may contain features that render LID BMPs infeasible. A site-specific characterization is required to determine whether an LID BMP is feasible at the project site.

040.C. Exceptions. If the application of these regulations would prohibit public facilities such as utilities within a wetland and/or buffer due to a specific service provision or design constraint, the agency or utility may apply for an exception. Exceptions applications must address mitigation sequencing, and include information meeting the review criteria according to the following: [or those found in variance provisions if applicable]

1. There is no other practical alternative to the proposed development with less impact on the critical areas;
2. The application of the critical area regulations would unreasonably restrict the ability to provide utility services to the public;
3. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;
4. The proposal attempts to protect and mitigate impacts to the critical area functions and values consistent with best available science; and
5. The proposal is consistent with other applicable regulations and standards.

040.D. Emergencies. Emergencies are those activities necessary to prevent an immediate threat to public health, safety, or welfare, or that pose an immediate risk of damage to private property and that require remedial or preventive action in a timeframe too short to allow for compliance with the requirements of the critical areas regulations. Emergency actions are required to use reasonable methods to address the emergency with the least possible impact to the critical area. The [Administrator] will require review of the action to determine whether it was beyond the scope of the exemption and may require permits after the fact, which may include restoration or compensatory mitigation.

050 Wetland Buffers

050.A. Buffer Requirements. The buffer tables have been established in accordance with the best available science. They are based on the category of wetland and the habitat score [for options 1 and 2] as determined by a qualified wetland professional using the Washington State Wetland Rating System for [Western or Eastern] Washington: 2014 Update (Ecology Publication [#14-06-029 or #14-06-030], or as revised). Unless otherwise noted, the level of impact from adjacent land use is assumed to be high.

1. Buffer Width Tables.

See Appendix C (western) or Appendix D (eastern) for buffer approaches and insert the selected buffer table option here.

2. Increased Wetland Buffer Width. Buffer widths shall be increased on a case-by-case basis as determined by the [Administrator] when a wider buffer is necessary to protect wetland functions and values. This determination shall be supported by appropriate documentation showing that it is reasonably related to protection of the functions and values of the wetland. The documentation shall include but not be limited to the following criteria:

   a. The wetland is used by a state or federally listed plant or animal species. These species would be those listed under WAC 220-610-010, 50 CFR 17-11, 50 CFR 17-12, or other state or federal regulations.

   b. The wetland has critical habitat; or a priority area for a priority species as defined by WDFW; or Wetlands of High Conservation Value as defined by the Washington Department of Natural Resources' Natural Heritage Program.

   c. The adjacent land is susceptible to severe erosion, and erosion-control measures will not effectively prevent adverse wetland impacts.

   d. The adjacent land has minimal vegetative cover.

   e. The land has slopes greater than 30 percent.

3. Buffer averaging to improve wetland protection may be permitted when all of the following conditions are met:

   a. The wetland has significant differences in characteristics that affect its habitat functions, such as a wetland with a forested component adjacent to a degraded emergent component or a dual-rated wetland with a Category I area adjacent to a lower-rated area.

   b. The buffer is increased adjacent to the higher-functioning area of habitat or more-sensitive portion of the wetland and decreased adjacent to the lower-

functioning or less-sensitive portion as demonstrated by a critical area report from a qualified wetland professional.

c. The total area of the buffer after averaging is equal to the area required without averaging.

d. The buffer at its narrowest point is never less than either 75 percent of the required width or 75 feet for Category I and II, 50 feet for Category III, and 25 feet for Category IV, whichever is greater.

4. Averaging to allow reasonable use of a parcel may be permitted when all of the following are met:

a. No feasible alternatives to the site design could be accomplished without buffer averaging.

b. The averaged buffer will not result in degradation of the wetland's functions and values as demonstrated by a critical area report from a qualified wetland professional.

c. The total buffer area after averaging is equal to the area required without averaging.

d. The buffer at its narrowest point is never less than either 75 percent of the required width or 75 feet for Category I and II, 50 feet for Category III, and 25 feet for Category IV, whichever is greater.

050.B. Allowed Buffer Uses. The following uses may be allowed within a wetland buffer in accordance with the review procedures of this Chapter, provided they are not prohibited by any other applicable law, and they are conducted in a manner so as to minimize impacts to the buffer and adjacent wetland:

1. Conservation or restoration activities aimed at protecting the soil, water, vegetation, or wildlife.

2. Passive recreation facilities designed in accordance with an approved critical area report, including:

a. Walkways and trails, provided that they are limited to minor crossings having no adverse impact on water quality. They should be generally parallel to the perimeter of the wetland, located only in the outer twenty-five percent (25%) of the wetland buffer area, and located to avoid removal of significant [as defined in ordinance], old growth, or mature trees. They should be limited to pervious surfaces no more than five (5) feet in width and designed for pedestrian use only. Raised boardwalks utilizing non-treated pilings may be acceptable.

b. Wildlife-viewing structures.

3. Educational and scientific research activities.

4. Normal and routine maintenance and repair of any existing public or private facilities within an existing right-of-way, provided that the maintenance or repair does not increase the footprint or use of the facility or right-of-way.

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

6. Drilling for utilities/utility corridors under a buffer, with entrance/exit portals located completely outside of the wetland buffer boundary, provided that the drilling does not alter the ground water connection to the wetland or percolation of surface water down through the soil column. Specific studies by a hydrologist are necessary to determine whether the ground water connection to the wetland or percolation of surface water down through the soil column would be disturbed.

7. Enhancement of a wetland buffer through the removal of non-native, invasive plant species. Removal of invasive plant species shall be restricted to hand removal. All removed plant material shall be taken away from the site and appropriately disposed of. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds should be handled and disposed of according to a noxious weed control plan appropriate to that species. Revegetation with appropriate native species at natural densities is allowed in conjunction with removal of invasive plant species.

8. Repair and maintenance of legally established non-conforming uses or structures, provided they do not increase the degree of nonconformity.

050.C. Measurement of Wetland Buffers. All buffers shall be measured perpendicular from the wetland boundary as delineated in the field.

050.D. Functionally Disconnected Buffer Area. Buffers may exclude areas that are functionally and effectively disconnected from the wetland by an existing public or private road or legally established development, as determined by the [Administrator]. Functionally and effectively disconnected means that the road or other significant development blocks the protective measures provided by a buffer.

Significant developments shall include built public infrastructure such as roads and railroads, and private developments such as homes or commercial structures. The [Administrator] shall evaluate whether the interruption will affect the entirety of the buffer. Individual structures may not fully interrupt buffer function. In such cases, the allowable buffer exclusion should be limited in scope to just the portion of the buffer that is affected. Where questions exist regarding whether a development functionally disconnects the buffer, or the extent of that

impact, the [Administrator] may require a critical area report to analyze and document the buffer functionality.

050.E. Signs and Fencing:

1. Temporary markers. The outer perimeter of the wetland buffer and the clearing limits identified by an approved permit or authorization shall be marked in the field with temporary high-visibility fencing in such a way as to ensure that no unauthorized intrusion will occur. The marking is subject to inspection by the [Administrator] prior to the commencement of permitted activities. This temporary marking shall be maintained throughout construction and shall not be removed until permanent signs, if required, are in place.

