

ORDINANCE NO. _____

AN ORDINANCE relating to Environment; amending the section relating to purpose; amending the section relating to relationship to other regulations; amending the section relating to definitions; amending the section relating to jurisdiction-critical areas; amending the section relating to protection of critical areas; amending the section relating to best available science; amending the section relating to applicability; amending the section relating to exemptions; amending the section relating to exception-reasonable use; amending the section relating to allowed activities; amending the section relating to critical area identification process; amending the section relating to critical area report-requirements; amending the section relating to mitigation requirements; amending the section relating to mitigation sequencing; amending the section relating to review criteria; amending the section relating to bonds to ensure mitigation, maintenance, and monitoring; amending the section relating to general protective measures; amending the section relating to inspection, unauthorized critical area alterations and enforcement; amending the section relating to designation, rating, and mapping of wetlands; amending the section relating to activities allowed in wetlands; amending the sections relating to performance standards-general requirements; amending the section relating to performance standards-compensatory mitigation requirements; amending the section relating to designation of fish and wildlife habitat conservation areas; adding a new section relating to designation of habitats and species of local importance; amending the section relating to critical area report-additional requirements for habitat conservation areas; amending the section relating to performance standards-specific habitats; amending the section relating to metering requirements ; amending the section relating to General References and Best Available Science Sources for Benton County Critical Area Regulations; amending Ordinance 609, Section 2 and BCC 15.02.010; amending Ordinance 609, Section 4 and BCC 15.02.03; amending Ordinance 609, Section 8 and BCC 15.02.070; amending Ordinance 609, Section 9 and BCC 15.02.080; amending Ordinance 609, Section 11 and BCC 15.02.100; amending Ordinance 609, Section 12 and BCC 15.02.110; amending Ordinance 609, Section 13, Ordinance 637, Section 1 and BCC 15.02.120; amending Ordinance 609, Section 14 and BCC 15.02.130; amending Ordinance 609, Section 16 and BCC 15.02.150; amending Ordinance 609, Section 17 and BCC 15.02.160; amending Ordinance 609, Section 19 and BCC 15.02.180; amending Ordinance 609, Section 20 and BCC 15.02.190; amending Ordinance 609, Section 22 and BCC 15.02.210; amending Ordinance 609, Section 23 and BCC 15.02.220; amending Ordinance 609, Section 25 and BCC 15.02.240; amending Ordinance 609, Section 28 and BCC 15.02.270; amending Ordinance 609, Section 29 and BCC 15.02.280; amending Ordinance 609, Section 30 and BCC 15.02.290; amending Ordinance 609, Section 31 and BCC 15.04.010; amending Ordinance 609, Section 32 and BCC 15.04.020; amending Ordinance 609, Section 34 and BCC 15.04.040; amending Ordinance 609, Section 35 and BCC 15.04.050; amending Ordinance 609, Section 51 and BCC 15.14.010; adding a new section to Chapter 15.14 BCC; amending Ordinance 609, Section 53 and BCC 15.14.030; amending Ordinance 609, Section 54, Ordinance 637, Section 2 and BCC 15.14.040; amending Ordinance 609, Section 55 and BCC 15.14.050; amending Ordinance 619, Section 10 and BCC 15.18.100; amending Ordinance 609, Section 56, Ordinance 637, Section 3.

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

SECTION 1. Ordinance 609, Section 2 and BCC 15.02.010 are hereby amended to read as follows:

PURPOSE.

The purpose of this chapter is to designate and classify ecologically sensitive and hazardous areas and to protect these areas and their functions and values, while also allowing for reasonable use of private property. Critical areas provide a variety of valuable and beneficial biological and physical functions that benefit the County and its residents, and/or may pose a threat to human safety or to public and private property. The beneficial functions and values provided by critical areas include, but are not limited to, water quality protection and enhancement, food chain support, flood storage, conveyance and attenuation of flood waters, ground water recharge and discharge, erosion control, protection from hazards, historical, archaeological, and aesthetic value protection, recreation and fish and wildlife habitat. Additionally, protecting critical areas can preserve habitat with connections between larger habitat blocks and open space, protect riparian systems important for fish and wildlife, including salmon habitat, and preserve and promote species biodiversity.

Per RCW 36.70A.172, Best Available Science is included in developing policies and regulations in designating and protecting critical areas and associated functions and values.

SECTION 2. Ordinance 609, Section 4 and BCC 15.02.030 are hereby amended to read as follows:

RELATIONSHIP TO OTHER REGULATIONS.

(a) These critical areas regulations shall apply as an overlay and in addition to zoning and other regulations adopted by the County.

(b) Any individual critical area adjoined by another type of critical area (~~(shall have the buffer and)~~) or buffers/riparian management zone (RMZ) shall meet the requirements that provide the most protection to the critical areas involved. When any provision of this chapter or any existing regulation, easement, covenant, or deed restriction conflicts with this chapter, that which provides more protection to the critical areas shall apply.

(c) These critical areas regulations shall apply concurrently with review conducted under the State Environmental Policy Act (SEPA), as locally adopted. Any potential impacts of a development and conditions required pursuant to this chapter shall be considered in the SEPA review process.

(d) Compliance with the provisions of this chapter does not constitute compliance with other federal, state, and local regulations and permit requirements that may be required (for example, Shoreline Substantial Development permits, Floodplain Development permits, Hydraulic Project Approval (HPA) permits, Section 106 of the National Historic Preservation Act, U.S. Army Corps of Engineers Section 404 permits, National Pollution Discharge Elimination System permits). The applicant is

responsible for complying with these requirements, apart from the process established in this chapter.

SECTION 3. Ordinance 609, Section 8 and BCC 15.02.070 are hereby amended to read as follows:

DEFINITIONS.

Words not defined in this chapter shall be as defined in the Benton County Code, the Washington Administrative Code, or the Revised Code of Washington. Words not found in either Code shall be as defined in the Webster's Third New International Dictionary, latest edition.

(1) Adjacent –immediately adjoining or within a distance that is less than that needed to separate activities from critical areas to ensure protection of the functions and values of the critical areas. Adjacent shall mean any activity or development located:

(i) On a site immediately adjoining a critical area;

(ii) A distance equal to or less than the required critical area RMZ or other habitat buffer width and building setback;

(iii) A distance equal to or less than three-hundred (300) feet upland from a stream, wetland, or water body; or

(iv) Bordering or within the floodplain.

(2) Alluvial soil– fine-grained fertile soil deposited by water flowing over flood plains or in river beds.

(3) 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 (vegetation), construction, compaction, excavation, or any other activity that changes the character of the critical area.

(4) Anadromous fish –Fish whose life cycle includes time spent in both fresh and salt water.

(5) Aquifer–A geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

(6) Aquifer recharge areas–Areas that, due to the presence of certain soils, geology, or surface water, act to recharge groundwater by percolation.

(7) Base flood–A flood event having a one-percent chance of being equaled or exceeded in any given year, also referred to as the 100-year flood. Designations of base flood areas on flood insurance map(s) always include the letters A or V.

(8) Best available science–Current scientific information used in the process to designate, protect, or restore critical areas that is derived from a valid scientific process as defined by WAC 365-195-900 through 925, as they now exist or may be hereinafter amended. Sources of the best available science are included in Citations of Recommended Sources of Best Available Science for

Designating and Protecting Critical Areas published by the

Washington State Department of Community, Trade and Economic Development.

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

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

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

(iii) Protect trees and vegetation designated to be retained during and following site construction and use native plant species appropriate to the site for revegetation of disturbed areas; and

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

~~((10) Buffer or buffer zone-An area that is contiguous to and protects a critical area which is required for the continued maintenance, functioning, and/or structural stability of a critical area.))~~

~~((11))~~ (10) Compensation project-Actions necessary to replace project-induced critical area and RMZ or other habitat buffer losses, including land acquisition, planning, construction plans, monitoring, and contingency actions.

~~((12))~~ (11) Compensatory mitigation-Replacing project-induced losses or impacts to a critical area, and includes, but is not limited to, the following:

(i) Restoration-Actions performed to re-establish wetland or FWHCA functional characteristics and processes that have been lost by alterations, activities, or catastrophic events within an area that no longer meets the definition of a wetland or FWHCA.

(ii) Creation-Actions performed to intentionally establish a wetland or FWHCA at a site where it did not formerly exist.

(iii) Preservation-Actions performed to ensure the permanent protection of existing, high-quality wetlands or FWHCAs.

~~((iii))~~ (iv) Enhancement-Actions performed to improve the condition of existing degraded wetlands or FWHCAs so that the functions they provide are of a higher quality.

~~((iv) Preservation-Actions taken to ensure the permanent protection of existing, high-quality wetlands.))~~

~~((13))~~ (12) Conservation easement-A legal agreement that the property owner enters into to restrict uses of the land. ~~((Such restrictions can include, but are not limited to, passive recreation uses such as trails or scientific uses and fences or other barriers to protect habitat.))~~ The easement is recorded on a property deed, runs with the land, and is legally binding on all

present and future owners of the property, therefore, providing permanent or long-term protection.

~~((14))~~ (13) Critical aquifer recharge areas- Areas with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge. [WAC 365-190-030]

~~((15))~~ (14) Critical areas-Critical areas include any of the following areas or ecosystems: aquifer recharge areas, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, and wetlands, as defined in RCW 36.70A, as it now exists or may be hereinafter amended, and this chapter.

~~((16))~~ (15) Critical species-All animal and plant species listed by the state or federal government as threatened or endangered.

