



**STAFF REPORT TO THE
BENTON COUNTY PLANNING COMMISSION**

FILE NO: OA 2021-002 (Ordinance Amendment to Critical Area Regulations)
MEMO DATE: May 7, 2021
HEARING DATE: May 11, 2021 (**Continued from April 13, 2021**)
APPLICANT: Benton County Planning Department
OWNER: N/A
LOCATION: Unincorporated Benton County
PROPERTY SIZE: N/A
AREA TO BE USED: N/A
LAND USE: N/A
COMP. PLAN: N/A
ZONING: N/A
**SUGGESTED STAFF
RECOMMENDATION:** Positive recommendation subject to seven findings of fact.

APPLICATION DESCRIPTION

The public hearing for OA 2021-002 has been continued from April 13, 2021. After receiving public input and comments on the amendments, the public portion of the public hearing was closed. Planning Commission discussion and potential motion(s) has been continued to May 11, 2021 regular Planning Commission hearing. This continuance will allow Planning staff and the Planning Commission time to review all public comments associated with the proposed application.

Background:

Since the adoption of the 2018 Critical Area Ordinance (CAO), the County has wanted to further analyze the best available science (BAS) for riparian buffer widths associated with the County's streams, creeks, and portions of rivers that are not within Washington State Shoreline Management Act jurisdiction.

Currently, the County's adopted BAS for riparian buffer widths is from the management recommendations of the Washington State Department of Fish and Wildlife. While beneficial and useful, these recommendations are not site specific or drainage specific recommendations.

In conjunction with the update to the Shoreline Master Program, the County hired Ben Floyd, White Bluffs Consulting, to assist with analyzing the County riparian buffer widths. On September 30, 2020, Ben Floyd's team submitted a Memorandum proposing new riparian widths for the Benton County Critical Areas Code Update.

The Riparian Buffer Analysis memo assesses the riparian conditions in the County and provides a scientific foundation for determining applicable stream buffers for each stream segment. With the development of the Riparian Buffer Analysis, the County now has site specific analysis for each stream segment to use in development of stream buffer widths that are scientifically appropriate.

Ben Floyd of White Bluffs Consulting will be available, remotely to discuss the Riparian Buffer Analysis and subsequent update to the Critical Area Regulations.

Application:

Benton County is proposing a text amendment to the Critical Area Regulations (Ordinance 609). The amendment involves the following:

BCC 15.02.120 Applicability.

When the Critical Area Ordinance was adopted in 2018 the Voluntary Stewardship Program (VSP) had yet to be finalized and adopted. The proposed amendment clarifies that the VSP for Benton County has been approved by the State:

(a) The provisions of this chapter shall apply to all lands, all land uses and development activity, and all structures and facilities in unincorporated Benton County, whether or not a permit or authorization is required, and shall apply to every person, firm, partnership, corporation, group, governmental agency, or other entity that owns, leases, or administers land within the unincorporated portion of the County, except agricultural activities on agricultural lands, as those terms are defined by RCW 36.70A.703(1) and RCW 90.58.065 as now existing or as hereafter amended, are regulated as set forth below. No person, company, agency, or applicant shall alter a critical area or buffer except as consistent with the purposes and requirements of this chapter.

(1) Benton County has opted into the Voluntary Stewardship Program (VSP), an alternative to the regulatory protection of critical areas on agricultural lands. A working group comprised of agricultural groups, environmental groups, and tribes (~~(is developing)~~) developed and approved a work plan that identifies goals and benchmarks to protect critical areas while maintaining the viability of agriculture through voluntary, incentive based measures (WAC 365-1919-010(1) as now existing and hereafter amended).

(i) ~~((If))~~ ~~((#))~~ The work plan developed and approved by the VSP working group ~~((is))~~ was approved by the Washington State Conservation Commission in April 2018, and the provisions ~~((or standards))~~ of this chapter will not apply to agricultural activities on agricultural lands, as those terms are defined ~~((in))~~ by RCW 36.70A.703(1) and RCW 90.58.065, as now existing ~~((and))~~ or as hereafter amended.

(ii) If the ~~((work plan is not approved by the))~~ Washington State Conservation Commission withdraws its approval of the work plan or determines that it ~~((r~~ ~~or))~~ fails to meet goals and benchmarks, the provisions and policies of the chapter will apply to agricultural activities ~~((RCW 36.70A.735 as now existing and hereafter amended))~~ on agricultural lands.

(2) The Benton County Shoreline Master Program, adopted pursuant to RCW 90.58 as now existing and hereafter amended, shall apply to all land use and development activities occurring within shoreline jurisdiction. Within shoreline jurisdiction, if critical areas are present where the activities are to take place, compliance with the SMP is required. No further evaluation under this chapter is required.

(b) The County shall not approve any permit or otherwise issue any authorization not expressly exempted by this chapter to alter the condition of any land, water, or vegetation, or to construct or alter any structure or improvement in, over, or on a critical area or associated buffer, without first ensuring compliance with the requirements of this chapter.

(c) Approval of a permit or development proposal pursuant to the provisions of this chapter does not discharge the obligation of the applicant to comply with the provisions of this chapter.

BCC 15.14.040 Fish and Wildlife Conservation Areas- Performance Standards- General Requirements.

When the Critical Area Ordinance was adopted in 2018 the County adopted the state recommended riparian buffer standards for those rivers, lakes, and streams not located with a SMA shoreline environment. In 2020, the County hired White Bluff Consulting (with Anchor QEA) to evaluate riparian buffers in Benton County and propose draft riparian buffer widths based upon Best Available Science (BAS).