2. Permanent signs. As a condition of any permit or authorization issued pursuant to this Chapter, the [Administrator] may require the applicant to install permanent signs along the boundary of a wetland or buffer.

   a. Permanent signs shall be made of an enamel-coated metal face attached to a metal post or another non-treated material of equal durability. Signs shall be posted at an interval of one (1) every fifty (50) feet, or one (1) per lot if the lot is less than fifty (50) feet wide, and shall be maintained by the property owner in perpetuity. The signs shall be worded as follows or with alternative language approved by the [Administrator]:

Protected Wetland Area
Do Not Disturb
Contact [Local Jurisdiction]
Regarding Uses, Restrictions,
and Opportunities for Stewardship

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

3. Fencing

   a. The applicant shall be required to install a permanent fence along the boundary of the wetland buffer when adjacent activities could degrade the wetland or its buffer. Examples include domestic animal grazing, unauthorized access by humans or pets, etc.

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

050.F. Buffer Maintenance. Except as otherwise specified or allowed in accordance with this Chapter, wetland buffers shall be retained in an undisturbed or enhanced

condition. In the case of compensatory mitigation sites, removal of invasive, non-native weeds is required for the duration of the mitigation bond (Section 070.J.2.a.x).

050.G. Impacts to Buffers**.** Requirements for the compensation for impacts to buffers are outlined in Section 070.K of this Chapter*.*

050.H. Overlapping Critical Area Buffers. If buffers for two critical areas overlap (such as buffers for a stream and a wetland), the wider buffer applies.

060 Critical Area Report for Wetlands

060.A. If the [Administrator] determines that the site of a proposed development includes, is likely to include, or is adjacent to a wetland or wetland buffer, a wetland report, prepared by a qualified wetland professional, shall be required. The expense of preparing the wetland report shall be borne by the applicant.

060.B. Minimum Standards for Wetland Reports. The written report and the accompanying plan sheets shall contain the following information, at a minimum:

1. The written report shall include at a minimum:

   a. The name and contact information of the applicant; the name, qualifications, and contact information of the primary author(s) of the report; a description of the proposal; identification of all the local, state, and/or federal wetland-related permit(s) required for the project; and a vicinity map for the project.

   b. A statement specifying the accuracy of the report and all assumptions made and relied upon.

   c. Documentation of any fieldwork performed on the site, including field data sheets for delineations, rating system forms, baseline hydrologic data, etc.

   d. A description of the methodologies used to conduct the wetland delineations, wetland ratings, and impact analyses, including references.

   e. Identification and characterization of all critical areas, water bodies, shorelines, floodplains, and buffers on or adjacent to the proposed project area. For areas off the project site, estimate conditions within 300 feet of the project boundaries using all reliable available information.

   f. For each wetland identified on site and within 300 feet of the project boundary, provide the completed wetland rating, per Section 020.B of this Chapter; required buffers; hydrogeomorphic classification; wetland area based on the field delineation (area for on-site portion and estimate entire wetland area including off-site portions); Cowardin classifications; habitat elements; soil conditions based on site assessment and/or soil survey information; and to the extent possible, hydrologic information such as

location and condition of inlets/outlets, estimated water depths within the wetland, and estimated hydroperiod patterns based on visual cues (e.g., algal mats, drift lines, flood debris, etc.). Provide area estimates, classifications, and ratings based on entire wetland units, not only the portion present on the proposed project site.

g. A description of the proposed actions, including an estimation of area of impacts to wetlands and buffers based on the field delineation, and an analysis of site development alternatives, including a no-development alternative.

h. An assessment of the probable cumulative impacts to the wetlands and buffers resulting from the proposed development, considering past development and potential future development.

i. A description of how mitigation sequencing has been followed, pursuant to Section 070.A, Mitigation Sequencing, of this Chapter.

j. An evaluation of the functions of the wetland and its buffer, including references for the method used and data sheets.

k. A discussion of the potential impacts to the wetland(s) associated with any anticipated hydroperiod alterations from the project.

2. The site plan sheet(s) shall include, at a minimum:

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

b. A depiction of the proposed stormwater management facilities and outlets (to scale) for the development, including estimated areas of intrusion into wetland buffers.

070 Compensatory Mitigation

070.A. Mitigation Sequencing. Before being authorized to impact any wetland or its buffer, an applicant must demonstrate that they have implemented mitigation in the following order:

1. Avoid impacts altogether by not taking a certain action or parts of an action.

2. Minimize impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts.

3. Rectify impacts by repairing, rehabilitating, or restoring the affected environment.

4. Reduce or eliminate impacts over time by preservation and maintenance operations.

5. Compensate for impacts by replacing, enhancing, or providing substitute resources or environments.

6. Monitor required compensation and take remedial or corrective measures when necessary.

070.B. Requirements for Compensatory Mitigation:

1. Compensatory mitigation for alterations to wetlands shall be used only for impacts that cannot be avoided or minimized and shall achieve equivalent or greater functions. Compensatory mitigation plans shall be consistent with Wetland Mitigation in Washington State–Part 2: Developing Mitigation Plans—Version 1 (Ecology Publication #06-06-011b, or as revised), and Selecting Wetland Mitigation Sites Using a Watershed Approach [Western Washington (Ecology Publication #09-06-32) or Eastern Washington, (Ecology Publication #10-06-007), or as revised].

2. Mitigation ratios, if used, shall be consistent with Subsection H of this Chapter.

3. Mitigation requirements may be determined using the Credit-Debit Method described in Calculating Credits and Debits for Compensatory Mitigation in Wetlands of [Western Washington (Ecology Publication #10-06-011) or Eastern Washington (Ecology Publication #10-06-015), or as revised] consistent with Subsection I of this Chapter.

4. Plantings used in mitigation actions shall be native species appropriate to the ecoregion.

5. The following areas within a proposed compensation site shall not contribute to satisfying the requirements for compensatory mitigation:

   a. Easements for utility corridors, stormwater facilities, rights-of-way, and streams conveyed underground

   b. Driveways

   c. Roads

   d. Any paved or graveled areas intended to convey vehicle or foot traffic.

6. Buffers on Wetland Mitigation Sites. All wetland mitigation sites shall have buffers consistent with the buffer requirements of this Chapter. Buffers shall be based on the expected or target category of the proposed wetland mitigation site and the expected level of impact from the adjacent land use.

Buffers need to be fully vegetated in order to be included in buffer area calculations. Lawns, walkways, driveways, paved areas, and mowed or developed areas will not be considered buffers or included in buffer area

calculations when assessing whether adequate compensatory mitigation buffers have been provided.

070.C. Compensating for Lost or Affected Functions. Compensatory mitigation shall address the functions affected by the proposed project, with an intention to achieve functional equivalency or improvement of functions. The goal shall be for the compensatory mitigation to provide similar wetland functions as those lost, except when either:

1. The lost wetland provides minimal functions, and the proposed compensatory mitigation action(s) will provide equal or greater functions or will provide functions shown to be limited within a watershed through an existing watershed plan or a local or regional study that characterizes watershed processes; or
2. Out-of-kind replacement of wetland type or functions will best meet watershed goals formally identified by a watershed plan, such as replacement of historically diminished wetland types.

070.D. Approaches to Compensatory Mitigation. Mitigation for lost or diminished wetland and buffer functions shall rely on the approaches listed below:

1. Wetland Mitigation Banks. Credits from a wetland mitigation bank certified under Chapter 173-700 WAC may be used to compensate for impacts located within the service area specified in the mitigation bank instrument if all the following are met:
   a. The [Administrator] determines that it would provide appropriate compensation for the proposed impacts; and
   b. The proposed use of credits is consistent with the terms and conditions of the mitigation bank instrument.
   c. Mitigation ratios are consistent with ratios specified in the mitigation bank instrument.
2. In-Lieu Fee (ILF) Mitigation: Credits from an approved in-lieu fee program may be used when all the following apply:
   a. The [Administrator] determines that it would provide appropriate compensation for the proposed impacts.
   b. The proposed use of credits is consistent with the terms and conditions of the approved ILF program instrument.
   c. Projects using ILF credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland professional using the credit assessment method specified in the approved instrument for the ILF program.

d. The impacts are located within the service area specified in the approved ILF instrument.