~~((17))~~ (16) ~~((Cumulative impacts or effects-The combined, incremental effects of human activity on ecological or critical areas functions and values. Cumulative impacts result when the effects of an action are added to or interact with other effects 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.))~~ Cumulative Impacts (Cumulative Effects)-The combined, incremental effects of past, present, and reasonably foreseeable future actions on a critical area, its buffer, associated habitat, watershed, aquifer, or ecosystem. Cumulative impacts may result from individually minor activities that, when considered collectively over time, degrade critical area functions and values, reduce ecological resilience, diminish habitat connectivity, impair water quality or quantity, or contribute to a net loss of ecosystem functions. Evaluation of cumulative impacts for changes to policies and permitting decisions shall occur at the geographic scale necessary to assess affected ecological processes and functions.

~~((18))~~ (17) Development-Any activity upon the land consisting of the removal, excavation, stockpiling, or grading of soil; the dredging of soil, sand, gravel, minerals, organic matter, or material of any kind; the dumping, discharging, or filling with any material, liquid or solid; the draining or flooding which causes alteration of surface water level; the placing or construction, reconstruction, demolition, or expansion of any structure; activities that result in the destruction, or significant reduction of the biologic or hydrologic functions and values of riparian or wetland vegetation, including clearing, harvesting, intentional burning, or planting of non-native vegetation; activities that result in a significant change of water temperature, a significant change of physical or chemical characteristics of surface water resources, including quantity, or the introduction of pollutants; the platting or the subdivision of land; Development activity does not include the following activities:

- (i) Interior building improvements.

(ii) Exterior structure maintenance activities, including painting and roofing.

(iii) Routine landscape maintenance of established, ornamental landscaping, such as lawn mowing, pruning, and weeding.

(iv) Maintenance of the following existing facilities that does not expand the affected area: septic tanks (routine cleaning); wells; individual utility service connections; and individual cemetery plots in established and approved cemeteries.

~~((19))~~ (18) Development permit-Any permit issued by the County, or other authorized agency, for construction, land use, or the alteration of land.

~~((20))~~ (19) Erosion-The process whereby wind, rain, water, and other natural agents mobilize and transport particles.

~~((21))~~ (20) Erosion hazard areas-At least those areas identified by the U.S. Department of Agriculture National Resources Conservation Service as having a "severe" rill and inter-rill erosion hazard.

~~((22))~~ (21) Exotic-Any species of plants or animals, which are foreign to the County.

~~((23))~~ (22) Fish and ~~((w))~~ Wildlife ~~((H))~~ Habitat ~~((e))~~ Conservation ~~((a))~~ Areas (FWHCA)- Areas, including verified Washington State Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) areas, that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; areas with high relative population density or species richness; and locally important habitats and species, if so designated by the County. Fish and wildlife habitat conservation area~~((s))~~ does not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of, and are maintained by, a port district or an irrigation district or company. [WAC 365-190-030]

~~((24))~~ (23) Fish habitat-Habitat that is used by fish at any life stage at any time of the year, including potential habitat likely to be used by fish that could be recovered by restoration or management and includes off-channel habitat.

~~((25))~~ (24) Flood or flooding-A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland waters and/or the unusual and rapid accumulation of runoff of surface waters from any source.

~~((26))~~ (25) Floodplain-The total land area adjoining a river, stream, watercourse, or lake subject to inundation by the base flood.

~~((27))~~ (26) Frequently flooded areas- Lands in the flood plain subject to at least a one percent or greater chance of flooding in any given year, or within areas subject to flooding due to high groundwater. These areas include, but are not limited to, streams, rivers, lakes, wetlands, and areas where high groundwater forms ponds on the ground surface. [WAC 365-190-030]

~~((28))~~ (27) Functions and values-The beneficial roles served by critical areas including, but are not limited to, water quality protection and enhancement; fish and wildlife habitat; food chain support; flood storage, conveyance and attenuation; groundwater recharge and discharge; erosion control; wave attenuation; protection from hazards; historical, archaeological, and aesthetic value protection; educational opportunities; and recreation. These beneficial roles are not listed in order of priority. Critical area functions can be used to help set targets (species composition, structure, etc.) for managed areas, including mitigation sites.

~~((29))~~ (28) Geologically hazardous areas-Areas that may not be suited to development consistent with public health, safety, or environmental standards, because of their susceptibility to erosion, sliding, earthquake, or other geological events as designated by WAC 365-190-120, as it now exists or may be hereinafter amended. Types of geologically hazardous areas include: erosion, steep slopes, landslide, seismic, and volcanic hazards.

~~((30))~~ (29) Groundwater-Water in a saturated zone or stratum beneath the surface of land or a surface water body.

~~((31))~~ (30) Growth Management Act-RCW 36.70A and 36.70B, 36.70C, as they now exist or may be hereinafter amended.

~~((32))~~ ~~Habitat conservation areas-Areas designated as fish and wildlife habitat conservation areas.))~~

(31) Habitat buffer or habitat buffer zone-An area that is contiguous to and protects a critical area which is required for the continued maintenance, functioning, and/or structural stability of a critical area.

~~((33))~~ (32) Habitats and species of local importance-
(designated as fish and wildlife habitat conservation areas and include those areas found to be locally important by the County (WAC 365-190-030, as currently existing and hereafter amended).))
a species or habitat designated as fish and wildlife habitat conservation areas of local importance by the County (WAC 365-190-030, as currently existing and hereafter amended). This applies to species and/or habitats that are not otherwise listed as endangered, threatened, sensitive, candidate, or priority by federal or state agencies, but has been determined by the local jurisdiction to warrant conservation because of its rarity or vulnerability, sensitivity to habitat manipulation, need for protection, contribution to local biodiversity, special value or habitat connectivity objectives.

~~((34))~~ (33) Hazard areas-Areas designated as frequently flooded areas or geologically hazardous areas due to potential for erosion, landslide, seismic activity, mine collapse, or other geological condition.

(34) Hazard Tree-A tree that poses a direct threat to life, property, or public safety due to structural defects, disease, damage, or instability.

(35) Hearings examiner-An examiner appointed by the Board of County Commissioners authorized to hear and make decisions on variances, land use permits, and certain appeals.

(36) Historic condition-Condition of the land, including flora, fauna, soil, topography, and hydrology that existed before the area and vicinity were developed or altered by human activity.

(37) Hydraulic project approval (HPA)-A permit issued by the Washington Department of Fish and Wildlife for modifications to waters of the state in accordance with Chapter 75.20 RCW, as it now exists or may be hereinafter amended.

(38) Hydric soil-A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. The presence of hydric soil shall be determined ~~((following the))~~ using the federal manual and applicable regional supplement and associated methods described in ((the Washington State Wetland Identification and Delineation Manual)) BCC Section 15.04.010.

(39) ~~((In-kind compensation-To replace critical areas with substitute areas whose characteristics and functions closely approximate those destroyed or degraded by a regulated activity.))~~
In-Kind Compensation-A compensatory mitigation action that replaces an impacted critical area or critical area function with the same or substantially similar type of habitat, ecological process, species support function, hydrologic function, or other ecosystem service. In-kind compensation emphasizes replacement of ecological functions and values rather than acreage alone and is preferred where it will most effectively achieve no net loss of critical area functions and values. Examples include replacing wetlands with wetlands of similar hydroperiod and function, replacing riparian habitat with comparable riparian habitat, or replacing habitat features used by the same wildlife species assemblages.

(40) Infiltration-The downward entry of water into the immediate surface of soil.

(41) Joint aquatic resource permit application-A single application form that may be used to apply for hydraulic project approvals, shoreline management permits, approvals of exceedance of water quality standards, water quality certifications, coast guard bridge permits, Washington State Department of Natural Resources use authorization, and U.S. Army Corps of Engineers permits.

(42) Landslide hazard areas-Areas that are potentially subject to risk of mass movement due to a combination of geologic landslide resulting from a combination of geologic, topographic, and hydrologic factors. These areas are typically susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope aspect, geologic structure, groundwater, or other factors.

(43) May-Gives permission (allowed) and implies that the stated policy/action is advisable.

~~((43))~~ (44) Mitigation-Avoiding, minimizing, or compensating for adverse critical areas impacts consistent with mitigation sequencing as defined in BCC Section 15.02.210. ~~((Mitigation, in the following sequential order of preference, is:~~

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

~~(ii) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;~~

~~(iii) Rectifying the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;~~

~~(iv) Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;~~

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

~~(vi) Compensating for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by replacing, enhancing, or providing substitute resources or environments; and~~

~~(vii) Monitoring the hazard or other required mitigation and taking remedial action when necessary.))~~

~~((44))~~ (45) Monitoring-Evaluating the impacts of development proposals or other activities on the biological, hydrological, and geological elements of such systems, and assessing the performance of required mitigation measures throughout the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features, including gathering baseline data.

~~((45))~~ (46) Native vegetation-Plant species that are indigenous to the area in question.

~~((46))~~ (47) Nonindigenous-See "Exotic."

~~((47))~~ (48) Off-site compensation-To replace critical areas away from the site on which a critical area has been impacted.

~~((48))~~ (49) On-site compensation-To replace critical areas at or adjacent to the site on which a critical area has been impacted.

~~((49))~~ (50) Ordinary high water mark (OHWM)-That mark which is found by examining the bed and banks 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.

~~((+50+))~~ (51) Out-of-kind compensation-To replace critical areas with substitute critical areas whose characteristics do not closely approximate those destroyed or degraded.

~~((+51+))~~ (52) Planning Administrator-The Benton County Planning Department Manager, Director, or designated representative who shall be responsible for the administration of this chapter.

~~((+52+))~~ (53) Potable water-Water that is safe and palatable for human use.