This amendment proposes new riparian buffer standards, removes the buffer modification requirement, and adds buffer width averaging standards consistent with state requirements as follows:

(g) Buffers.

(1) Establishment of Buffers. (~~The Planning Administrator shall require the establishment of~~) Required buffer areas for activities adjacent to habitat conservation areas ((when needed)) to protect habitat conservation areas are as set forth in this section (g). Buffers shall consist of an undisturbed area of native vegetation or areas identified for restoration established to protect the integrity, functions, and values of the affected habitat. Required buffer widths (~~shall~~) reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby and shall be consistent with the management recommendations issued by the Washington State Department of Fish and Wildlife.

(2) Rivers, Lakes, Ponds, and Streams. Waterbodies classified by the water typing system specified in WAC 222-16-030 have the following riparian buffer requirements consistent with State Department of Fish and Wildlife recommendations:

(i) Type S (Shorelines of the State) Standard Buffer Width: Type S waters are protected by the Benton County Shoreline Master Program, as existing and hereafter amended, rather than this chapter.

(ii) Type F (Fish) Standard Buffer Width: ((200-ft)) Seventy-five (75) feet on parcels without streams with adjacent slopes of ten percent (10%) or greater. For parcels that have streams with adjacent slopes of ten percent (10%) or greater the buffer shall be one hundred (100) feet.

(iii) Type Np (Non-Fish Perennial) and type Ns (Non-Fish Seasonal) Standard Buffer Width: ((150-ft)) Fifty (50) feet on parcels without streams with adjacent slopes of ten percent (10%) or greater. For parcels that have streams with adjacent slopes of ten percent (10%) or greater the buffer shall be one hundred (100)

feet.

~~((iv) Type Ns (Non-Fish Seasonal) Standard Buffer Width: 150 ft.~~

~~(3) Buffer modification. To manage for site specific conditions, buffer widths established in section (2) (ii-iv) above may be modified, provided:~~

~~(i) The buffer width modification is no greater than 33%;~~

~~(ii) The critical area study shall demonstrate that the proposed buffer width will continue to protect the integrity, functions, and values of the riparian area and habitat;~~

~~(iii) The critical area study shall include a field verification that evaluates actual river, lake, pond, and stream conditions. This shall be completed by a qualified professional and comply with WAC 365-190-130 (4) (f) (ii), as existing or hereafter amended; and~~

~~(iv) Applicant shall complete a request for consultation with the State Department of Fish and Wildlife consistent with BCC 15.14.030(e)(7).)~~

(3) Buffer Width Averaging. With written approval of the Planning Administrator, riparian buffer widths may be modified at various points in accordance with an approved critical area report and the best available science on a case-by-case basis by requesting buffer widths be applied on an averaging basis. Averaging of buffer widths may only be allowed where a qualified professional demonstrates that:

(i) It will not reduce riparian functions or functional performance;

(ii) The riparian area contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the riparian area would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

(iii) The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer under subsection (g) (2) above; and

(iv) The buffer width is not reduced at any point to less than seventy-five (75) percent of the standard width or fifteen (15) feet, whichever is less.

(4) Measurement.

(i) Buffers for rivers, lakes, ponds, and streams shall be measured in all directions from the ordinary high-water mark (OHWM) as identified in the field; and

(ii) Buffers for other habitat types shall be measured in all directions from the habitat boundary, as mapped by the Washington State Department of Fish and Wildlife or a qualified professional pursuant to BCC 15.14.030 (a).

(5) Seasonal Restrictions. When a species is more susceptible to adverse impacts during specific periods of the year, seasonal restrictions may apply. Larger buffers may be required and activities may be further restricted during the specified season.

APPENDIX- General References and Best Available Science.

Amend the Appendix to include the new Best Available Science, specifically the 2021 document prepared by Anchor QEA known as the "Proposed Riparian Buffers within the Benton Critical Areas Code Update".

SECTION 56. The following section will be known as "APPENDIX A-GENERAL REFERENCES AND BEST AVAILABLE SCIENCE" and will be part of the new Benton County Code Title known as "Environment" but will not be codified.

General References and Best Available Science Sources for Benton County Critical Area Regulations.

This document serves as the General References and Best Available Science produced for the Benton County Critical Area Regulations.

Benton County is mandated by the Growth Management Act of Washington (GMA) to review and update its comprehensive plan and development regulations according to a schedule established in

RCW 36.70A.130(5). This review and update includes the critical area regulations per RCW 36.70A.130(1)(c). The review of critical area regulations under RCW 36.70A.172(1) requires the inclusion of best available science (BAS) and consideration given to anadromous fisheries.

The following documents represent a partial list of general references, data and best available science. This list is not meant to be exhaustive and may be added to in the future. This document is intended to provide an index of the science and data that may be reviewed by Benton County.

FISH AND WILDLIFE CONSERVATION AREAS

AC Geospatial, 2020. Riparian Buffer Analysis Summary Memorandum. Prepared for Benton County, May 2020.

Anchor QEA. 2021. Proposed Riparian Buffers within the Benton County Critical Areas Code Update. Prepared for Benton County, January 30, 2021.

PUBLIC NOTICE

1. A Notice of Public Hearing was published in the Prosser Record on March 30, 2021 and was put on the County's website on March 26, 2020.
2. The Planning Staff mailed out review packets to Technical Agencies on February 24, 2020.

APPLICABLE STANDARDS/ORDINANCES

1. Comprehensive Plan: 2018 Benton County Comprehensive Plan.
2. Zoning Code: Benton County Code, Title 11, Zoning.

AGENCY COMMENTS

None.