3. Permittee-responsible, advance mitigation. Advance mitigation is a form of permittee-responsible mitigation implemented before a permitted impact takes place. It is designed to compensate for impacts expected to occur in the future. The applicant proposing the advance mitigation is the only one who can use the credits generated. Credits cannot be sold or transferred to another applicant. Advance mitigation proposals should be developed in accordance with state and federal rules and guidance on advance mitigation (Interagency Regulatory Guide: Advance Permittee-Responsible Mitigation, Ecology Publication #12-06-015, and Chapter 4.2 of Wetland Mitigation in Washington State–Part 1: Policies and Guidance—Version 2, Ecology Publication #21-06-003, or as revised).

4. Permittee-responsible, concurrent mitigation. Concurrent mitigation is a form of permittee-responsible mitigation implemented at the same time permitted impacts are occurring. The permittee is responsible for implementation and success of the compensation. Concurrent mitigation may occur at the site of the permitted impacts or at an off-site location, usually within the same watershed. Permittee-responsible, concurrent mitigation shall be used only if the applicant's qualified wetland professional demonstrates to the [Administrator]'s satisfaction that the proposed approach is ecologically preferable to use of a bank or ILF program, consistent with the criteria in this Section.

070.E. Methods of Compensatory Mitigation. Mitigation for wetland and buffer impacts shall rely on a method listed below in order of preference. A lower-preference form of mitigation shall be used only if the applicant's qualified wetland professional demonstrates to the [Administrator]'s satisfaction that all higher-ranked types of mitigation are not viable, consistent with the criteria in this Section.

1. Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions and environmental processes to a former or degraded wetland. Restoration is divided into two categories:

a. Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions and environmental processes to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland area and functions. Example activities could include removing fill, plugging ditches, or breaking drain tiles to restore a wetland hydroperiod, which in turn will lead to restoring wetland biotic communities and environmental processes.

b. Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions and environmental processes to a degraded wetland. Rehabilitation results in a gain in wetland function but does **not** result in a gain in wetland area. The area already meets wetland criteria, but hydrological processes have been altered. Rehabilitation involves restoring historic hydrologic processes. Example activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland.

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

   a. If a site is not available for wetland restoration to compensate for expected wetland and/or buffer impacts, the [Administrator] may authorize establishment of a wetland and buffer upon demonstration by the applicant's qualified wetland professional that:

      i. The hydrology and soil conditions at the proposed mitigation site are conducive for sustaining the proposed wetland and that establishment of a wetland at the site will not likely cause hydrologic problems elsewhere;

      ii. Adjacent land uses and site conditions do not jeopardize the viability of the proposed wetland and buffer (e.g., due to the presence of invasive plants or noxious weeds, stormwater runoff, noise, light, or other impacts); and

      iii. The proposed wetland and buffer will eventually be self-sustaining with little or no long-term maintenance.

      iv. The proposed wetland would not be established at the cost of another high-functioning habitat (i.e., ecologically important uplands).

3. Preservation (Protection/Maintenance). The removal of a threat to, or preventing the decline of, wetlands by an action in or near those wetlands. This term includes activities commonly associated with the protection and maintenance of wetlands through the implementation of appropriate legal and physical mechanisms such as recording conservation easements and providing structural protection like fences and signs. Preservation does not result in a gain of aquatic resource area or functions but may result in a gain in functions over the long term. Preservation of a wetland and associated buffer can be used only if:

a. The [Administrator] determines that the proposed preservation is the best mitigation option;

b. The proposed preservation site is under threat of undesirable ecological change due to permitted, planned, or likely actions that will not be adequately mitigated under existing regulations;

c. The area proposed for preservation is of high quality or critical for the health and ecological sustainability of the watershed or sub-basin. Some of the following features may be indicative of high-quality sites:

i. Category I or II wetland rating (per 020.B of this Section).

ii. Rare or irreplaceable wetland type [e.g, peatlands, mature forested wetland, estuaries, vernal pools, alkali wetlands] or aquatic habitat that is rare or a limited resource in the area.

iii. The presence of habitat for threatened or endangered species (state, federal, or both).

iv. Provides biological and/or hydrological connectivity to other habitats.

v. Priority sites identified in an adopted watershed plan.

d. Permanent preservation of the wetland and buffer shall be provided through a legal mechanism such as a conservation easement or tract held by an appropriate natural land resource manager/land trust.

e. The [Administrator] may approve another legal and administrative mechanism in lieu of a conservation easement if it is determined to be adequate to protect the site.

4. Enhancement. The manipulation of the physical, chemical, or biological characteristics of a wetland to heighten, intensify, or improve specific wetland function(s). Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in the gain of selected wetland function(s) but may also lead to a decline in other wetland function(s). Enhancement does not result in a gain in wetland area. Enhancement activities could include planting vegetation, controlling non-native or invasive species, and modifying site elevations to alter hydroperiods in existing wetlands.

Applicants proposing to enhance wetlands and/or associated buffers shall demonstrate how the proposed enhancement will increase the wetland and/or buffer functions, how this increase in function will adequately compensate for the impacts, and how existing wetland functions at the mitigation site will be protected.

5. Alternative Types of Mitigation/Resource Tradeoffs. The [Administrator] may approve alternative mitigation proposals that are based on best available science, such as priority restoration plans that achieve restoration goals

identified in the SMP. Alternative mitigation proposals shall provide an equivalent or better level of ecological functions and values than would be provided by standard mitigation approaches. Alternative mitigation approaches shall comply with all reporting, monitoring, and performance measures of this Section including adherence to mitigation sequencing. The [City/County] may consult with agencies with expertise and jurisdiction over the critical areas during the review to assist with analysis and identification of appropriate performance measures that adequately safeguard critical areas.

The [Administrator] will consider the following for approval of an alternative mitigation proposal:

a. Clear identification of how an alternative approach will achieve equal or better ecological benefit.

b. The proposal uses a watershed approach consistent with Selecting Wetland Mitigation Sites Using a Watershed Approach [Western Washington or Eastern Washington (Ecology Publication #09-06-32 or Publication #10-06-007), or as revised].

c. All impacts are identified, evaluated, and mitigated.

d. Methods to demonstrate ecological success are clear and measurable.

070.F. Location of Compensatory Mitigation. Permittee-responsible compensatory mitigation actions shall be conducted using a watershed approach and shall generally occur within the same sub-drainage basin. However, when the applicant can demonstrate that a mitigation site in a different sub-drainage basin is ecologically preferable, it should be used.

The following criteria will be evaluated when determining whether on-site or off-site compensatory mitigation is ecologically preferable. When considering the location of mitigation, preference should be given to using programmatic approaches, such as a mitigation bank or an ILF program.

1. No reasonable opportunities exist on site or within the sub-drainage basin or opportunities on site or within the sub-drainage basin do not have a high likelihood of success based on a determination of the capability of the site to compensate for the impacts. Considerations should include anticipated replacement ratios for wetland mitigation, buffer conditions and required widths, available water to maintain anticipated hydrogeomorphic class(es) of wetlands when restored, proposed flood storage capacity, and potential to mitigate riparian fish and wildlife impacts (such as connectivity);

2. On-site mitigation would require elimination of high-quality upland habitat;

3. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions compared to the altered wetland.

4. Off-site locations shall be in the same sub-drainage basin unless:

   a. Watershed goals for water quality, flood storage or conveyance, habitat, or other wetland functions have been established by the [City/County] and strongly justify locating mitigation at another site;

   b. Credits from a state-certified wetland mitigation bank are used as compensation, and the use of credits is consistent with the terms of the certified bank instrument;

   c. Fees are paid to an approved ILF program to compensate for the impacts.