~~((+53+))~~ (54) ~~((Practical alternative-An alternative that is available and capable of being carried out after taking into consideration cost, existing technology, and logistics in light of overall project purposes, and has less impacts to critical areas.))~~
Practical Alternative-A feasible project alternative that can reasonably accomplish the basic purpose of the proposal and is available in light of economic, technological, logistical, legal, and environmental considerations. A practicable alternative is one that avoids impacts to critical areas and their buffers where possible and, where avoidance is not possible, minimizes impacts to the greatest extent practicable, and provides compensatory mitigation if avoidance or minimization results in net loss of ecological functions and values. The applicant shall demonstrate that no other practicable alternative exists that would have less adverse impact on critical area functions and values while still meeting the fundamental objectives of the proposed action.

~~((+54+))~~ (55) Primary association area-The area used on a regular basis by, in close association with, or is necessary for the proper functioning of the habitat of a critical species. Regular basis means that the habitat area is normally, or usually known to contain a critical species, or based on known habitat requirements of the species, the area is likely to contain the critical species. Regular basis is species and population dependent. Species that exist in low numbers may be present infrequently yet rely on certain habitat types.

~~((+55+))~~ (56) Priority habitat-Habitat type or elements with unique or significant value to one or more species as classified by the State Department of Fish and Wildlife PHS data system. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element.

~~((+56+))~~ (57) Project area-All areas within or adjacent to 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.

~~((+57+))~~ (58) Qualified professional-A person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant critical area subject in accordance with WAC 365-195-905(4), as it now exists or may be hereinafter amended. A qualified professional must have obtained a B.S. or B.A. or equivalent degree in biology, engineering, environmental studies, fisheries, geomorphology, or related field, and two years of related work experience.

(i) A qualified professional for fish and wildlife habitats must have ~~((a degree in biology and professional experience))~~ a B.S. or B.A. or equivalent degree in wildlife biology, ecology, conservation biology, environmental studies, fisheries, or related field and (2) two years of related work experience related to the subject species or habitat.

(ii) A qualified professional for a geological hazard must be a professional engineering geologist, geologist, or civil engineer licensed in the State of Washington.

(iii) A qualified professional for critical aquifer recharge areas means a hydrogeologist, geologist, engineer, or other scientist with experience in preparing hydrogeologic assessments.

(iv) A qualified professional for wetlands shall be a certified professional wetland scientist or have, at a minimum: (1) a Bachelor's degree in hydrology, soil science, botany, ecology, or related field; and (2) at least two years of full-time work experience as a wetlands professional, including delineating wetlands using the state or federal manuals, preparing wetland reports, conducting function assessments, and developing and implementing mitigation plans.

~~((+58+))~~ (59) Recharge-The process involved in the absorption and addition of water to groundwater.

~~((+59+))~~ (60) 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.

~~((+60+))~~ (61) Restoration-Measures taken to restore an altered or damaged natural feature including:

(i) Active steps taken to restore damaged wetlands, streams, RMZs and other FWHCAS ~~((protected habitat,))~~ or their ~~buffer((s))~~ to the functioning condition that existed prior to an unauthorized alteration; and

(ii) Actions performed to reestablish structural and functional characteristics of the critical area that have been lost by alteration, past management activities, or catastrophic events.

(62) Riparian Management Zone (RMZ)-An area of land adjacent to a stream, river, lake, wetland, marine shoreline, or other waterbody that contains or is intended to support riparian ecological functions and processes. The Riparian Management Zone includes vegetation, soils, floodplain features, and habitat elements that influence water quality, water quantity, channel stability, nutrient cycling, large woody debris recruitment, microclimate regulation, flood attenuation, and fish and wildlife habitat. The RMZ is managed to protect, maintain, and where necessary restore these ecological functions and values.

~~((+61+))~~ (63) Scientific process-A valid scientific process is one that produces reliable information useful in understanding the consequences of a decision. The characteristics of a valid scientific process ~~((are as follows))~~ must include all of the following:

(i) Peer Review. The information has been critically reviewed by other qualified scientific experts in that scientific discipline.

(ii) Methods. The methods that were used are standardized in the pertinent scientific discipline or the methods have been appropriately peer-reviewed to ensure their reliability and validity.

(iii) Logical Conclusions and Reasonable Inferences. The conclusions presented are based on reasonable assumptions supported by other studies and are logically and reasonably derived from the assumptions and supported by the data presented.

(iv) Quantitative Analysis. The data have been analyzed using appropriate statistical or quantitative methods.

(v) Context. The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge.

(vi) References. The assumptions, techniques, and conclusions are well referenced with citations to pertinent existing information.

~~((+62+))~~ (64) Seismic hazard areas-Areas that are subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

~~((+63+))~~ (65) Serviceable-Presently usable.

(66) Shall-Implementation is mandatory, i.e., set policies/actions must be followed.

~~((+64+))~~ (67) Shorelines-All of the water areas of the State as defined in RCW 90.58.030, as it now exists or may be hereinafter amended, including reservoirs and their associated shorelands, together with the lands underlying them except shorelines of statewide significance.

~~((+65+))~~ (68) Shorelines of the State-The total of all "shorelines," as defined in RCW 90.58.030(2)(e), and "shorelines of statewide significance" within the State, as defined in RCW 90.58.030(2)(f), as now existing or hereafter amended.

~~((+66+))~~ (69) Shorelines of statewide significance-Those areas defined in RCW 90.58.030(2)(f), as it now exists or may be hereinafter amended.

(70) Should-Implementation of the policy/action is expected, but its completion is not mandatory because it allows for special circumstances that could make a policy become inappropriate or infeasible.

(71) Shrubsteppe-A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs.

Although Big Sagebrush is the most widespread shrubsteppe shrub, other dominant (or co-dominant) shrubs may include but are not limited to Antelope Bitterbrush, Threetip Sagebrush, Scabland Sagebrush, and Dwarf Sagebrush. Dominant bunchgrasses include (but are not limited to) Idaho Fescue, Bluebunch Wheatgrass, Sandberg Bluegrass, Thurber's Needlegrass, and Needle-and-Thread. Sites can also have a layer of algae, mosses, or lichens.

In areas with greater precipitation or on soils with higher moisture-holding capacity, shrubsteppe can also support a dense layer of forbs (i.e., broadleaf herbaceous flora). Shrubsteppe contains various habitat features, including diverse topography, riparian areas, and canyons. Another important component is habitat quality (i.e., degree to which a tract resembles a site potential natural community), which may be influenced by soil condition and erosion and other factors including temperature, elevation, etc; and the distribution, coverage, and vigor of native shrubs, forbs, and grasses. At more disturbed sites, non-natives such as Cheatgrass or Crested Wheatgrass may be co-dominant species.

Fire disturbance is an ecological component of shrubsteppe. Shrubsteppe disturbed by fire may lack the aforementioned habitat components during periods of post-fire recovery."

~~((+67+))~~ (72) ~~((Significant portion of its range-That portion of a species range likely to be essential to the long-term survival of the population in Washington.))~~ Significant Portion of a Species' Range-a geographic area that contributes meaningfully to the continued viability, recovery, resiliency, redundancy, representation, genetic diversity, ecological function, population persistence, or long-term survival of a species, considering both existing conditions and the cumulative effects of past, present, and reasonably foreseeable future actions.

Note: Insignificant Portion of a Species' Range means an area whose loss, degradation, or alteration would not be reasonably expected to measurably reduce the species' long-term viability, recovery potential, population persistence, ecological function, genetic diversity, distribution, resiliency, redundancy, or representation across its range, and including considering cumulative effects of reasonably foreseeable impacts.

~~((+68+))~~ (73) Soil survey-The most recent soil survey for the County by the National Resources Conservation Service, U.S. Department of Agriculture.

~~((+69+))~~ (74) Species-Any group of animals classified as a species or subspecies as commonly accepted by the scientific community.

~~((+70+))~~ (75) Species, endangered-Any fish or wildlife species that is threatened with extinction throughout all or a significant portion of its range and is listed by the state or federal government as an endangered species.

~~((+71+)) Species of local importance-Those species of local concern due to their population status or their sensitivity to habitat~~

~~manipulation, or that are game species (WAC 365-190-030, as currently existing and hereafter amended).))~~

~~((72))~~ (76) Species, priority-Any fish or wildlife species requiring protective measures and/or management guidelines to ensure their persistence as genetically viable population levels as classified by the Washington Department of Fish and Wildlife, including endangered, threatened, sensitive, candidate and monitor species, and those of recreational, commercial, or tribal importance.

~~((73))~~ (77) Species, threatened-Any fish or wildlife species that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range without cooperative management or removal of threats, and is listed by the state or federal government as a threatened species.

~~((74))~~ (78) Stream-See "Watercourse."

~~((75))~~ (79) Unavoidable-Adverse impacts that remain after all appropriate and practicable avoidance and minimization have been achieved.

~~((76))~~ (80) Water typing system-Waters classified according to WAC 222-16-030, as now existing or hereafter amended.

~~((77))~~ (81) Watercourse-Any portion of a channel, bed, bank, or bottom waterward of the ordinary high water line of waters of the state including areas in which fish may spawn, reside, or through which they may pass, and tributary waters with defined beds or banks, which influence the quality of fish habitat downstream. This definition includes watercourses that flow on an intermittent basis or which fluctuate in level during the year and applies to the entire bed of such watercourse whether or not the water is at peak level. This definition does not include irrigation ditches, canals, stormwater run-off devices, or other entirely artificial watercourses, except where they exist in a natural watercourse that has been altered by humans.

~~((78))~~ (82) Well-A bored, drilled, or driven shaft, or a dug hole whose depth is greater than the largest surface dimension for the purpose of withdrawing or injecting water or other liquids.