RECOMMENDATION

Benton County Planning Staff will assist the Planning Commission with the determination of findings of fact for - File OA 2020-000.

The Benton County Planning Department recommends that the Planning Commission forward a **recommendation of approval** to the Benton County Board of Commissioners for application OA 2020-000 with the following suggested findings of fact and motion.

SUGGESTED FINDINGS OF FACT:

1. Benton County is proposing a text amendment to the County Critical Area Regulations, **Ordinance 609** with a focus on the following:
 - a. BCC 15.02.120 Applicability. When the Critical Area Ordinance was adopted in 2018 the Voluntary Stewardship Program (VSP) had yet to be finalized and adopted. The proposed amendment clarifies that the VSP for Benton County has been approved by the State:
 - b. BCC 15.14.040 Fish and Wildlife Conservation Areas- Performance Standards-General Requirements. When the Critical Area Ordinance was adopted in 2018 the County adopted the state recommended riparian buffer standards for those rivers, lakes, and streams not located with an SMA shoreline environment. In 2020, the County hired White Bluff Consulting (with Anchor QEA) to evaluate riparian buffers in Benton County and propose draft riparian buffer widths based upon Best Available Science (BAS). This amendment proposes new riparian buffer standards, removes the buffer modification requirement, and adds buffer width averaging standards consistent with state requirements as follows:
 - c. APPENDIX- General References and Best Available Science. Amend the Appendix to include the new Best Available Science, specifically the 2021 document prepared by Anchor QEA known as the "Proposed Riparian Buffers within the Benton Critical Areas Code Update".
2. Planning Casefile Application OA 2021-001 is found to be in conformance with the intent of the **Ordinance 611, Section 221** for zoning text amendments.
3. Planning Casefile Application OA 2021-001 is found to be in conformance with the intent of the Benton County Comprehensive Plan.
4. Planning Casefile Application OA 2021-001 was submitted by email to the State of Washington's Department of Commerce on February 24, 2021 for review in compliance with WAC 365-196-630.
5. The legal notification for Planning Casefile Application OA 2021-001 was given on March 30, 2021 pursuant to RCW 36.70.590.
6. Planning Casefile Application OA 2021-001 appeared in an open record virtual public hearing before the County Planning Commission on April 13, 2021 at the Public Services Building, 102206 E. Wiser Parkway, Kennewick WA.
7. At the April 13, 2021 open record hearing, the Planning Commission was available to

receive public testimony, exhibits, and answer questions in the public portion of the hearing.

8. The April 13, 2021 public hearing was continued to May 11, 2021 to give staff and the Planning Commission an opportunity to review the public comments.
9. All those who testified and those public hearing exhibits that were received into evidence are identified in the minutes and are contained in the official record;
10. The Planning Commission received the Staff Memo, dated May 7, 2021, that includes the CAO Comment Response Matrix and agrees with the information found in the staff memo and comment matrix;

SUGGESTED MOTION-

I move that the Chairman, in conjunction with the Secretary of the Planning Commission, prepare and adopt written findings and conclusions reflecting the Commission's recommendation for approval of the proposed zoning amendment, Casefile OA 2021-001 relating to critical areas, amending Ordinance 609, Section 13 and BCC 15.02.120; amending Ordinance 609, Section 54 and BCC 15.14.040; and amending Ordinance 609, Section 56., that articulate and are consistent with the findings, conclusions and recommendations made by the Planning Commission tonight.