5. The design for the compensatory mitigation project needs to be appropriate for its position in the landscape. Therefore, compensatory mitigation should not result in the creation, restoration, or enhancement of an atypical wetland.

070.G. Timing of Compensatory Mitigation. It is preferred that compensatory mitigation projects be completed prior to activities that will impact wetlands. At the least, compensatory mitigation shall be completed immediately following wetland impacts and prior to use or occupancy of the action or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife, and flora.

1. The [Administrator] may authorize a one-time temporary delay in completing construction or installation of the compensatory mitigation when the applicant provides a written explanation from a qualified wetland professional as to the rationale for the delay. An appropriate rationale would include identification of the environmental conditions that could produce a high probability of failure or significant construction difficulties. For example, a project delay that creates conflicts with other regulatory requirements (fisheries, wildlife, stormwater, etc.) or installing plants should be delayed until the dormant season to ensure greater survival of installed materials. The delay shall not create or perpetuate hazardous conditions or environmental damage or degradation, and the delay shall not be injurious to the health, safety, or general welfare of the public. The request for the delay shall include a written justification that documents the environmental constraints that preclude timely implementation of the compensatory mitigation plan. The justification will be verified by the [City/County] who will issue a formal decision.

070.H. Wetland Mitigation Ratios.

> See Appendix E for mitigation ratio tables and insert the appropriate tables for your jurisdiction here.

070.I. Credit-Debit Method. To protect functions and values more fully, and as an alternative to the mitigation ratios found in Section 070.H of this Chapter, the [Administrator] may allow mitigation based on the Credit-Debit Method developed by the Department of Ecology in Calculating Credits and Debits for Compensatory Mitigation in Wetlands of [Western Washington (Ecology Publication # 10-06-011) or Eastern Washington (Ecology Publication #11-06-015), or as revised].

070.J. Mitigation Plan. When a project involves wetland and/or buffer impacts, a mitigation plan prepared by a qualified wetland professional shall be required, meeting the following minimum standards:

1. Wetland Critical Area Report. A critical area report for wetlands shall accompany or be included in the compensatory mitigation plan and include the minimum parameters described in Section 060.B of this Chapter, Minimum Standards for Wetland Reports.

2. Mitigation Plan and Plan Sheets. The report shall include a written plan and plan sheets that contain, at a minimum, the elements listed below. Full guidance can be found in Wetland Mitigation in Washington State–Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication #06-06-011b, or as revised).

   a. The written report shall be prepared by a qualified wetland professional and contain, at a minimum:

      i. The name and contact information of the applicant; the name, qualifications, and contact information of the primary author(s) of the compensatory mitigation plan; a description of the development proposal; a summary of the impacts and proposed compensation concept; identification of all the local, state, and federal wetland-related permits required for the project; and a vicinity map for the project.

      ii. Description of how the development project has been designed to avoid, minimize, or reduce adverse impacts to wetlands.

      iii. Description of the existing wetland and buffer areas proposed to be altered. Include acreage or square footage, water regime, vegetation, soils, functions, landscape position, and surrounding land uses. Also describe impacts in terms of acreage by Cowardin classification, hydrogeomorphic classification, and wetland rating, based on Section 020.B of this Chapter, Wetland Ratings.

iv. Description of the compensatory mitigation site, including location and rationale for selection. Include an assessment of existing conditions, including acreage or square footage of wetlands and uplands, water regime, sources of water, vegetation, soils, functions, landscape position, and surrounding land uses. Estimate future conditions in this location if the compensation actions are not undertaken.

v. Surface and subsurface hydrologic conditions, including an analysis of existing and proposed hydrologic regimes for enhanced, established, or restored compensatory mitigation areas. Include illustrations of how data for existing hydrologic conditions were used to determine the estimates of future hydrologic conditions.

vi. A description of the proposed actions for compensation of wetland and buffer areas affected by the project. Include overall goals of the proposed mitigation, including a description of the targeted functions, hydrogeomorphic classification, and expected categories of wetlands.

vii. A description of the proposed mitigation construction activities and timing of activities.

viii. Performance standards (measurable standards for years post-installation) for wetland and buffer areas, a monitoring schedule, a maintenance schedule, and actions proposed by year.

ix. A discussion of ongoing management practices that will protect wetlands after the development project has been implemented, including proposed monitoring and maintenance programs (for remaining wetlands and compensatory mitigation wetlands).

x. A bond estimate for the entire compensatory mitigation project, including the following elements: site preparation, plant materials, construction materials, installation and oversight, maintenance at least twice per year for up to ten (10) years, annual monitoring field work and reporting, contingency actions for a maximum of the total required number of years for monitoring, and removal of all non-natural site implements (e.g., irrigation equipment, construction fencing, plant protectors, weed barrier fabric) by the end of the monitoring period.

xi. Proof of establishment of Notice on Title for the remaining wetlands and buffers on the development project site (if any) and a legal site protection mechanism for the compensatory mitigation areas.

b. The scaled plan sheets shall contain, at a minimum:

i. Mapped, ground-verified edges of the existing wetland and buffers, proposed areas of wetland and/or buffer impacts, and location of proposed wetland and/or buffer compensation actions.

ii. Existing topography, ground-verified, at two-foot contour intervals in the zone of the proposed compensation actions if any grading activity is proposed in the compensation area(s). Also include existing cross-sections (estimated one-foot intervals) of wetland areas on the development site that are proposed to be altered and of the proposed areas of wetland and buffer compensation.

iii. Conditions expected from the proposed actions on site, including future hydrogeomorphic classes, vegetation community types (e.g., Cowardin class), and future hydroperiods.

iv. Required wetland buffers for existing wetlands and proposed compensation areas. Also identify any zones where buffers are proposed to be reduced or enlarged outside of the standards identified in this Chapter.

v. A planting plan for the compensation area, including all species by proposed community type and hydroperiod, size and type of plant material to be installed, spacing of plants, typical clustering patterns, total number of each species by community type, and timing of installation.

070.K. Buffer Mitigation Ratios. Impacts to buffers shall be mitigated at a minimum 1:1 ratio. Compensatory buffer mitigation shall replace those buffer functions lost from development.

070.L. Protection of the Mitigation Site. The mitigation area and any associated buffer shall be protected by a legal mechanism such as a critical area tract or a conservation easement. The [Administrator] may approve another legal and administrative mechanism if it is determined to be adequate to protect the site.

070.M. Monitoring. Mitigation monitoring shall be required for a period necessary to establish that performance standards have been met, but not for a period less than five years. If a scrub-shrub or forested vegetation community is proposed, monitoring may be required for ten years or more. The mitigation plan shall include monitoring elements that ensure success for the wetland and buffer functions. If the mitigation goals are not attained within the initially established monitoring period, the applicant remains responsible for managing the mitigation project until the goals of the mitigation plan are achieved.

080 Unauthorized Alterations and Enforcement

080A. When a wetland or its buffer has been altered in violation of this Chapter, all ongoing development work shall stop, and the critical area shall be restored. The [Administrator] shall have the authority to issue a [stop-work] order to cease all ongoing development work and order restoration, rehabilitation, or replacement measures at the owner's or other responsible party's expense to compensate for violation of provisions of this Chapter.

080.B. Requirement for Restoration Plan. All development work shall remain stopped until a restoration plan is prepared and approved by the [Administrator]. Such a plan shall be prepared by a qualified wetland professional using currently accepted scientific principles and shall describe how the actions proposed meet the minimum requirements described in Subsection C below. The [Administrator] may, at the owner's or other responsible party's expense, seek expert advice in determining the adequacy of the plan. Inadequate plans shall be returned to the applicant or other responsible party for revision and re-submittal.