~~((79))~~ (83) Wetlands-Those areas that are inundated or saturated by surface or groundwater 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 nonwetland 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 nonwetland areas to mitigate the conversion of wetlands. ~~((RCW 36.70A.030-(23)))~~

~~((80))~~ (84) Wetland classes, classes of wetlands, or wetland types-The descriptive classes of the Washington State Wetland

Rating System for Eastern Washington: 2014 Update (~~(--Revised)~~)
(Ecology Publication #14-06-030), or as revised.

~~((81))~~ (85) Wetland edge-The boundary of a wetland as delineated based on ((the definitions contained in this chapter)) federal manual and applicable regional supplement as provided in BCC Section 15.04.010.

(87) 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.

SECTION 4. Ordinance 609, Section 9 and BCC 15.02.080 are hereby amended to read as follows:

JURISDICTION-CRITICAL AREAS.

(a) The County shall regulate all uses, activities, and developments within, adjacent to, or likely to affect, one or more critical areas, consistent with the best available science and the provisions herein. Benton County's critical areas maps depict the approximate location and extent of known critical areas and are displayed on various inventory maps at the County Planning Department.

(b) Critical areas regulated by this chapter include:

- (1) Wetlands;
- (2) Critical aquifer recharge areas;
- (3) Frequently flooded areas;
- (4) Geologically hazardous areas; and
- (5) Fish and wildlife habitat conservation areas.

(c) All areas within unincorporated Benton County meeting the definition of one or more critical areas, regardless of any formal identification, are hereby designated critical areas and are subject to the provisions of this chapter. The presence of critical areas on a parcel triggers the requirements of this chapter, regardless of whether or not a critical area or buffer is depicted on an official map.

SECTION 5. Ordinance 609, Section 11 and BCC 15.02.100 are hereby amended to read as follows:

PROTECTION OF CRITICAL AREAS.

Any action taken pursuant to this chapter shall result in equivalent or greater functions and values of the critical areas associated with the proposed action, as determined by the best available science. All actions and developments shall be designed and constructed in accordance with mitigation sequencing (BCC 15.02.220) to avoid, minimize, and restore all adverse impacts. Applicants must first demonstrate an inability to avoid or reduce impacts, before restoration and compensation of impacts will be allowed. No activity or use shall be allowed that results in a net

loss of the functions or values of critical areas. ~~((except under the reasonable use provisions of this chapter.))~~

SECTION 6. Ordinance 609, Section 12 and BCC 15.02.110 are hereby amended to read as follows:

BEST AVAILABLE SCIENCE.

(a) Protect functions and values of critical areas with special consideration to anadromous fish. Critical area reports and decisions to alter critical areas shall rely on the best available science to protect the functions and values of critical areas and must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish, such as salmon and bull trout, and their habitat.

(b) Best Available Science to be Consistent with Criteria. The best available science is that scientific information applicable to the critical area prepared by local, state, or federal natural resource agencies, a qualified scientific professional, or team of qualified scientific professionals that is consistent with criteria established in WAC 365-195-900 through WAC 365-195-925, as now existing and hereafter amended.

(c) Characteristics of a Valid Scientific Process. In the context of critical areas protection, a valid scientific process is one that produces reliable information useful in understanding the consequences of a local government's regulatory decisions, and in developing critical areas policies and development regulations that will be effective in protecting the functions and values of critical areas. ~~((To determine whether information received during the permit review process is reliable scientific information, the Planning Administrator shall determine whether the source of the information displays the characteristics of a valid scientific process. Such characteristics are as follows:))~~ When weighing scientific information contained in the record for inclusion, the Planning Administrator shall weigh the scientific information contained in the record based on its scientific validity. The characteristics generally to be expected in a valid scientific process are as follows:

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

(2) Methods. The methods used to obtain the information are clearly stated and reproducible. The methods are standardized in the pertinent scientific discipline or, if not, the methods have been appropriately peer-reviewed to ensure their reliability and validity;

(3) Logical Conclusions and Reasonable Inferences. The conclusions presented are based on reasonable assumptions supported by other studies and consistent with the general theory underlying the assumptions. The conclusions are logically and reasonably derived from the assumptions and

supported by the data presented. Any gaps in information and inconsistencies with other pertinent scientific information are adequately explained;

(4) Quantitative Analysis. The data has been analyzed using appropriate statistical or quantitative methods;

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

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

~~((7))~~ (d) Absence of Valid Scientific Information. Where there is an absence of valid scientific information or incomplete scientific information relating to a critical area leading to uncertainty about the risk to critical area function of permitting an alteration of or impact to the critical area, the Planning Administrator shall take a "precautionary or a no-risk approach," that strictly limits development and land use activities until the uncertainty is sufficiently resolved.

SECTION 7. Ordinance 609, Section 13, Ordinance 637, Section 1 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 RMZ or other habitat 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 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) The work plan developed and approved by the VSP working group was approved by the Washington State Conservation Commission in April 2018, and the provisions of this chapter will not apply to 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.

(ii) If the Washington State Conservation Commission withdraws its approval of the work plan or determines that it fails to meet goals and benchmarks, the provisions and policies of the chapter will apply to agricultural activities 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 RMZ or other habitat 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 8. Ordinance 609, Section 14 and BCC 15.02.130 are hereby amended to read as follows:

EXEMPTIONS.

(a) Exemption Request and Review Process. The proponent of the activity may submit a written request for exemption to the Planning Administrator that describes the activity and states the exemption listed in this section that applies. The Planning Administrator shall review the exemption request to verify that it complies with this chapter and approve or deny the exemption. If the exemption is denied, the proponent may continue in the review process and shall be subject to the requirements of this chapter.

(b) Exempt Activities and Impacts to Critical Areas. All exempted activities shall avoid potential impacts to critical areas and RMZ or other habitat buffers. To be exempt from this chapter does not give permission to degrade a critical area, conduct an activity that results in a loss of the functions or values of a critical area, or ignore risk from natural hazards. Any incidental damage to, or alteration of, a critical area that is not a necessary outcome of the exempted activity shall be restored, rehabilitated, or replaced at the responsible party's expense. The following developments, activities, and associated uses shall be exempt from the provisions of this chapter, provided they are otherwise consistent with other local, state, and federal laws and requirements:

(1) 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 preventative action in a timeframe too short to allow for compliance with the requirements of this chapter.

(i) Emergency actions that create an impact to a critical area or its buffer shall use reasonable methods to address the emergency; in addition, they must have the least possible impact to the critical area or its buffer. The person or agency undertaking such action shall notify the County within one working day following commencement of the emergency activity. Within thirty (30) days, the Planning Administrator shall determine if the action taken was within the scope of the emergency actions allowed in this Subsection. If the Planning Administrator determines that the action taken, or any part of the action taken, was beyond the scope of an allowed emergency action, then enforcement provisions in BCC 15.02.290 (Unauthorized Alterations and Enforcement) may apply.

(ii) After the emergency, the person or agency undertaking the action shall fully fund and conduct necessary restoration and/or mitigation for any impacts to the critical area and buffers resulting from the emergency action in accordance with an approved critical area report and mitigation plan. The person or agency undertaking the action shall apply for review, and the alteration, critical area report, and mitigation plan shall be reviewed by the County in accordance with the review procedures contained herein. Restoration and/or mitigation activities must be initiated within one (1) year of the date of the emergency((7)) and completed in a timely manner as approved by the Planning Administrator. The County shall issue a SEPA threshold determination for instances when a determination is required by BCC 6.35 and WAC 197-11.

(2) Operation, Maintenance, or Repair. Operation, maintenance, or repair of existing structures, infrastructure improvements, utilities, public or private roads, dikes, levees, or drainage systems, provided the activity does not further alter or increase the impact to, or encroach further within, the critical area or buffer and there is no increased risk to life or property as a result of the proposed operation, maintenance, or repair.

Wetlands and their Buffers, FWHCA (including RMZs), and FWHCA Buffers. Operation, Maintenance, or Repair activities do not include tree cutting or removal, clearing or removal of vegetation, road building, mining, excavation or earth moving, ditching, draining, culverting, filling, grading, burning, construction of buildings or other facilities, or any similar activities that introduce adverse impacts to wetlands, fish and wildlife conservation areas or their buffers. If an activity goes beyond the authorized scope of approved work, restoration should be required to restore function of a critical area.

(3) Passive Outdoor Activities. Recreation, education, and scientific research activities that do not degrade the critical area, including fishing, hiking, and bird watching.

(4) Existing and ongoing agricultural activities, provided they implement applicable Best Management Practices (BMPs)

contained in the latest editions of the USDA Natural Resources Conservation Service (NRCS) Field Office Technical Guide (FOTG).

(i) Wetlands and their buffers. Existing and ongoing agricultural activities do not include removing trees, diverting or impounding water, excavation, ditching, draining, culverting, filling, grading, and similar activities that introduce new adverse impacts to wetlands or other aquatic resources. Conversion of wetlands that are not currently in agricultural use, regardless of their wetlands rating, to a new agricultural use should be subject to the same regulations that govern new development.

(ii) Fish and wildlife habitat conservation areas and their buffers. Existing and ongoing agricultural activities do not include tree cutting, road building, new agriculture, clearing, earth moving, mining, filling, burning or construction of buildings or other facilities in fish and wildlife habitat conservation areas.

(5) Artificial structures intentionally constructed from upland areas for purposes of storm-water drainage or water quality control, or ornamental landscape ponds, which are not part of a mitigation plan as described and detailed in this chapter.