Benton County CAO Update – Comment Response Matrix

Comment No.	Commenter	Reference	Comment	Response
1	Debbie Berkowitz	General	<p>My primary concern is that the proposed revised riparian buffers do not take into account the vitally important wildlife protection function of the riparian ecosystem. My second main concern is that the proposed buffers do not provide for sufficient removal of certain pollutants and do not allow for buffer adjustments because of steep slopes, poorly vegetated buffers, disturbed soils, or adjacent high intensity land use. Details follow.</p> <p>Five ecological functions examined: The memo provided to the County by White Bluffs Consulting and QEA Anchor on Jan. 29, 2021 considered the extent of the riparian ecosystem as the area that provides full ecological function for bank stability, shade, pollution removal, contributions of detrital nutrients, and recruitment of large woody debris. Based on these parameters alone they recommended a riparian buffer of 50 ft for streams in Benton County. The memo states that “Recommendations in this document are generally supported by the extended analysis for the Columbia Plateau in Quinn et al (2020)1 ,” and, indeed, much of the other literature cited in the memo deals with these parameters as well. Benton County’s proposed revisions to its CAO bases its riparian buffers on this memo.</p> <p>One other important ecological function not considered: Riparian ecosystems in the County provide the essential ecological function of fish and wildlife habitat and yet the riparian buffer zones required for wildlife are not even considered in the above-mentioned Jan. 29, 2021 memo to the County. The riparian areas provide critical connectivity for wildlife in the County, a vital function of FWHCAs. “Riparian ecosystems are priority habitats in part because wildlife occurs more often and in greater variety in riparian areas than in any other habitat type... Although riparian ecosystems constitute a small portion of the surface landscape, approximately 85% of Washington’s wildlife species are known to use riparian areas associated with rivers and streams.” (Quinn (2020)1 , P. 5). However, as stated in Quinn et al (2020)1 , p. iv, “[Riparian Ecosystems Volume 1] is a partial update because it addresses only aquatic species. Riparian needs of terrestrial species will be updated in the future. Until that update is complete.... consult the 1997 document [Knutson and Naef, Management Recommendations for Washington’s Priority Habitats: Riparian] for information about riparian ecosystems and terrestrial species.” This 1997 document is, in fact, the document that was referenced in the 2018 CAO update in Benton County leading to a riparian buffer of 200 ft for fish-bearing streams (Type F) and 150 ft for non-fish bearing streams (Type Np and Ns).</p> <p>Other documents discuss recommended buffer widths for various birds, mammals, and amphibians. The minimum effective protection zone is typically 100 ft to 700 ft wide, depending on the species (Southeastern Wisconsin Regional Planning Commission (2010)2 (see figure at end). For example, Fischer (2000)3 states that for birds, the riparian zone should be at least 300 ft wide (for larger river systems) or 150 ft wide (for lower-order streams and rivers). While these documents are not based on data from eastern WA, many of the species are similar and have similar habitat needs. (It should be noted that many of the references in the Jan. 29 memo also include studies done in different parts of the U.S.)</p>	<p>Thank you for the thoughtful and thorough review of the draft updated Benton County Critical Areas code and for the comments.</p> <p>WDFW priority habitats and species (PHS) is a very detailed approach for identifying and protecting various habitats and species. The Anchor QEA Best Available Science review along with the supporting GIS analysis and field work conducted by AC GeoSpatial was primarily focused on the riparian areas and their associated functions, as you noted. However, the identified buffers also provide for quite an area on both sides of streams for wildlife habitat and protection.</p> <p>As noted in the AC GeoSpatial memo, as referenced in the Anchor QEA memo, review of the measured streams in Benton County “had an average buffer width of 20 feet per side. The average stream channel width was 7 feet, and the average total riparian area width was 47 feet.” For the streams receiving a 50 foot buffer, this would provide an average of 25 – 30 feet per stream side of non-riparian habitat available for wildlife habitat. For the streams receiving a 75 foot buffer, this would provide an average of 50 – 55 feet per stream side of non-riparian habitat available for wildlife habitat.</p> <p>Additionally, riparian wetlands are regulated by the wetland provisions of the code, and wetland buffers would apply in these sections. Other priority habitats and species potentially impacted by a development proposal would also require additional protection requirements, on top of riparian and wetland protections, such as nesting areas for sensitive bird species. The critical areas code provides for applying the specific WDFW management recommendations for these species and habitats. (See Section 53.c.3 and Section 54.g.1).</p>

Comment No.	Commenter	Reference	Comment	Response
			A qualified professional with a degree in wildlife biology should be consulted to look at this important aspect of riparian buffers before new buffer widths are adopted. Or better, the County should wait until the WDFW updates its consideration of the riparian needs of terrestrial species in a document comparable to Quinn (2020) ¹ which is a good example of the best available science.	The updated buffers have been reviewed by several qualified professionals, including those with expertise in wildlife biology. See also comment 11, from WDFW and their concurrence with these buffers. Also, the proposed buffers are consistent with the buffer widths provided in the County SMP, which also went through extensive discussion with qualified professionals before there were applied.
2		Upland Vegetation	Other issues of concern that need to be addressed in the CAO: 1. Based on the diagrams in the Riparian Buffer Analysis summary memorandum (May 2020, included in the Planning Commission packet), only riparian vegetation appears to have been mapped but the upland vegetation 'zone of influence' wasn't included. This zone of influence is considered part of the Riparian Management Zone (RMZ) in the Columbia plateau (Quinn (2020) ¹ , P. 6). The zone of influence includes areas where ecological processes significantly influence the stream and can be fairly wide. The (desired future condition) zone of influence in the Columbia Plateau is often native shrub-steppe or prairie vegetation. Also explicitly excluded from the Riparian Buffer Analysis were wetlands which are part of riverine systems and should be considered in that context (as well as a wetlands critical area).	See response to Comment 1, ^{3rd} and ^{4th} paragraphs
3		Water Quality	2. In dryland ecoregions, the pollution removal function may determine the width of the zone of influence for aquatic species. In Windrope (2020) ⁴ . WDFW recommends that the RMZ width (based on the needs of aquatic species) be delineated at a minimum of 100 ft, as this provides the width necessary for 95% pollution removal target for most pollutants (~85% for surface nitrogen); this buffer width is also justified by Table 5.4 in Quinn (2020) ¹ . Quinn (2020) ¹ (p. 222) also states that because soils in arid ecoregions may be less permeable and vegetation tends to be less dense, especially in the upland zone of influence, the meta-analyses for pollution removal in forested regions may underestimate buffer widths needed for a given level of removal efficiency. Much of Benton County is occupied by irrigated farmland, dryland wheat farms, or rangelands or has rural development, so pollution sources exist in many riparian areas (and the Voluntary Stewardship Program, while not regulatory, follows the guidance in the CAO). The Windrope (2020) document, which is based on the best available science in Quinn (2020) ¹ , also comments that this minimum buffer of 100 ft should be increased if (a) upland uses contribute nitrogen (p. 22), (b) location has steep slopes, (c) location has poorly drained soils, (d) high intensity land uses are located adjacent to riparian areas, or (e) riparian or upland area is disturbed ("disturbed soils often don't have the same vegetative density or root structure as the native population, thereby altering riparian area efficacy in pollutant removal" (Quinn, P. 118)). Since one or more of the conditions listed in Windrope exist in many riparian areas in the County, the CAO should accommodate the potential need to increase buffers according to the conditions and allowance should be made in the CAO for future changes in land use – which is not currently the case in the proposed revised CAO. In addition, buffers should be increased to support wildlife connectivity and/or to protect riparian adjacent priority habitats.	Updating buffer recommendation to be 100 feet for streams with slopes 10 percent or greater, regardless of stream type. The County is relying on the Voluntary Stewardship Program for agricultural land conservation practices to protect both critical areas and upland habitats
4		Stream Types	3. Non-fish bearing and fish-bearing streams should have the same level of protection. Many of the ecological functions of both types of stream are similar.	Many of the streams identified as non-fish bearing are merely topographic lows without even defined bed and bank, or riparian areas as defined by vegetation that is different from the typical upland shrub steppe. The