080.C. Minimum Performance Standards for Restoration. The following minimum performance standards shall be met for the restoration of a wetland, when the owner or other responsible party can demonstrate that greater functions and habitat values can be attained, these standards may be modified:

1. The pre-violation structure, functions, and values of the affected wetland shall be restored.
2. The pre-violation soil types and configuration shall be restored to the extent practicable.
3. The wetland and buffers shall be replanted with native vegetation that replicates the pre-violation vegetation in species types, sizes, and densities.
4. Information demonstrating compliance with other applicable provisions of this Chapter shall be submitted to the [Administrator].

080.D. Site Investigations. The [Administrator] is authorized to make site inspections and take such actions as are necessary to enforce this Chapter. The [Administrator] shall present proper credentials and make a reasonable effort to contact the property owner before entering onto private property.

080.E. Penalties. Any person, party, firm, corporation, or other legal entity convicted of violating any of the provisions of this Chapter shall be guilty of a [misdemeanor/civil infraction/etc.].

1. Each day or portion of a day during which a violation of this Chapter is committed or continued shall constitute a separate offense. Any development carried out contrary to the provisions of this Chapter shall constitute a public

nuisance and may be enjoined as provided by the statutes of the state of Washington. The [Administrator] may levy civil penalties against any person, party, firm, corporation, or other legal entity for violation of any of the provisions of this Chapter. The civil penalty shall be [as provided for in City/County code].

2. If the wetland affected cannot be restored, monies collected as penalties shall be deposited in a dedicated account for the preservation or restoration of landscape processes and functions in the watershed in which the affected wetland is located. The [Administrator] may coordinate preservation or restoration activities with other jurisdictions in the watershed to optimize the effectiveness of the restoration action.

Appendix B. Definitions

Agricultural activities, existing and ongoing: Those activities conducted on lands defined in RCW 84-34-020(2), and those activities involved in the production of crops and livestock, including but not limited to operation, maintenance and conservation measures of farm and stock ponds or drainage ditches, irrigation systems, changes between agricultural activities, and normal operation, maintenance or repair of existing serviceable structures, facilities or improved areas. Activities that bring an area into agricultural use are not part of an ongoing activity. An operation ceases to be ongoing when the area in which it was conducted is proposed for conversion to a nonagricultural use or has lain idle for a period of longer than five years, unless the idle land is registered in a federal or state soils conservation program.

Alkali wetlands: See *Wetlands with special characteristics.*

Alteration: Any human-induced change in an existing condition of a critical area or its buffer. Alterations include, but are not limited to, grading, filling, channelizing, dredging, clearing of vegetation, construction, compaction, excavation, or any other activity that changes the character of the critical area or its buffer.

Atypical wetland: A wetland whose "design" does not match the type of wetland that would be found in the geomorphic setting of the proposed site (i.e., the water source and hydroperiod proposed for the mitigation site are not typical for the geomorphic setting). Designs that provide exaggerated morphology or require a berm or other engineered structures to hold back water would also be considered atypical. Note: An atypical wetland resulting from an inappropriate hydrogeomorphic class is different from the "atypical situation" defined in the Corps 1987 wetland delineation manual.

Best available science (BAS): Current scientific information used in the process of designating, protecting, or restoring critical areas; that is, scientific information derived from a valid scientific process as defined by WAC 365-195-900 through 925.

Best management practices (BMPs): Conservation practices or systems of practices and management measures that:

(a) Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxics, or sediment;

(b) Minimize adverse impacts to surface water and ground water flow and circulation patterns and to the chemical, physical, and biological characteristics of wetlands;

(c) Protect trees, vegetation, and soils designated to be retained during and following site construction and use native plant species appropriate to the site for re-vegetation of disturbed areas; and

(d) Provide standards for proper use of chemical herbicides within critical areas.

Bog: See *Wetlands with special characteristics*.

Buffer or buffer area: Vegetated areas adjacent to wetlands or other aquatic resources that can reduce impacts from adjacent land uses through various physical, chemical, and/or biological processes.

Calcareous fens: See *Wetlands with special characteristics.*

Carbon sequestration: The process of capturing and storing atmospheric carbon dioxide through biologic, chemical, geologic, or physical processes (RCW 70A-45-010).

Clean Water Act (CWA): The federal law that establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the CWA, the U.S. Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for industry. The EPA has also developed national water quality criteria recommendations for pollutants in surface waters.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of wetlands for the purposes of offsetting unavoidable adverse impacts that remain after all appropriate and practicable avoidance and minimization has been achieved.

Cowardin classification. A commonly used classification system for wetlands. It was first developed in 1979 by the U.S. Fish and Wildlife Service and updated in 2013 (Federal Geographic Data Committee, 2013). The Cowardin system classifies wetlands based on water flow, substrate types, vegetation types, and dominant plant species. It is used for wetland classification in the National Wetland Inventory.

Credit-Debit Method: A tool to provide applicants and regulators a way to determine whether actions taken to mitigate an impact to wetlands will adequately replace

the functions and values lost. It is based on the Washington State Wetland Rating System.

Critical areas: Any of the following areas or ecosystems: (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.

Critical habitat: A term defined and used in the Endangered Species Act. It is specific geographic areas that contain features essential to the conservation of an endangered or threatened species and may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but are needed for its recovery.

Creation: The manipulation of the physical, chemical, or biological characteristics present to develop a wetland that did not previously exist at an upland site. Creation results in a gain in wetland area and functions. A typical action is the excavation of upland soils to elevations that will produce a wetland hydroperiod and hydric soils, and support the growth of hydrophytic plant species.

Cumulative impacts: The combined, incremental effects of human activity on critical area functions and values. Cumulative impacts result when the effects of an action are added to or interact with the effects of other actions in a particular place and within a particular time. It is the combination of these effects, and any resulting environmental degradation, that should be the focus of cumulative impact analysis and changes to policies and permitting decisions.

Development: A land use consisting of the construction or exterior alteration of structures; grading, dredging, drilling, or dumping; filling; removal of sand, gravel, or minerals; bulkheading; driving of pilings; or any project of a temporary or permanent nature that modifies structures, land, wetlands, buffers, or shorelines and that does not fall within the allowable exemptions or exceptions contained in the [City/County] Code.

Emergencies: Those activities necessary to prevent an immediate threat to public health, safety, or welfare, or that pose an immediate risk of damage to private property and that require remedial or preventive action in a timeframe too short to allow for compliance with the requirements of the critical areas regulations.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of a wetland to heighten, intensify, or improve specific function(s). Enhancement results in the gain of selected function(s), but may also lead to a decline in other function(s). Enhancement does not result in a gain in wetland area.

Establishment: See *Creation*.

Estuarine wetland: See *Wetlands with special characteristics.*

Forested wetlands: See *Wetlands with special characteristics.*

Functions and values: The ecosystem services provided by critical areas to society, including, but not limited to, improving and maintaining water quality, providing fish and wildlife habitat, supporting terrestrial and aquatic food chains, reducing flooding and erosive flows, wave attenuation, carbon sequestration, thermal refugia, historical or archaeological importance, cultural uses and significance, educational opportunities, and recreation.

Growth Management Act: Chapters 36-70A and 36-70B RCW, as amended.

Impervious surface: A surface area that either prevents or retards the entry of water into the soil or other substrate that would occur under natural conditions prior to development. A non-vegetated surface area that causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under pre-development or pre-developed conditions. Common impervious surfaces include, but are not limited to, rooftops; walkways; patios; driveways; parking lots; storage areas; concrete or asphalt paving; gravel roads; packed earthen materials; and oiled, macadam, or other surfaces that similarly impede the natural infiltration of stormwater.