(6) Operation, maintenance, repair, or reconstruction of irrigation district delivery systems, irrigation infrastructure, irrigation canals or drainage ditches that lie within the boundaries of and/or are maintained by an irrigation district, provided the activity does not further the impact to, or encroach further within, the critical area or buffer and there is no increased risk to life or property as a result of the proposed activity. Includes canal lining projects, pipeline and pump replacement, and the incidental reduction or alteration of regulated wetlands due to canal lining or piping projects.

(c) Exempt activities and Hazard trees and snags within RMZ, Wetlands and their buffers, and FWHCA and their buffers.

A determination of whether a tree presents a hazard shall be made by a qualified arborist and submitted in a hazard tree determination report. Snags (dead trees) are a Priority Habitat feature for wildlife. To maintain critical areas functions and values, snags shall be preserved, when possible, when removing or trimming hazard trees. The removal of vegetation from hazard trees shall be the minimum necessary to remove the hazard. When removing the hazard, damage to remaining trees and vegetation will be avoided if possible and minimized if necessary.

(1) Hazard Tree Determination Report means a written document prepared by a certified arborist containing the following elements.

(i) Parcel, address, and name of landowner of site where tree(s) are located;

(ii) Description of size, health, and species of tree(s) evaluated;

- (iii) Alternative methods (pruning, cabling, etc.) considered;
- (iv) Location of nearby critical areas;
- (v) Proposed methods for removal include types of heavy machinery, if applicable;
- (vi) Size and species of native replacement trees;
- (vii) Site map showing parcel lines, structures, evaluated trees, critical areas, utilities, and other pertinent information described in the report;
- (viii) Date of field evaluation and signature of arborist; and
- (ix) Qualifications of arborist authoring the report.

SECTION 9. Ordinance 609, Section 16 and BCC 15.02.150 are hereby amended to read as follows:

EXCEPTION-REASONABLE USE.

(a) If the application of this chapter would deny all reasonable use of the subject property, the property owner may apply for an exception pursuant to this section. For a reasonable use application to be considered, the following conditions must be met:

- (1) No other reasonable economic use of the property has less impact on the critical area;
- (2) The proposed impact to the critical area is the minimum necessary to allow for reasonable economic use of the property;
- (3) The inability of the applicant to derive reasonable economic use of the property is not the result of actions by the applicant after the effective date of this regulation, or its predecessor;
- (4) The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;
- (5) The proposal will result in no net loss of critical area functions and values consistent with the best available science; and
- (6) The proposal is consistent with other applicable regulations and standards.

(b) Exception Request and Review Process. An application for a reasonable use exception shall be made to the County and shall include a critical area report, including mitigation plan, if necessary; and any other related project documents, such as permit applications to other agencies, special studies, and environmental documents prepared pursuant to (~~the State Environmental Policy Act~~) SEPA (Chapter 43.21C RCW, as it now exists or may be hereinafter amended) (SEPA documents). If development of this area will result in a net loss of critical area function or values,

then mitigation sequencing shall be followed with on-site in-kind mitigation preferred. If off-site in-kind mitigation is required, then the appropriate sections of BCC 15.02, BCC 15.04 and BCC 15.14 shall be followed. A mitigation plan demonstrating no net loss of ecological function and consistent with best available science will be submitted to the Hearings Examiner as part of the approval process. The Hearings Examiner shall issue a decision based on review of the submitted information, a site inspection, and the proposal's ability to comply with reasonable use exception criteria in subsection (d).

(c) Hearings Examiner Review. The Hearings Examiner shall review the application and Planning Administrator's recommendation, and conduct a public hearing pursuant to the provisions of the Benton County Code. The Hearings Examiner shall approve, approve with conditions, or deny the request based on the proposal's ability to comply with all of the reasonable use exception review criteria in subsection (d).

(d) Reasonable Use Review Criteria. Criteria for review and approval of reasonable use exceptions are as follows:

(1) The application of this chapter would deny all reasonable use of the property;

(2) No other reasonable use of the property has less impact on the critical area;

(3) The proposed impact to the critical area is the minimum necessary to allow for reasonable use of the property;

(4) The inability of the applicant to derive reasonable use of the property is not the result of actions by the applicant after the effective date of this chapter;

(5) The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;

(6) The proposal will result in no net loss of critical area functions and values consistent with the best available science; and

(7) The proposal is consistent with other applicable regulations and standards.

(e) Burden of Proof. The burden of proof shall be on the applicant to bring forth evidence in support of the application and to provide sufficient information on which any decision has to be made on the application.

SECTION 10. Ordinance 609, Section 17 and BCC 15.02.160 are hereby amended to read as follows:

ALLOWED ACTIVITIES.

(a) Critical Area Report. Activities allowed under this chapter shall have been reviewed and permitted or approved by the County or other agency with jurisdiction, but do not require submittal of a separate critical area report, unless such submittal was required previously for the underlying permit. The Planning Administrator (~~may apply conditions to the underlying permit or approval to~~

~~ensure that the allowed activity is consistent with the provisions of this chapter to protect critical areas.))~~ should apply conditions, as applicable, to the underlying permit or approval to ensure that the allowed activity is consistent with the provisions of this chapter to protect critical areas.

(b) Required Use of Best Management Practices. All allowed activities shall be conducted using the best management practices that result in the least amount of impact to the critical areas. Best management practices shall be used for vegetation protection, construction management, erosion and sedimentation control, water quality protection, and regulation of chemical applications. Any incidental damage to, or alteration of, a critical area shall be restored, rehabilitated, or replaced at the responsible party's expense.

(c) Allowed Activities. The following activities are allowed:

(1) Permit Requests Subsequent to Previous Critical Area Review. Development permits and approvals that involve both discretionary land use approvals (such as subdivisions, rezones, or conditional use permits), and construction approvals (such as building permits) if all of the following conditions have been met:

(i) The provisions of this chapter have been previously addressed as part of another approval;

(ii) There have been no material changes in the potential impact to the critical area or buffer since the prior review;

(iii) There is no new information available that is applicable to any critical area review of the site or particular critical area;

(iv) The permit or approval has not expired or, if no expiration date, no more than five years has elapsed since the issuance of that permit or approval; and

(v) Compliance with any standards or conditions placed upon the prior permit or approval has been achieved or secured.

~~((d))~~ (2) Modification to Existing Structures. Structural modification of, addition to, or replacement of an existing legally constructed structure that does not further alter or increase the impact to the critical area, RMZ or other habitat ~~((e))~~ buffer and there is no increased risk to life or property as a result of the proposed modification or replacement, provided that restoration of structures substantially damaged by fire, flood, or act of nature must be initiated within one year of the date of such damage, as evidenced by the issuance of a valid building permit, and diligently pursued to completion.

~~((e))~~ (3) Activities within the Improved Right-of-Way. Replacement, modification, installation, or construction of utility facilities, lines, pipes, mains, equipment, or appurtenances, not including substations, when such facilities are located within the improved portion of the public right-of-way or a County authorized private roadway

except those activities that alter a wetland or watercourse, such as culverts or bridges, or result in the transport of sediment or increased stormwater; subject to the following:

~~((1))~~ (i) Critical area and/or buffer widths shall be increased, where possible, equal to the width of the right-of-way improvement, including disturbed areas; and

~~((2))~~ (ii) Retention and replanting of native vegetation shall occur wherever possible along the right-of-way improvement and resulting disturbance.

~~((4))~~ (4) Minor Utility Projects. Utility projects which have minor or short-duration impacts to critical areas, as determined by the Planning Administrator in accordance with the criteria below, and which do not significantly impact the function or values of a critical area(s), provided that such projects are constructed with best management practices and additional restoration measures are provided. Such allowed minor utility projects shall meet the following criteria:

~~((1))~~ (i) There is no practical alternative to the proposed activity with less impact on critical areas;

~~((2))~~ (ii) The activity involves the placement of a utility pole, street signs, anchor, or vault or other small component of a utility facility; and

~~((3))~~ (iii) The activity involves disturbance of an area less than seventy-five (75) square feet.

~~((5))~~ (5) Public and Private Pedestrian Trails. Public and private pedestrian trails, except in wetlands, fish and wildlife habitat conservation areas, or their buffers, subject to the following:

~~((1))~~ (i) The trail surface shall meet all other requirements including water quality standards;

(ii) Walkways and trails 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 mature trees. They should be limited to pervious surfaces no more than five (5) feet in width and designed for pedestrian use only.

~~((2))~~ (iii) Critical area and/or buffer widths shall be increased, where possible, equal to the width of the trail corridor, including disturbed areas; and

~~((3))~~ (iv) Trails proposed to be located in landslide or erosion hazard areas shall be constructed in a manner that does not increase the risk of landslide or erosion and in accordance with an approved geotechnical report.

~~((6))~~ (6) Minor Site Investigative Work. Work necessary for land use submittals, such as surveys, soil logs, percolation tests, and other related activities, where such activities do not require construction of new roads or significant amounts of excavation. In every case, impacts to

the critical area shall be minimized and disturbed areas shall be immediately restored.

~~((i))~~ (7) Navigational Aids and Boundary Markers. Construction or modification of navigational aids and boundary markers.

~~((j))~~ (8) Conservation and restoration activities aimed at protecting the soil, water, vegetation, or wildlife.

~~((k))~~ (9) Activities such as legal hunting, hiking, canoeing, nature study, photography, fishing, education or scientific research and wildlife viewing.

SECTION 11. Ordinance 609, Section 19 and BCC 15.02.180 are hereby amended to read as follows:

CRITICAL AREA IDENTIFICATION PROCESS.

(a) Site Inspection. Prior to the County's consideration of any proposed activity not found to be exempt under exemptions (BCC 15.02.130) or allowed pursuant to allowed activities (BCC 15.02.160), the Planning Administrator shall conduct a site inspection to review critical area conditions on site. The Planning Administrator shall notify the property owner of the inspection prior to the site visit. Reasonable access to the site shall be provided by the property owner for the purpose of inspections during any proposal review, restoration, emergency action, or monitoring period.