Comment No.	Commenter	Reference	Comment	Response
				<p>budget for this effort did not provide for more detailed field verification of each of the topo lows and/or actual streams (with defined bed and bank) in the County, but would expect that many of the identified streams would not in reality meet the stream definition but are still receiving a level of protection.</p> <p>Those streams with a bed and bank, and some regularly recurring flow, have the functions adequately protected, as noted above. Also, the additional protection of 100 feet when adjacent to slopes 10 percent or greater will provide an even greater level of protection.</p>
5		Channel migration	4. Re CAO section 15.14.040(g)(4)(1): Please add: For streams in Benton County with a channel migration zone, the riparian buffer should be measured from the outer edge of the CMZ.	<p>The only documented water body with a channel migration zone in Benton County is the lower Yakima River, which is regulated under shoreline jurisdiction.</p> <p>Additionally, flows in other streams are regulated by irrigation returns or spill that has defined channels with limited floodplain and some occasional riparian wetland areas. The floodplain areas are protected by the riparian buffer and the wetlands are protected through the other provisions of the critical areas code, as noted in other responses.</p>
6		Flooding	5. Peak flows are not always controlled by irrigation practices, especially in winter when flooding does occur. Buffers need to be sufficient to protect the streams from the effects of flooding.	As the buffers provide for significant area outside of the riparian vegetated areas. Additionally, peak natural flows are typically much less than what returns through irrigation.
7		Buffer Averaging	6. Buffer averaging. State guidelines state that the buffer area width is not to be reduced by more than 25% in any location. What is the scientific justification for potentially reducing the width to 15 ft if this results in a buffer that is less than the 25% reduction?	Sorry for the confusion of the language. This is meant to say reduction cannot be more than 25 percent of the buffer, or 15 feet, whichever is smaller. Language will be updated and clarified.
8		Sources	7. The Quinn (2020) ¹ and Windrope (2020) ⁴ references should be included in the FWHCA references section of the CAO.	Update as suggested.

Comment No.	Commenter	Reference	Comment	Response
9		Notice and sources	<p>8. Legal notices should not just be in the Prosser Record Bulletin. They should also be placed in the Tri-City Herald which serves a larger portion of the population of Benton County. If Benton County does indeed value its open spaces and hillsides, as stated in its response to the Scout wind energy project, it presumably also values its wildlife (as numerous citizens stated who expressed their concerns about the potential loss of bird life). Since habitat losses are even more detrimental to birds and wildlife than the wind turbines, the County needs to provide buffers that are reasonably protective of these populations. The proposed buffers are not.</p> <p>References: 1. Quinn, T., G.F. Wilhere, and K.L. Krueger, technical editors (2020), Riparian Ecosystems, Vol 1: Science Synthesis and Management Implications. Habitat Program, Washington Department of Fish and Wildlife, Olympia. WDFW01987. 2. Southeastern Wisconsin Regional Planning Commission (2010), Managing the Water's Edge. 3. Fischer, R.A. (2000), Width of riparian zones for birds. EMRRP Technical Notes Collection, TN EMRRPSI-09, U.S. Army Engineer Research and Development Center, Vicksburg, MS. 4. Windrope, A. T. Rentz, K. Folkerts, and J. Azerrad (2020), Riparian Ecosystems, Vol. 2: Management Recommendations. A priority Habitats and Species Document of the Washington Department of Fish and Wildlife</p>	Thank you for the suggestion.
10	Elizabeth Torrey, WDFW	Sources	WDFW has two updated volumes of the Riparian Ecosystems guidelines. Volume 1 was updated in July 2020. Volume 2 was updated in December 2020. WDFW recommends that these two newest documents be reviewed, utilized, and referenced as part of the literature review and Best Available Science for code updates.	Will update BAS references to notes these sources were considered.
11		Buffers	<p>Within these documents, a 100-foot Riparian Management Zone is recommended as being protective of the functions and values of riparian ecosystems and their adjacent waterbodies within the Columbia Plateau. This is what guided my original comments regarding RMZ/buffer sizing. However, I was made aware that Area Habitat Biologist Mike Ritter had previously reviewed and considered Benton County's proposed buffers, and concurred that the buffer sizing of 50-feet for type N and 75-feet for type F is appropriate and protective. Therefore, I defer to Mike Ritter's original assessment, and agree that what Benton County has proposed is sufficient and acceptable. WDFW requests no changes to the proposed buffers.</p>	Thank you for the follow up clarifications, and please note that we are including a 100-foot buffer in areas where slopes 10 percent or greater, regardless of stream type.
12	Patrick Paulson Laurie Ness	Riparian Areas	We feel the proposed riparian buffer widths for the County's Critical Area Ordinance (CAO) are not sufficient to preserve the functions and values of riparian areas. Riparian areas are a Priority Habitat and Species (PHS) habitat recognized by the Washington Department of Fish and Wildlife (WDFW). As PHS habitat, riparian areas should be protected using the latest science and management recommendations provided by WDFW. ¹ We appreciate efforts the County has made to consult science and to inventory its riparian areas, but note that the recommended buffers do not conform with recommendations from WDFW.	See response to Comment 1, 5 th paragraph. Additionally other PHS habitats including shrub steppe, cliffs and bluffs, along with other critical areas such as wetlands and frequently flooded areas all work together to protect both riparian and upland habitats. Riparian buffers are just one piece of this multi-layered protection approach.