In-lieu fee (ILF) program: An agreement between a regulatory agency (state, federal, or local) and a single sponsor, generally a public natural resource agency or non-profit organization. Under an in-lieu-fee agreement, the sponsor collects funds from individuals and/or entities required to conduct compensatory mitigation under a wetland regulatory program. The sponsor uses the funds pooled from multiple permittees to create one or more mitigation sites under the authority of the agreement to satisfy the permittees' required mitigation.

Infiltration: The downward entry of water into the soil.

Interdunal wetland: See *Wetlands with special characteristics*.

Low Impact Development (LID) methodology: A stormwater and land-use management strategy that tries to mimic natural hydrologic conditions by emphasizing the following techniques: conservation, use of on-site natural features, site planning, and distributed stormwater best management practices (BMPs) integrated into a project design.

Mitigation sequence: A prescribed order of steps taken to reduce the impacts of activities on wetlands. As defined in WAC 197-11-768, mitigation means:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action;

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;

(c) Rectifying the impact to wetlands, critical aquifer recharge areas, and habitat conservation areas by repairing, rehabilitating, or restoring the affected environment;

(d) Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;

(e) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

(f) Monitoring the impact and taking remedial action when necessary.

Monitoring: Evaluating the impacts of development proposals on biological, hydrological, and geological elements of critical areas, and assessing the performance of required mitigation measures through the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features. Monitoring includes gathering baseline data.

National Wetland Inventory (NWI): A publicly available resource provided by the U.S. Fish and Wildlife Service that provides detailed information and maps showing the abundance, characteristics, and distribution of wetlands in the U.S.

Native vegetation: Plant species that occur naturally in a particular region or environment and were present before European colonization.

Non-federally regulated wetland: A wetland that is not jurisdictional under the federal Clean Water Act. Sometimes referred to as “isolated wetlands,” these wetlands remain regulated under state and local laws and rules, whether or not they are protected by federal law.

Off-site compensatory mitigation: Replacement of critical areas away from the site on which a critical area has been impacted.

On-site compensatory mitigation: Replacement of critical areas at or adjacent to the site on which a critical area has been impacted.

Ordinary High Water Mark: Under the Shoreline Management Act, that mark which is found by examining the bed and banks of water bodies and ascertaining where

the presence and action of waters are so common and usual, and so long continued in all ordinary years, that the soil has a character distinct from that of the abutting upland in respect to vegetation.

Preservation: The removal of a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This term includes activities commonly associated with the protection and maintenance of wetlands through the implementation of appropriate legal and physical mechanisms (such as recording conservation easements and providing structural protection like fences and signs). Preservation does not result in a gain of wetland area and functions (but may result in a gain in functions over the long term).

Prior Converted Croplands (PCC): Wetlands that, prior to December 23, 1985, were drained or otherwise manipulated to enable production of an agricultural commodity crop. Farmland must meet all the following criteria for it to be designated as Prior Converted Cropland:

(a) Cropped prior to December 23, 1985, with an agricultural commodity (an annually tilled crop such as corn);

(b) The land was cleared, drained or otherwise manipulated to make it possible to plant a crop;

(c) The land has continued to be used for agricultural purposes (cropping, haying or grazing); and

(d) The land does not flood or pond for more than 14 days during the growing season.

Priority area: Known limiting habitats (e.g., breeding areas) or areas that support a relatively high number of individuals (e.g., regular concentrations) identified in WDFW's Priority Habitats and Species List.

Priority habitats: As defined by WDFW, habitat types or elements with unique or significant value to a diverse assemblage of species. A priority habitat may consist of a unique vegetation type (e.g., shrub-steppe) or dominant plant species (e.g., juniper savannah), a described successional stage (e.g., old-growth forest), or a specific habitat feature (e.g., cliffs).

Priority species: As defined by WDFW, State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations (e.g., heron colonies, bat colonies) considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable.

Project area: All areas, including those within fifty (50) feet of the area, proposed to be disturbed, altered, or used by the proposed activity or the construction of any proposed structures. When the action binds the land, such as a subdivision, short subdivision, binding site plan, planned unit development, or rezone, the project area shall include the entire parcel, at a minimum.

Qualified wetland professional: A person with professional wetland experience that meets the following criteria:

(a) A Bachelor of Science or Bachelor of Arts or equivalent degree in hydrology, soil science, botany, ecology, resource management, or related field, or four years of full-time work experience as a wetland professional may substitute for a degree, and

(b) At least two additional years of full-time work experience as a wetland professional; including delineating wetlands, preparing wetland reports, conducting function assessments, and developing and implementing mitigation plans, and

(c) Completion of additional wetland-specific training programs. This could include a more comprehensive program such as the University of Washington Wetland Science and Management Certificate Program or individual workshops on topics such as wetland delineation, function assessment, mitigation design, hydrophytic plant or hydric soil identification.

A person certified as a Professional Wetland Scientist through the Society of Wetland Scientists professional certification program meets the above criteria.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions and environmental processes to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland area and functions.

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

Repair or maintenance: An activity that restores the character, scope, size, and design of a serviceable area, structure, or land use to its previously authorized and undamaged condition. Activities that change the character, size, or scope of a project beyond the original design and drain, dredge, fill, flood, or otherwise alter critical areas are not included in this definition.

Restoration: Measures taken to restore an altered or damaged natural feature, including:

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

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

Revised Code of Washington (RCW): A compilation of all permanent Washington state laws currently in force.

SEPA: Washington State Environmental Policy Act, Chapter 43-21C RCW.

Service area: The geographic area within which impacts can be mitigated at a specific mitigation bank or an in-lieu fee program, as designated in its instrument.

Shoreline Management Act (SMA): Chapter 90-58 RCW, which is the law that requires all counties, towns, and cities with shorelines to develop and implement shoreline master programs.

Soil survey: The most recent Natural Resources Conservation Service soil maps for the local area or county by the National Resources Conservation Service, U.S. Department of Agriculture.

Species, listed: Any species listed under the federal Endangered Species Act or state endangered, threatened, and sensitive, or priority lists (see WAC 220-610-110 or current "Priority Habitat and Species List," Washington Department of Fish and Wildlife).

Species of local importance: Those species of local concern designated by the [City/County] in Chapter [Section #] deemed to need additional or special consideration or protection due to their population status or their sensitivity to habitat manipulation.

Stream: An area where open surface water produces a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices, or other entirely artificial watercourses, unless they are used by salmonids or are used to convey a watercourse that was naturally occurring prior to construction. A channel or bed need not contain water year-round, provided there is evidence of at least intermittent flow during years of normal rainfall.

Temporal loss: The time lag between the loss of wetland functions caused by the permitted or unpermitted impacts and the replacement of wetland functions at the compensatory mitigation site.

Thermal refugia: Sites within a landscape that are relatively protected from temperature extremes and warming trends.

Unavoidable impacts: Adverse impacts that remain after all appropriate and practicable avoidance and minimization has been achieved.

Vernal pools: See *Wetlands with special characteristics*.

Voluntary Stewardship Program (VSP): The local program under the supervision of the Washington State Conservation Commission where counties and agricultural landowners can implement an incentive-based program to provide farm-friendly options for protecting and enhancing critical areas in places where agricultural activity is conducted.

Washington Administration Code (WAC): Administrative rules implementing state laws.