(b) Following a site inspection, the Planning Administrator shall review any other information available pertaining to the site and the proposal and consult with agencies with expertise as to critical areas, as necessary. As part of the review the Planning Administrator shall review data on the location of critical areas, such as the priority species and habitat database, to determine if critical areas are present. After these reviews, the Planning Administrator shall make a determination as to whether any critical areas may be affected by the proposal or whether the proposal will be adversely impacted by a critical area and if a more detailed critical area report shall be submitted.

(c) Decision.

(1) No Critical Areas Present. If after a site visit the Planning Administrator's analysis indicates that the project area is not within or adjacent to a critical area, RMZ or other habitat ~~((e))~~ buffer and that the proposed activity is unlikely to degrade the functions or values of a critical area, then the Planning Administrator shall rule that the critical area review is complete and no further review is required. A summary of this information shall be included in any staff report or decision on the underlying permit.

(2) Critical Areas Present, But No Impact-Waiver. If the Planning Administrator determines that there are critical areas within or adjacent to the project area, but that the best available science shows that the proposed activity is unlikely to degrade the functions or values of the critical area, the Planning Administrator may waive the requirement

for a critical area report. A waiver may be granted if there is substantial evidence that all of the following requirements will be met:

(i) There will be no alteration of the critical area, RMZ or other habitat ((or)) buffer;

(ii) The development proposal will not impact the critical area in a manner contrary to the purpose, intent, and requirements of this chapter; and

(iii) The proposal is consistent with other applicable regulations and standards.

(iv) A summary of this analysis and the findings shall be included in any staff report or decision on the underlying permit.

(3) Critical Areas May Be Affected by Proposal. If the Planning Administrator determines that a critical area or areas may be affected by the proposal, or is unable to determine if critical areas may be affected by the proposal, then the Planning Administrator shall notify the applicant that a critical area report must be submitted prior to further review of the project, and indicate each of the critical area types that should be addressed in the report.

(4) Planning Administrator Determination Subject to Reconsideration.

(i) A determination regarding the apparent presence or absence of one or more critical areas by the Planning Administrator is not an expert certification and the determination is subject to possible reconsideration and reopening if new information is received.

(ii) If the applicant wants greater assurance of the accuracy of the critical area review determination, the applicant may choose to hire a qualified professional to provide such assurances.

SECTION 12. Ordinance 609, Section 20 and BCC 15.02.190 are hereby amended to read as follows:

CRITICAL AREA REPORT-REQUIREMENTS.

(a) Preparation by Qualified Professional. If required by the Planning Administrator in accordance with General Requirements-Critical Area Project Review Process (BCC 15.02.170), the applicant shall submit a critical area report prepared by a qualified professional as defined herein.

(b) Incorporating Best Available Science. The critical area report shall use scientifically valid methods and studies in the analysis of critical area data and field reconnaissance and reference the source of science used. The critical area report shall evaluate the proposal and all probable impacts to critical areas in accordance with the provisions of this chapter.

(c) Minimum Report Contents. At a minimum, the report shall contain the following:

- (1) The name and contact information of the applicant, a description of the proposal, and identification of the permit requested;
- (2) A copy of the site plan for the development proposal including: A map to scale depicting critical areas, buffers, the development proposal, and any areas to be cleared;
- (3) The dates, names, and qualifications of the persons preparing the report and documentation of any fieldwork performed on the site;
- (4) Identification and characterization of all critical areas, wetlands, water bodies, and buffers adjacent to the proposed project area;
- (5) A statement specifying the accuracy of the report, and all assumptions made and relied upon;
- (6) An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development;
- (7) An analysis of site development alternatives;
- (8) A description of reasonable efforts made to apply mitigation sequencing pursuant to mitigation sequencing (BCC 15.02.((220)210)) to avoid, minimize, and mitigate impacts to critical areas;
- (9) Plans for adequate mitigation, as needed, to offset any impacts, in accordance with mitigation plan requirements (BCC 15.02.230), including but not limited to:
 - (i) The impacts of any proposed development within or adjacent to a critical area, RMZ or other habitat ((~~or~~)) buffer on the critical area; and
 - (ii) The impacts of any proposed alteration of a critical area, RMZ or other habitat ((~~or~~)) buffer on the development proposal, other properties and the environment.
- (10) A discussion of the performance standards applicable to the critical area and proposed activity;
- (11) Financial guarantees to ensure compliance;
- (12) Critical area reports for two or more types of critical areas must meet the report requirements for each relevant type of critical area;
- (13) Unless otherwise provided, a critical area report may be supplemented by or composed, in whole or in part, of any reports or studies required by other laws and regulations or previously prepared for and applicable to the development proposal site, as approved by the Planning Administrator; and
- (14) Any additional information required for the critical area as specified in this chapter.

SECTION 13. Ordinance 609, Section 22 and BCC 15.02.210 are hereby amended to read as follows:

15.02.((210))220 MITIGATION REQUIREMENTS.

(a) The applicant shall avoid all impacts that degrade the functions and values of a critical area or areas. Unless otherwise provided in this chapter, if alteration to the critical area is unavoidable, all adverse impacts to or from critical areas and buffers resulting from a development proposal or alteration shall be mitigated ~~((using the))~~ applying best available science in accordance with an approved critical area report and SEPA documents, ~~((so as))~~ to result in no net loss of critical area functions and values.

(b) Mitigation shall be in-kind and on-site, when possible, and sufficient to maintain the functions and values of the critical area, and to prevent risk from a hazard posed by a critical area.

(c) Mitigation Ratios and Functional Accounting - Compensatory mitigation ratios must be greater than 1:1 to address temporal losses, functional uncertainty, and performance risk. Credits and debits should be based on a scientifically valid measure of habitat function, value, and area.

(d) Activity-Specific Ecological Uplift - Mitigation activities (re-establishment, rehabilitation, enhancement, preservation) should be distinguished by their expected ecological uplift and should demonstrate measurable improvement, ensuring that the degree of functional gain is proportional to the magnitude of impact to achieve no net loss of ecological function.

(e) Mitigation Hierarchy and Location - Mitigation shall focus on the best possible outcome for compensating for impacts to functions and values within the critical area. The location of the mitigation action shall be preferred in the order referenced below:

(1) Preferential consideration shall be given to on-site mitigation measures that replace the impacted functions, and in areas where non-native vegetation is present adjacent to existing native vegetation to the extent practicable.

(2) Off-site mitigation located in Benton or an adjacent County with mitigation measures to replace and improve the impacted functions based on the required mitigation ratio. Mitigation should occur in Benton County unless suitable off-site locations aren't available in the County. Mitigation measures should replace "or exceed" impacted functions. For offsite shrubsteppe habitat mitigation, the applicant is encouraged to participate in the Benton County mitigation bank program. This program has established a shrubsteppe mitigation bank that applicants can purchase credits to offset impacts for their proposed development.

(3) On-site mitigation with out-of-kind mitigation measures the offset the impacted functions.

(4) Off-site mitigation located in Benton or adjacent County with out-of-kind mitigation measures to offset the impacted functions

Out-of-kind mitigation should only be approved when it can be shown to provide significantly superior biological functions and values than in-kind mitigation.

Alternative off-site mitigation programs such as mitigation banks or in-lieu fee programs may be used to meet mitigation requirements, including both existing and future mitigation banking opportunities, developed in coordination with the County. Whether permittee responsible, mitigation bank or in-lieu fee approach is used, all must follow the applicable mitigation preference sequence and functional accounting framework.

(f) Monitoring, Timing, and Adaptive Management - Mitigation should be implemented before or concurrent with construction, with function-based performance standards and monitoring that continues until success criteria are met. Delayed or unsuccessful mitigation should require additional compensation or corrective actions.

(g) Financial Assurance and Long-Term Site Protection - See BCC Section 15.02.270 for financial surety provisions. The County requires permanent protection (through conservation easement or deed restriction) for mitigation areas both onsite and offsite, including those onsite areas that are still held by the landowner.

~~((+e))~~ (h) Mitigation shall not be implemented until after County approval of a critical area report that includes a mitigation plan, and mitigation shall be in accordance with the provisions of the approved critical area report.

SECTION 14. Ordinance 609, Section 23 and BCC 15.02.220 are hereby amended to read as follows:

15.02.~~((220))~~ 210 MITIGATION SEQUENCING.

(a) Applicants shall demonstrate that all reasonable efforts have been ~~((examined with the intent))~~ taken to avoid and minimize impacts to critical areas. When an alteration to a critical area is proposed, such alteration shall be avoided, minimized, or compensated for in the following sequential order of preference:

~~((+a))~~ (1) Avoiding the impact altogether by not taking a certain action or parts of an action;

~~((+b))~~ (2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;

~~((+c))~~ (3) Rectifying the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and fish and wildlife habitat conservation areas by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;

~~((+d))~~ (4) Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;

~~((+e))~~ (5) Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;

~~((+f))~~ (6) Compensating for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and fish and wildlife habitat conservation areas by replacing, enhancing, or providing substitute resources or environments; and

~~((g))~~ (7) Monitoring the hazard or other required mitigation and taking remedial action when necessary.

Mitigation for individual actions may include a combination of the above measures.

SECTION 15. Ordinance 609, Section 25 and BCC 15.02.240 are hereby amended to read as follows:

REVIEW CRITERIA.