¹ The recommendations include Volumes 1 (Quinn, Wilhere, and Krueger 2020) and 2 (Windrope et al. 2020) of WDFW's *Riparian Ecosystems* (hereafter referred to as *Quinn* and *Windrope*). For protection of riparian habitat for terrestrial species WDFW recommends the 1997 version of the recommendations for riparian (Knutson and Naef 1997) be used (Hereafter referred to as *Knutson*).

Comment No.	Commenter	Reference	Comment	Response
13		Buffers	<p>We note the 150-foot buffer proposed for non-fish-bearing streams is the minimum buffer width consistent with recommendations from WDFW for protection of both aquatic functions and terrestrial species. We don't understand, though, why fish bearing streams have a smaller buffer than non-fish-bearing streams. It may have been intended that non-fish-bearing streams are to have a buffer-width of fifty feet, as proposed in the Best Available Science (BAS) review provided by Anchor QEA.</p> <p>While normally this could be considered a minor error and updated before approval, RCW 36.70A.035.2.a states that ... if the legislative body for a county or city chooses to consider a change to an amendment to a comprehensive plan or development regulation, and the change is proposed after the opportunity for review and comment has passed under the county's or city's procedures, an opportunity for review and comment on the proposed change shall be provided before the local legislative body votes on the proposed change While the statute provides an exception for typographical errors, it only applies if the change can be made "without changing the effect" of the statute.</p> <p>Changing the proposed riparian buffer width from 150 feet to 50 feet without an additional comment period will violate this RCW.</p>	<p>See response to Comment 4.</p> <p>Benton County has followed the state and County requirements for providing public comment ahead of action by the County Commission. The comment period was even continued through to the upcoming May Planning Commission meeting.</p>
14		Best Available Science and Water Quality	<p>Although completed in January, 2021, the BAS Review does not consider recommendations given in Windrope, which state WDFW's guidance for the protection and restoration of healthy, intact, and fully functioning riparian ecosystems and for how land managers and land use regulators can utilize best available science to protect these ecosystems within the scope of their authority and/or ability.</p> <p>In this document, WDFW recommends where the width of the riparian vegetative community is less than 100 feet, we recommend that RMZ width [area requiring protection] be delineated at a minimum of 100 feet, as this provides the width necessary for 95% pollution removal target for most pollutants (approximately 85% for surface nitrogen.) [our emphasis].</p> <p>WDFW also recommendation is to "Apply the recommended RMZ delineation steps to all streams, whether or not they are fish-bearing". This would lead to the same buffer width for all riparian areas. WDFW ... found no evidence that full riparian ecosystem functions along non-fish-bearing streams are less important to aquatic ecosystems than full riparian ecosystem functions along fish-bearing streams. Furthermore, the BAS Review states that In specific cases where slopes into the stream are greater than 10% and adjacent to cultivated agricultural ground. A buffer up to 100 feet would be needed, but these conditions are too atypical in the county to warrant applying this buffer in all cases. By having Riparian buffers of at least 100 feet, we can ensure that these conditions remain atypical and our streams are protected.</p> <p>We also note the Voluntary Stewardship Program (VSP) used to protect critical areas within agricultural areas looks to the CAO for guidelines for buffer widths, so it is doubly important that buffer widths are adequate to protect our waters. Again, we appreciate efforts the County has made to review this science, but it's surprising that the BAS Review concluded that 50 ft buffers are adequate when WDFW concluded that a minimum buffer</p>	<p>See responses to Comments 4, 11, and WDFW comment #11.</p>

Comment No.	Commenter	Reference	Comment	Response
			width would be 100 ft. Given this disparity, the BAS Review should be updated to consider WDFW's latest guidance.	
15		BAS Review Document	<p>We haven't the time for a detailed review of the BAS Review, but note here some examples of how its conclusions are not supported by the science it references.</p> <p>On page 13, the BAS Review ignores multiple sources that suggest that nitrogen removal requires buffers of 80 to 150 ft, instead citing one paper which they claim states that all nitrogen is removed with buffers of 65 ft; in fact this same paper recommends a minimum buffer width of 20m (65 ft) for nitrogen and phosphorus; this paper also states that buffers may need to be as much as 40m wide for nitrogen removal.</p> <p>The BAS Review also cites Buffler to support the statement that "3 to 10 meter-wide grass buffer was found to be sufficient to remove most particulates from overland flow". We note first that in Benton County there are very few places where a "grass buffer" can naturally exist.</p>	The science has a wide range of findings when it comes to protecting streams from various water quality parameters. We have updated the buffer to be 100 feet for areas where slopes are 10 percent or greater,, and regardless of stream type.
16		SMP and CAO	These new CAO buffer values will not be consistent with those in the SMP. Both documents should be based on either the BAS or the most recent and best data, so the buffer widths should be the same, maybe higher for the SMP.	See response to Comment 1, last paragraph
17		Buffer averaging	Paragraph 3.iv is nonsensical: "The buffer width is not reduced at any point to less than seventy-five (75) percent of the standard width or fifteen (15) feet, whichever is less." 75% of 75 ft (the smallest specified buffer) is 56 ft; a specified minimum of 15 ft seems to be non-operational. Should this be 50 ft?	See response to Comment 7
18	Alison Cable, FutureWise	General	Thank you for sending the Riparian Buffer Analysis memo. I reviewed the memo along with the staff report for tonight's public hearing on the critical areas ordinance. I understand from speaking with other interested residents that you expect that the comment period for the CAO will close today. I also have reviewed and support the comments from Debbie Berkowitz and Patrick Paulson and look forward to the County's response to their comments related to buffers and protection of ecological function of the County's critical areas. The Growth Management Act "requires that the regulations for critical areas must protect the 'functions and values' of those designated [critical] areas. This means all functions and values." Furthermore, Critical areas are to be protected by at least "maintaining existing conditions." Please See: Whidbey Env't Action Network v. Island Cty. (WEAN), 122 Wn. App. 156, 174-75, 93 P.3d 885, 894 (2004); and Swinomish Indian Tribal Cmty. v. W. Washington Growth Mgmt. Hearings Bd., 161 Wn.2d 415, 430, 166 P.3d 1198, 1206 (2007), as corrected (Nov. 28, 2007), as corrected (Apr. 3, 2008).	Thank you for this comment. The County feels that the updates being made to the CAO will strengthen the protection of critical areas functions and values.