Watershed approach: A watershed approach means an analytical process for making compensatory mitigation decisions that support the sustainability or improvement of wetlands in a watershed. It involves consideration of watershed needs, and how locations and types of compensatory mitigation projects address those needs. A landscape perspective is used to identify the types and locations of compensatory mitigation projects that will benefit the watershed and offset losses of wetland functions and services caused by authorized activities. The watershed approach may involve consideration of landscape scale, historic and potential wetland conditions, past and projected wetland impacts in the watershed, and terrestrial connections between wetlands when determining compensatory mitigation requirements.

Watershed plan: A plan developed by federal, tribal, state, and/or local government agencies and/or appropriate non-governmental organizations, in consultation with relevant stakeholders, for the specific goal of aquatic resource restoration, establishment, enhancement, and preservation. A watershed plan addresses aquatic resource conditions in the watershed, multiple stakeholder interests, and land uses. Watershed plans may also identify priority sites for aquatic resource restoration and protection. Examples of watershed plans include special area management plans, advance identification programs, and wetland management plans.

Wetlands: Those areas 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 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 to mitigate the conversion of wetlands.

Wetland delineation: The method used to establish the existence (location) and physical limits (size) of a wetland for purposes of federal, state, and local regulations.

Wetlands of High Conservation Value: See *Wetlands with special characteristics*.

Wetland mitigation bank: A site or suite of sites where resources are restored, created, enhanced, and/or preserved, for the purpose of providing compensatory mitigation for impacts. In general, a mitigation bank sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the mitigation bank sponsor. The operation and use of a mitigation bank are governed by a mitigation banking instrument.

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

Wetlands in coastal lagoons: See *Wetlands with special characteristics.*

Wetlands with special characteristics for eastern Washington: Alkali wetlands, bogs, calcareous fens, forested wetlands, vernal pools, and Wetlands of High Conservation Value. Detailed information about these individual wetland types is found in Washington State Wetland Rating System for Eastern Washington: 2014 Update (Ecology Publication #14-06-030), or as revised.

Wetlands with special characteristics for western Washington: Bogs, estuarine wetlands, forested wetlands, interdunal wetlands, wetlands in coastal lagoons, and Wetlands of High Conservation Value. Detailed information about these individual wetland types is found in the Washington State Wetland Rating System for Western Washington: 2014 Update (Ecology Publication #14-06-029), or as revised.

Appendix C. Buffer Approaches for Western Washington

Option 1

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

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

Impact minimization measures

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

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

Table 2. Impact minimization measures

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Lights	• Parking lots • Commercial/Industrial • Residential • Recreation (e.g., athletic fields) • Agricultural buildings	• Direct lights away from wetland • Only use lighting where necessary for public safety and keep lights off when not needed • Use motion-activated lights • Use full cut-off filters to cover light bulbs and direct light only where needed • Limit use of blue-white colored lights in favor of red-amber hues • Use lower-intensity LED lighting • Dim light to the lowest acceptable intensity
Noise	• Commercial • Industrial • Recreation (e.g., athletic fields, bleachers, etc.) • Residential • Agriculture	• Locate activity that generates noise away from wetland • Construct a fence to reduce noise impacts on adjacent wetland and buffer • Plant a strip of dense shrub vegetation adjacent to wetland buffer
Toxic runoff	• Parking lots • Roads • Commercial/industrial • Residential areas • Application of pesticides • Landscaping • Agriculture	• Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 ft. of wetland • Apply integrated pest management (These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.)

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Stormwater runoff	• Parking lots • Roads • Residential areas • Commercial/industrial • Recreation • Landscaping/lawns • Other impermeable surfaces, compacted soil, etc.	• Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized or sheet flow from lawns that directly enters the buffer • Infiltrate or treat, detain, and disperse new runoff from impervious surfaces and lawns
Pets and human disturbance	• Residential areas • Recreation	• Use privacy fencing • Plant dense native vegetation to delineate buffer edge and to discourage disturbance • Place wetland and its buffer in a separate tract • Place signs around the wetland buffer every 50-200 ft., and for subdivisions place signs at the back of each residential lot • When platting new subdivisions, locate greenbelts, stormwater facilities, and other lower-intensity uses adjacent to wetland buffers
Dust	• Tilled fields • Roads	• Use best management practices to control dust

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

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

Conditions for implementing Tables 1, 2, and 3

1. Wetlands that score 6 points or more for habitat function: the buffers in Table 1 can be used only if all of the following criteria are met:

a. A relatively undisturbed, vegetated corridor at least 100 feet wide is protected between the wetland and:

i. A legally protected, relatively undisturbed and vegetated area (e.g., Priority Habitats, compensatory mitigation sites, wildlife areas/refuges, national, county, and state parks where they have management plans with identified areas designated as Natural, Natural Forest, or Natural Area Preserve, or

ii. An area that is the site of a Watershed Project identified within, and fully consistent with, a Watershed Plan as defined by RCW 89-08-460, or

iii. An area where development is prohibited according to the provisions of the local shoreline master program, or

iv. An area with equivalent habitat quality that has conservation status in perpetuity, in consultation with WDFW.

b. The corridor is permanently protected for the entire distance between the wetland and the shoreline or legally protected area by a conservation easement, deed restriction, or other legal site protection mechanisms.

c. Presence or absence of the shoreline or Priority Habitat must be confirmed by a qualified biologist or shoreline Administrator.

d. The measures in Table 2 are implemented, as applicable, to minimize the impacts of the adjacent land uses.

2. For wetlands that score 5 or fewer habitat points, only the measures in Table 2 are required for the use of the buffers in Table 1.

3. If an applicant does not apply the mitigation measures in Table 2 or is unable to provide a protected corridor, then the buffers in Table 3 shall be used.

4. The buffer widths in Tables 1 and 3 assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer must either be planted to create the appropriate native plant community or be widened to ensure that the buffer provides adequate functions to protect the wetland.

Note: An expanded table with graduated buffer widths based on habitat score is also outlined in the July 2018 Appendix 8-C[76] of *Wetlands in Washington State, Volume 2*. This is an approach that assigns unique buffer widths to each habitat score in seven increments. It is a gradual increase in buffer width with each point. Compared to Option 1, this avoids a marked increase in buffer width resulting from an increase of one point in the habitat score.

Option 2

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

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

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

Table 2. Levels of impacts from proposed land use types

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

Level of impact from proposed land use	Types of land use
High	• Commercial • Urban • Industrial • Institutional • Mixed-use developments • Residential (more than 1 unit/acre) • Roads: federal and state highways, including on-ramps and exits, state routes, and other roads associated with high-impact land uses • Railroads • Agriculture with high-intensity activities (dairies, nurseries, greenhouses, growing and harvesting crops requiring annual tilling, raising and maintaining animals, etc.)