The Planning Administrator shall make a determination as to whether the proposed activity and mitigation, if any, is consistent with the provisions of this chapter, based on the following criteria:

(a) Any alteration to a critical area, unless otherwise provided for in this chapter, shall be reviewed and approved, approved with conditions, or denied based on the proposal's ability to comply with all of the following criteria:

(1) The proposal minimizes the impact on critical areas in accordance with mitigation sequencing (BCC 15.02.~~((220))~~210);

(2) The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;

(3) The proposal is consistent with the general purposes of this chapter and the public interest;

(4) Any alterations permitted to the critical area are mitigated in accordance with mitigation requirements (BCC 15.02.~~((210))~~220);

(5) The proposal protects the critical area functions and values consistent with the best available science and results in no net loss of critical area functions and values; and

(6) The proposal is consistent with other applicable regulations and standards.

(7) A critical area report and mitigation shall evaluate cumulative impacts at the landscape scale for shrubsteppe or the watershed scale for riparian areas to ensure that no net loss is achieved collectively across projects. This includes considering other habitats surrounding the subject property within ½ mile and the relationship (or lack thereof) to the project area. Additionally, the report should discuss the spatial habitat context for shrubsteppe for the subject and surrounding properties.

(b) The Planning Administrator ~~((may))~~ shall condition the proposed activity as necessary to mitigate impacts to critical areas and to conform to the standards required by this chapter.

(c) Except as provided for by this chapter, any project that cannot adequately mitigate its impacts to critical areas in the sequencing order of preferences in mitigation sequencing (BCC 15.02.210) shall be denied.

SECTION 16. Ordinance 609, Section 28 and BCC 15.02.270 are hereby amended to read as follows:

BONDS TO ENSURE MITIGATION, MAINTENANCE, AND MONITORING.

(a) When mitigation required pursuant to a development proposal is not completed prior to the County final permit approval, such as final plat approval or final building inspection, the County shall require the applicant to post a performance bond or other security in a form and amount deemed acceptable by the County to cover remaining costs plus an additional percentage for implementation, monitoring, and contingency. If the development proposal is subject to mitigation, the applicant shall post a mitigation bond or other security in a form and amount deemed acceptable by the County to ensure mitigation is fully functional. Participation in the County shrubsteppe mitigation bank program, including payment for permanent protection of conservation easement or property through acquisition consistent with required mitigation ratios will satisfy the security requirement.

(b) The bond shall be in the amount of one hundred twenty-five (125) percent of the estimated cost of the uncompleted actions or the estimated cost of restoring the functions and values of the critical area that are at risk plus an additional percentage for implementation, monitoring, and contingency, whichever is greater.

(c) The bond shall be in the form of a surety bond, performance bond, assignment of savings account, or an irrevocable letter of credit guaranteed by an acceptable financial institution with terms and conditions acceptable to the County Prosecuting Attorney's Office.

(d) Bonds or other security authorized by this section shall remain in effect until the County determines, in writing, that the standards bonded for have been met. Bonds or other security shall be held by the County for a minimum of five (5) years to ensure that the required mitigation has been fully implemented and demonstrated to function, and may be held for longer periods when necessary.

(e) Depletion, failure, or collection of bond funds shall not discharge the obligation of an applicant or violator to complete required mitigation, maintenance, monitoring, or restoration.

(f) Public development proposals shall be relieved from having to comply with the bonding requirements of this section if public funds have previously been committed for mitigation, maintenance, monitoring, or restoration.

(g) Any failure to satisfy critical area requirements established by law or condition including, but not limited to, the failure to provide a monitoring report within thirty (30) days after it is due or comply with other provisions of an approved mitigation plan shall constitute a default, and the County may demand payment of any financial guarantees or require other action authorized by the County code or any other law.

(h) Any funds recovered pursuant to this section shall be used to complete the required mitigation.

SECTION 17. Ordinance 609, Section 29 and BCC 15.02.280 are hereby amended to read as follows:

GENERAL PROTECTIVE MEASURES.

(a) Temporary or Permanent Field Identification. Prior to a regulated activity taking place within or adjacent to a critical area, the County shall require temporary or permanent field markers

delineating the critical area boundary and associated buffer. The type of field markers to be used will be agreed to by the applicant and the Planning Administrator depending on site conditions and inspection requirements. Field markers shall be spaced at a minimum of every fifty (50) feet, unless alternative placement or spacing is authorized by the Administrator. If required, the location of field markers must be shown on all site plans and final plats associated with the proposed development. Field markers shall remain in place until any required final inspections are completed and approved. Field markers may be waived by the Administrator if an alternative to field marking achieves the same objective, or if the development and construction activity(ies) is located at a sufficient distance so that impacts to the critical area and its buffer are unlikely to occur. The Administrator may require permanent fencing and/or signage if necessary to protect a critical area and its buffer from adjacent land uses.

(b) Building Setback. Buildings and other structures shall be set back a minimum distance of ten (10) feet from the edges of all critical area buffers or from the edges of all critical areas, if no buffers are required. A setback that is less than ten (10) feet in width may be allowed if it can be demonstrated in the critical area report that building construction and long-term critical area maintenance can be achieved without encroaching upon the critical area, RMZ or other habitat (~~((or))~~) buffer.

(1) The following may be allowed in the building setback area:

(i) Landscaping;

(ii) Uncovered decks;

(iii) Building overhangs, if such overhangs do not extend more than eighteen (18) inches into the setback area; and

(iv) Impervious ground surfaces, such as driveways and patios.

(c) Notice on Title. To inform subsequent purchasers of real property of the existence of critical areas, the owner of any property containing a critical area, RMZ or other habitat (~~((or))~~) buffer on which a development proposal is submitted, shall file a notice with the Benton County Auditor (Recording) according to the direction of the County. The notice should state the presence of the critical area, RMZ or other habitat (~~((or))~~) buffer on the property and the fact that limitations on actions in or affecting the critical area, RMZ or other habitat (~~((or))~~) buffer may exist.

SECTION 18. Ordinance 609, Section 30 and BCC 15.02.290 are hereby amended to read as follows:

INSPECTION, UNAUTHORIZED CRITICAL AREA ALTERATIONS AND ENFORCEMENT.

(a) Reasonable access to the site shall be provided to the County, State, and federal agency review staff for the purpose of inspections during any proposal review, restoration, emergency action, or monitoring period.

(b) When a critical area 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 County 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.

(c) Requirement for Restoration Plan. All development work shall remain stopped until a restoration plan is prepared and approved by the Planning Administrator. Such a plan shall be prepared by a qualified professional using the best available science and shall describe how the actions proposed meet the minimum requirements described in Subsection (d). The Planning Administrator shall, at the violator's expense, seek expert advice in determining the adequacy of the plan. Inadequate plans shall be returned to the applicant or violator for revision and resubmittal.

(d) Minimum Performance Standards for Restoration.

(1) For alterations to critical aquifer recharge areas, frequently flooded areas, wetlands, and fish and wildlife habitat conservation areas, the following minimum performance standards shall be met for the restoration of a critical area, provided that if the violator can demonstrate that greater functional and habitat values can be obtained, these standards may be modified:

(i) The historic structural and functional values shall be restored, including water quality and habitat functions;

(ii) The historic soil types and configuration shall be replicated;

(iii) The critical area and buffers shall be replanted with native vegetation that replicates the vegetation historically found on the site in species types, sizes, and densities. The historic functions and values should be replicated at the location of the alteration; and

(iv) Information demonstrating compliance with the requirements in mitigation plan requirements (BCC 15.02.230) shall be submitted to the Planning Administrator.

(2) For alterations to frequently flooded and geologically hazardous areas, the following minimum performance standards shall be met for the restoration of a critical area, provided that, if the violator can demonstrate that greater safety can be obtained, these standards may be modified:

(i) The hazard shall be reduced to a level equal to, or less than, the predevelopment hazard;

(ii) Any risk of personal injury resulting from the alteration shall be eliminated or minimized; and

(iii) Upon the determination of the Planning Administrator, the hazard area and buffers shall be replanted with native vegetation sufficient to minimize the hazard.

(e) Site Investigations. The Planning Administrator is authorized to make site inspections and take such actions as are necessary to enforce this Chapter. The Planning Administrator shall present proper credentials and make a reasonable effort to contact any property owner before entering onto private property.

(f) Enforcement and Penalties. Any violation of this Chapter (Benton County Critical Area Regulations) shall be enforced under the provisions BCC Title 11 (Benton County Zoning Regulations), Chapter 11.54 Administration and Disposition of Infractions, as currently existing or hereafter amended. Additionally, penalties for violating the provisions of this chapter are specified in BCC Title 11, Chapter 11.54 Administration and Disposition of Infractions, as currently existing or hereafter amended.

SECTION 19. Ordinance 609, Section 31 and BCC 15.04.010 are hereby amended to read as follows:

DESIGNATION, RATING, AND MAPPING OF WETLANDS.

(a) Designating Wetlands. Wetlands are those areas, designated in accordance with WAC 173-22-035 and the Federal Wetlands Delineation Manual (1987, as now existing and hereafter amended) that are inundated or saturated by surface or groundwater 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. All areas meeting the wetland designation criteria in the Federal Wetlands Delineation Manual and applicable regional supplements, regardless of any formal identification, are hereby designated critical areas and are subject to the provisions of this chapter. Wetland delineations are valid for five (5) years; after such date the County shall determine whether a revision or additional assessment is necessary.