ORDINANCE NO. _____

AN ORDINANCE relating to critical areas, general provisions and fish and wildlife habitat conservation areas; amending the sections relating to applicability and performance standards-general requirements; amending Ordinance 609, Section 13 and BCC 15.02.120; amending Ordinance 609, Section 54 and BCC 15.14.040; and amending Ordinance 609, Section 56.

BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

SECTION 1. Ordinance 609, Section 13 and BCC 15.02.120 are hereby amended to read as follows:

APPLICABILITY.

(a) The provisions of this chapter shall apply to all lands, all land uses and development activity, and all structures and facilities in unincorporated Benton County, whether or not a permit or authorization is required, and shall apply to every person, firm, partnership, corporation, group, governmental agency, or other entity that owns, leases, or administers land within the unincorporated portion of the County, except agricultural activities on agricultural lands, as those terms are defined by RCW 36.70A.703(1) and RCW 90.58.065 as now existing or as hereafter amended, are regulated as set forth below. No person, company, agency, or applicant shall alter a critical area or buffer except as consistent with the purposes and requirements of this chapter.

(1) Benton County has opted into the Voluntary Stewardship Program (VSP), an alternative to the regulatory protection of critical areas on agricultural lands. A working group comprised of agricultural groups, environmental groups, and tribes (~~(is developing)~~) developed and approved a work plan that identifies goals and benchmarks to protect critical areas while maintaining the viability of agriculture through voluntary, incentive based measures (WAC 365-1919-010(1) as now existing and hereafter amended).

(i) (~~(if)~~) (~~(#)~~) The work plan developed and approved by the VSP working group (~~(is)~~) was approved by the Washington State Conservation Commission in April 2018, and the provisions (~~(or standards)~~) of this chapter will not apply to agricultural activities on agricultural lands, as those terms are defined (~~(in)~~) by RCW 36.70A.703(1) and RCW 90.58.065, as now existing (~~(and)~~) or as hereafter amended.

(ii) If the (~~(work plan is not approved by the)~~) Washington State Conservation Commission withdraws its approval of the work plan or determines that it (~~(, or)~~) fails to meet goals and benchmarks, the provisions and policies of the chapter will apply to agricultural activities (~~(RCW 36.70A.735 as now existing and hereafter amended)~~) on agricultural lands.

(2) The Benton County Shoreline Master Program, adopted pursuant to RCW 90.58 as now existing and hereafter amended, shall apply to all land use and development activities occurring within shoreline jurisdiction. Within shoreline jurisdiction, if critical areas are present where the

activities are to take place, compliance with the SMP is required. No further evaluation under this chapter is required.

(b) The County shall not approve any permit or otherwise issue any authorization not expressly exempted by this chapter to alter the condition of any land, water, or vegetation, or to construct or alter any structure or improvement in, over, or on a critical area or associated buffer, without first ensuring compliance with the requirements of this chapter.

(c) Approval of a permit or development proposal pursuant to the provisions of this chapter does not discharge the obligation of the applicant to comply with the provisions of this chapter.

SECTION 2. Ordinance 609, Section 54 and BCC 15.14.040 are hereby amended to read as follows:

PERFORMANCE STANDARDS—GENERAL REQUIREMENTS.

(a) Alterations shall not degrade the functions and values of habitat. A habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat. All new structures and land alterations shall be prohibited from habitat conservation areas, except in accordance with this chapter.

(b) Nonindigenous Species. No plant, wildlife, or fish species not indigenous to the region shall be introduced into a habitat conservation area unless authorized by a state or federal permit or approval.

(c) Mitigation and Contiguous Corridors. Mitigation sites shall be located to preserve or achieve contiguous wildlife habitat corridors in accordance with a mitigation plan that is part of an approved critical area report to minimize the isolating effects of development on habitat areas, so long as mitigation of aquatic habitat is located within the same aquatic ecosystem as the area disturbed.

(d) Approvals of Activities. The Planning Administrator shall condition approvals of activities allowed within or adjacent to a habitat conservation area or its buffers, as necessary to minimize or mitigate any potential adverse impacts. Conditions shall be based on the best available science and may include, but are not limited to, the following:

- (1) Establishment of buffer zones;
- (2) Preservation of critically important vegetation and/or habitat features such as snags and downed wood;
- (3) Limitation of access to the habitat area, including fencing to deter unauthorized access;
- (4) Seasonal restriction of construction activities;
- (5) Establishment of a duration and timetable for periodic review of mitigation activities; and
- (6) Requirement of a performance bond, when necessary, to ensure completion and success of proposed mitigation.