[76] https://apps.ecology.wa.gov/publications/parts/0506008part3.pdf

Level of impact from proposed land use	Types of land use
	• Open/recreational space with high-intensity uses (golf courses, ball fields, etc.) • Solar farms (utility scale)
Moderate	• Residential (1 unit/acre or less) • Roads: Forest Service roads and roads associated with moderate-impact land uses • Open/recreational space with moderate-intensity uses (parks with paved trails or playgrounds, biking, jogging, etc.) • Agriculture with moderate-intensity uses (orchards, hay fields, light or rotational grazing, etc.) • Utility corridor or right-of-way used by one or more utilities and including access/maintenance road • Wind farm
Low	• Natural resource lands (forestry/silviculture–cutting of trees only, not land clearing and removing stumps) • Open/recreational space with low-intensity uses (unpaved trails, hiking, birdwatching, etc.) • Utility corridor without a maintenance road and little or no vegetation management • Cell tower

Option 3

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

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

page intentionally left blank

Appendix D. Buffer Approaches for Eastern Washington

Option 1

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

Category of wetland	Habitat Score 3-5 points (corridor not required)	Habitat Score 6-7 points	Habitat Score 8-9 points	Buffer width based on special characteristics
Category I & II: Based on rating of wetland functions (and not listed below)	75	110	150	NA
Category I & II: Forested	75	110	150	NA
Category I: Bogs, calcareous fens, and Wetlands of High Conservation Value	NA	NA	NA	190
Category I: Alkali	NA	NA	NA	150
Category II: Vernal pool	NA	NA	NA	150
Category III	60	110	150	NA
Category IV	40	40	40	NA

Impact minimization measures

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

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

Table 2. Impact minimization measures

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Lights	• Parking lots • Commercial/Industrial • Residential • Recreation (e.g., athletic fields) • Agricultural buildings	• Direct lights away from wetland • Only use lighting where necessary for public safety and keep lights off when not needed • Use motion-activated lights • Use full cut-off filters to cover light bulbs and direct light only where needed • Limit use of blue-white colored lights in favor of red-amber hues • Use lower-intensity LED lighting • Dim light to the lowest acceptable intensity
Noise	• Commercial • Industrial • Recreation (e.g., athletic fields, bleachers, etc.) • Residential • Agriculture	• Locate activity that generates noise away from wetland • Construct a fence to reduce noise impacts on adjacent wetland and buffer • Plant a strip of dense shrub vegetation adjacent to wetland buffer
Toxic runoff	• Parking lots • Roads • Commercial/industrial • Residential areas • Application of pesticides • Landscaping • Agriculture	• Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 ft. of wetland • Apply integrated pest management (Note: These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.)

Examples of disturbance	Activities and uses that cause disturbances	Examples of measures to minimize impacts
Stormwater runoff	• Parking lots • Roads • Residential areas • Commercial/industrial • Recreation • Landscaping/lawns • Other impermeable surfaces, compacted soil, etc.	• Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized or sheet flow from lawns that directly enters the buffer • Infiltrate or treat, detain, and disperse new runoff from impervious surfaces and lawns
Pets and human disturbance	• Residential areas • Recreation	• Use privacy fencing • Plant dense native vegetation to delineate buffer edge and to discourage disturbance • Place wetland and its buffer in a separate tract • Place signs around the wetland buffer every 50-200 ft., and for subdivisions place signs at the back of each residential lot • When platting new subdivisions, locate greenbelts, stormwater facilities, or other lower-intensity land uses adjacent to wetland buffers
Dust	• Tilled fields • Roads	• Use best management practices to control dust

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

Category of wetland	Habitat score 3-5 points	Habitat score 6-7 points	Habitat score 8-9 points	Buffer width based on special characteristics
Category I & II: Based on rating of wetland functions (and not listed below)	100	150	200	NA
Category I & II: Forested	100	150	200	NA
Category I: Bogs, calcareous fens, and Wetlands of High Conservation Value	NA	NA	NA	250
Category I: Alkali	NA	NA	NA	200
Category II: Vernal pool	NA	NA	NA	200
Category III	80	150	200	NA
Category IV	50	50	50	NA

Conditions for implementing Tables 1, 2, and 3

1. Wetlands that score 6 points or more for habitat function: the buffers in Table 1 can be used only if all of the following criteria are met:

a. A relatively undisturbed, vegetated corridor at least 100 feet wide is protected between the wetland and:

i. A legally protected, relatively undisturbed and vegetated area (e.g., Priority Habitats, compensatory mitigation sites, wildlife areas/refuges, national, county, and state parks where they have management plans with identified areas designated as Natural, Natural Forest, or Natural Area Preserve, or

ii. An area that is the site of a Watershed Project identified within, and fully consistent with, a Watershed Plan as defined by RCW 89-08-460, or

iii. An area where development is prohibited according to the provisions of the local shoreline master program, or

iV. An area with equivalent habitat quality that has conservation status in perpetuity, in consultation with WDFW.

b. The corridor is permanently protected for the entire distance between the wetland and the shoreline or legally protected area by a conservation easement, deed restriction, or other legal means.

c. Presence or absence of the shoreline or Priority Habitat must be confirmed by a qualified biologist or shoreline Administrator.

d. The measures in Table 2 are implemented, as applicable, to minimize the impacts of the adjacent land uses.

2. For wetlands that score 5 or fewer habitat points, only the measures in Table 2 are required for the use of the buffers in Table 1.

3. If an applicant does not apply the mitigation measures in Table 2 or is unable to provide a protected corridor, then the buffers in Table 3 shall be used.

4. The buffer widths in Tables 1 and 3 assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is un-vegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer must either be planted to create the appropriate native plant community or be widened to ensure that the buffer provides adequate functions to protect the wetland.

Note: An expanded table with graduated buffer widths based on habitat score is also outlined in the July 2018 Appendix 8-D[77] of *Wetlands in Washington State, Volume 2*. This is an approach that assigns unique buffer widths to each habitat score in seven increments. It is a gradual increase in buffer width with each point. Compared to Option 1, this avoids a marked increase in buffer width resulting from an increase of one point in the habitat score.

Option 2

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

Category of wetland	Land use with low impact*	Land use with moderate impact*	Land use with high impact*
I	125	190	250
II	100	150	200
III	75	110	150
IV	25	40	50

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

Table 2. Levels of impacts from proposed land use types

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

Level of impact from proposed land use	Types of land use
High	• Commercial • Urban • Industrial • Institutional • Mixed-use developments • Residential (more than 1 unit/acre) • Roads: federal and state highways, including on-ramps and exits, state routes, and other roads associated with high-impact land uses • Railroads • Agriculture with high-intensity activities (dairies, nurseries, greenhouses, growing and harvesting crops requiring annual tilling, raising and maintaining animals, etc.)

[77] https://apps.ecology.wa.gov/publications/parts/0506008part4.pdf

Level of impact from proposed land use	Types of land use
	• Open/recreational space with high-intensity uses (golf courses, ball fields, etc.) • Solar farms (utility scale)
Moderate	• Residential (1 unit/acre or less) • Roads: Forest Service roads and roads associated with moderate-impact land uses • Open/recreational space with moderate-intensity uses (parks with paved trails or playgrounds, biking, jogging, etc.) • Agriculture with moderate-intensity uses (orchards, hay fields, light or rotational grazing, etc.) • Utility corridor or right-of-way used by one or more utilities and including access/maintenance • Wind farm
Low	• Natural resource lands (forestry/silviculture–cutting of trees only, not land clearing and removing stumps) • Open/recreational space with low-intensity uses (unpaved trails, hiking, birdwatching, etc.) • Utility corridor without a maintenance road and little or no vegetation management • Cell tower

Option 3

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

Category of wetland	Buffer width
I	250
II	200
III	150
IV	50

page intentionally left blank

Appendix E. Mitigation Ratio Tables

Compensation ratios for permanent impacts (western and eastern Washington)

Table 1

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

Notes:

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

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

Table 2. Western

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

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

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

Table 2. Eastern

Category of impacted wetland (based on special characteristics)	Re-establishment or creation	Rehabilitation	Preservation	Enhancement
Category I forested	6:1	12:1	24:1	24:1
Category II forested (eastern WA only)	4:1	8:1	16:1	16:1
Bogs and calcareous fens	NA	NA	24:1	NA
Wetlands of High Conservation Value	Consult with WA DNR	Consult with WA DNR	24:1	Consult with WA DNR
Alkali wetlands	NA	NA	24:1	NA
Vernal pools	Case by case or 3:1 for re-establishment of a seasonally ponded wetland	Case by case or 6:1 for re-establishment of a seasonally ponded wetland	16:1 (preservation of vernal pool complex)	16:1 (enhancement of both wetlands and uplands within a vernal pool complex)

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