(e) Mitigation and Equivalent or Greater Biological Functions. Mitigation of alterations to habitat conservation areas shall achieve equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per-function basis.

(f) Approvals and the Best Available Science. Any approval of alterations or impacts to a habitat conservation area shall be supported by the best available science.

(g) Buffers.

(1) Establishment of Buffers. (~~The Planning Administrator shall require the establishment of~~) Required buffer areas for activities adjacent to habitat conservation areas (~~when needed~~) to protect habitat conservation areas are as set forth in this section (g). Buffers shall consist of an undisturbed area of native vegetation or areas identified for restoration established to protect the integrity, functions, and values of the affected habitat. Required buffer widths (~~shall~~) reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby and shall be consistent with the management recommendations issued by the Washington State Department of Fish and Wildlife.

(2) Rivers, Lakes, Ponds, and Streams. Waterbodies classified by the water typing system specified in WAC 222-16-030 have the following riparian buffer requirements consistent with State Department of Fish and Wildlife recommendations:

(i) Type S (Shorelines of the State) Standard Buffer Width: Type S waters are protected by the Benton County Shoreline Master Program, as existing and hereafter amended, rather than this chapter.

(ii) Type F (Fish) Standard Buffer Width: ((200 ft)) Seventy-five (75) feet on parcels without streams with adjacent slopes of ten percent (10%) or greater. For parcels that have streams with adjacent slopes of ten percent (10%) or greater the buffer shall be one hundred (100) feet.

(iii) Type Np (Non-Fish Perennial) and type Ns (Non-Fish Seasonal) Standard Buffer Width: ((150 ft)) Fifty (50) feet on parcels without streams with adjacent slopes of ten percent (10%) or greater. For parcels that have streams with adjacent slopes of ten percent (10%) or greater the buffer shall be one hundred (100) feet.

~~((iv) Type Ns (Non-Fish Seasonal) Standard Buffer Width: 150 ft.~~

~~(3) Buffer modification. To manage for site specific conditions, buffer widths established in section (2) (ii-iv) above may be modified, provided:~~

~~(i) The buffer width modification is no greater than 33%.~~

~~(ii) The critical area study shall demonstrate that the proposed buffer width will continue to protect the integrity, functions, and values of the riparian area and habitat;~~

~~(iii) The critical area study shall include a field verification that evaluates actual river, lake, pond, and stream conditions. This shall be completed by a qualified professional and comply with WAC 365-190-130 (4) (f) (ii), as existing or hereafter amended; and~~

~~(iv) Applicant shall complete a request for consultation with the State Department of Fish and Wildlife consistent with BCC 15.14.030(e)(7).)~~

(3) Buffer Width Averaging. With written approval of the Planning Administrator, riparian buffer widths may be modified at various points in accordance with an approved critical area report and the best available science on a case-by-case basis by requesting buffer widths be applied on an averaging basis. Averaging of buffer widths may only be allowed where a qualified professional demonstrates that:

(i) It will not reduce riparian functions or functional performance;

(ii) The riparian area contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the riparian area would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

(iii) The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer under subsection (g)(2) above; and

(iv) The buffer width is not reduced more than twenty five percent of the standard width or fifteen (15) feet, whichever is less.

(4) Measurement.

(i) Buffers for rivers, lakes, ponds, and streams shall be measured in all directions from the ordinary high-water mark (OHWM) as identified in the field; and

(ii) Buffers for other habitat types shall be measured in all directions from the habitat boundary, as mapped by the Washington State Department of Fish and Wildlife or a qualified professional pursuant to BCC 15.14.030(a).

(5) Seasonal Restrictions. When a species is more susceptible to adverse impacts during specific periods of the year, seasonal restrictions may apply. Larger buffers may be required and activities may be further restricted during the specified season.

SECTION 3. Ordinance 609, Section 56 is hereby amended to read as follows and will now be known as "APPENDIX A-GENERAL REFERENCES AND BEST AVAILABLE SCIENCE" but will not be codified:

General References and Best Available Science Sources for Benton County Critical Area Regulations.

This document serves as the General References and Best Available Science produced for the Benton County Critical Area Regulations.

Benton County is mandated by the Growth Management Act of Washington (GMA) to review and update its comprehensive plan and development regulations according to a schedule established in RCW 36.70A.130(5). This review and update includes the critical area regulations per RCW 36.70A.130(1)(c). The review of critical area regulations under RCW 36.70A.172(1) requires the inclusion of best available science (BAS) and consideration given to anadromous fisheries.

The following documents represent a partial list of general references, data and best available science. This list is not meant to be exhaustive, and may be added to in the future. This document is intended to provide an index of the science and data that may be reviewed by Benton County in the development of the County's Critical Area Ordinance.

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WAC 365-190 Critical Areas.

WAC 365-195 Best Available Science.

WAC 222-16-030 Water Typing System

WAC 173-22 Designation of Shorelands and Wetlands

RCW 90.58 Shoreline Management Act

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SECTION 4. Severability. If any provision of this Ordinance is declared unconstitutional, or the applicability thereof to any person or circumstance is held invalid, the constitutionality of the remainder of the Ordinance and the applicability thereof to other persons and circumstances shall not be affected thereby.

SECTION 5. Effective Date. This Ordinance shall take effect and be in full force upon its passage and adoption.

ADOPTED AND PASSED this _____ day of _____.

Chairman of the Board.

Chairman Pro-Tem.

Member.

Approved as to Form:

Constituting the Board of
County Commissioners of
Benton County, Washington

Deputy Prosecuting Attorney

Attest: _____
Clerk of the Board