(b) Wetlands Rating Categories: Wetlands shall be rated according to Ecology's Washington State Wetland Rating System for Eastern Washington: 2014 Updated (~~((--Revised--))~~) (Ecology Publication #14-06-030), or as revised by the Washington State Department of Ecology. Wetland rating categories shall be applied as the wetland exists at the time of the adoption of this chapter or as it exists at the time of an associated permit application. Wetland rating categories shall not change due to illegal modifications. Wetlands shall be rated according to the following categories:

(1) Category I Wetlands. Those wetlands scoring a "Category I" rating; (~~((under the Ecology Wetlands Rating System.))~~)

(2) Category II Wetlands: Those wetlands scoring a "Category II" rating; (~~((under the Ecology Wetlands Rating System.))~~)

(3) Category III Wetlands: Those wetlands scoring a "Category III" rating (~~((under the Ecology Wetlands Rating System.))~~); and

(4) Category IV Wetlands: Those wetlands scoring a "Category IV" rating (~~((under the Ecology Wetlands Rating System.))~~).

(c) Mapping: The approximate location and extent of critical areas are displayed on various inventory maps available at the Planning Department. These maps will be updated as inventories are completed in compliance with the requirements of the Growth Management Act, and additional maps may be added as appropriate. Benton County's critical areas maps depict the approximate location and extent of known or suspected wetlands, and are hereby adopted.

(1) These maps are to be used as a guide for the County, project applicants, and/or property owners, and may be continuously updated as new critical areas are identified.

They are a reference and do not provide a final critical area designation.

(2) The exact location of a wetland's boundary shall be determined through the performance of a field investigation by a qualified professional wetland scientist applying the approved Federal Wetlands Delineation Manual (1987, as now existing and hereafter amended) and applicable regional supplements. 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.

SECTION 20. Ordinance 609, Section 32 and BCC 15.04.020 are hereby amended to read as follows:

ACTIVITIES ALLOWED IN WETLANDS.

The activities listed below are allowed in wetlands, in addition to those activities listed in, and consistent with, the provisions established in allowed activities (BCC 15.02.160), and do not require submission of a critical area report, except where such activities result in a loss to the functions and values of a wetland or wetland buffer. These activities include:

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

(b) Enhancement of a wetland through the removal of non-native invasive species. Weeding shall be restricted to hand removal and weed material shall be removed from the site. Bare areas that remain after weed removal shall be revegetated with native shrubs and trees at natural densities. Some hand seeding may also be done over the bare areas with native herbs.

(c) Agricultural activities in and around critical areas that are addressed by the implementation of the VSP work plan.

(d) 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.

(e) 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.

(f) 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.

SECTION 21. Ordinance 609, Section 34 and BCC 15.04.040 are hereby amended to read as follows:

PERFORMANCE STANDARDS—GENERAL REQUIREMENTS.

(a) Activities may only be permitted in a wetland or wetland buffer if the applicant can show that the proposed activity will not degrade the functions and functional performance of the wetland and other critical areas.

(b) Wetland Buffers. The following buffer widths have been established in accordance with the best available science. They are based on the category of wetland and the habitat score as determined by a qualified wetland professional using the Washington State Wetland Rating System for Eastern Washington (Ecology Publication #14-06-030, or as revised and approved by Ecology). The standard buffer widths are provided in Table 15.04.040-1 below.

~~((1) The use of the standard buffer widths requires the implementation of the measures in Table 15.04.040-2, where applicable, to minimize the impacts of the adjacent land uses.~~

~~(2) If an applicant chooses not to apply the minimization measures in Table 15.04.040-2, then a 33% increase in the width of all buffers is required. For example, a 75-foot standard buffer would become a 100-foot buffer if the minimization measures are not implemented.~~

~~(3) The standard buffer widths assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer should either be planted to create the appropriate plant community in accordance with subsection (i) below, or the buffer should be widened to ensure that adequate functions of the buffer are provided.~~

~~(i) In lieu of increasing the buffer width where existing buffer vegetation is inadequate to protect the wetland functions and values, implementation of a buffer planting plan may substitute. Existing buffer vegetation is considered "inadequate" and will need to be enhanced through additional native plantings and (if appropriate) removal of non-native plants when: (1) non-native or invasive plant species provide the dominant cover, (2) vegetation is lacking due to disturbance and wetland resources could be adversely affected, or (3) enhancement plantings in the buffer could significantly improve buffer functions)~~

(1) The use of the standard buffer widths requires providing:

(i) a minimum one hundred (100) foot protected habitat corridor to connect wetlands that score 6 or more habitat points with any of the following:

(1) 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)

(2) 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

(3) An area where development is prohibited per the provisions of the local shoreline master program

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

(ii) 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.

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

(iv) The measures in Table 15.04.040-2 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 15.04.040-2 are required for the use of the buffers in Table 15.04.040-1.

(3) If an applicant does not apply the mitigation measures in Table 15.04.040-2 or is unable to provide a protected corridor, then the buffers in Table 15.04.040-3 shall be used.

(4) The buffer widths in Tables 15.04.040-1 and 15.04.040-3 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.

((4)) (5) Measurement of Wetland Buffers. All buffers shall be measured from the wetland boundary as surveyed in the field.

((5)) (6) Increased Wetland Buffer Widths. The Planning Administrator may require increased buffer widths in accordance with the recommendations of an experienced, qualified professional wetland scientist, and the best available science on a case-by-case basis when a larger buffer is necessary to protect wetland functions and values based on site-specific characteristics. The documentation shall include but not be limited to the following criteria:

(i) 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.

- (ii) 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.
- (iii) The adjacent land is susceptible to severe erosion, and erosion-control measures will not effectively prevent adverse wetland impacts.
- (iv) The adjacent land has minimal vegetative cover.
- (v) The land has slopes greater than thirty (30) percent.

Table 15.04.040-1. Wetland Buffer(~~(s)~~) Habitat Corridor Width Requirements, in feet

Wetland Category	~~((Standard Buffer Width 3-4 habitat points*))~~ Habitat Score 3-5 (Corridor not required) *	~~((Additional buffer width if wetland scores 5 habitat points*))~~ <u>Habitat Score 6-7 points*</u>	~~((Additional buffer width if wetland scores 6-7 habitat points*))~~ <u>Habitat Score 8-9 points*</u>	~~((Additional buffer width if wetland scores 8-9 habitat points*))~~ <u>Buffer width based on special characteristics</u>
Category I and II: Based on ~~((total score))~~ <u>rating of wetland functions and not listed below</u>	75 ~~((ft))~~	~~((Add 15 ft))~~ <u>110</u>	~~((Add 45 ft))~~ <u>150</u>	~~((Add 75 ft))~~ <u>NA</u>
Category I and II: Forested	75 ~~((ft))~~	~~((Add 15 ft))~~ <u>110</u>	~~((Add 45 ft))~~ <u>150</u>	~~((Add 75 ft))~~ <u>NA</u>
Category I: Bogs, <u>calcareous fens, and Wetlands of High Conservation Value</u>	~~((190 ft))~~ <u>NA</u>	NA	NA	~~((NA))~~ <u>190</u>
Category I: Alkali	~~((150 ft))~~ <u>NA</u>	N ~~((/))~~ A	NA	~~((NA))~~ <u>150</u>

(Category I: ~~Natural Heritage Wetlands~~)	((~~190 ft~~))	((N/A))	((NA))	((NA))
(Category II: ~~Based on total score~~)	((~~75 ft~~))	((~~Add 15 ft~~))	((~~Add 45 ft~~))	((~~Add 75 ft~~))
Category II: Vernal pool	((~~150~~)) <u>NA</u>	NA	NA	((NA)) <u>150</u>
(Category II: ~~Forested~~)	((~~75 ft~~))	((~~Add 15 ft~~))	((~~Add 45 ft~~))	((~~Add 75 ft~~))
Category III (all)	60 ((~~ft~~))	((~~Add 30 ft~~)) <u>110</u>	((~~Add 60 ft~~)) <u>150</u>	((~~Add 90 ft~~)) <u>NA</u>
Category IV (all)	40 ((~~ft~~))	((NA)) <u>40</u>	((NA)) <u>40</u>	NA

*Or latest method of scoring, if the Department of Ecology updates its Wetland Rating Forms, these point ranges should be modified using Ecology’s conversion table once updated.

Table 15.04.040-2. Required measures to minimize impacts to wetlands
(Measures are required, where applicable to a specific proposal)

Disturbance	Required Measures to Minimize Impacts
Lights (from parking lots, Commercial/industrial uses, residential uses, agricultural buildings, and recreation, including sports activities)	▪ Direct lights away from wetland ▪ <u>Only use lighting where necessary for public safety and keep lights off when not needed</u> ▪ <u>Use motion-activated lights</u> ▪ <u>Use full cut-off filters to cover light bulbs and direct light only where needed</u> ▪ <u>Limit use of blue-white colored lights in favor of red-amber hues</u> ▪ <u>Use lower-intensity LED lighting</u> ▪ <u>Dim light to the lowest acceptable intensity</u>

Noise (from parking lots, Commercial/industrial uses, residential uses, agriculture, and recreation, including sports activities)	▪ Locate activity that generates noise away from wetland ▪ ~~((If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source~~ ▪ ~~For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10' heavily vegetated buffer strip immediately adjacent to the outer wetland buffer))~~ ▪ <u>Construct a wildlife friendly fence to reduce noise impacts on adjacent wetland and buffer</u> ▪ <u>Plant a strip of dense shrub vegetation adjacent to wetland buffer</u>
Toxic runoff (from parking lots, Commercial/industrial uses, residential uses, pesticide application, landscaping and 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 <u>(Note: These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.)</u>
Stormwater runoff (from parking lots and roads, Commercial/industrial, recreation and residential areas and uses, landscaping and other impermeable surfaces)	▪ Retrofit stormwater detention and treatment for roads and existing adjacent development ▪ Prevent channelized or sheet flow from lawns that directly enters the buffer ▪ ~~((Use Low Intensity Development techniques (per PSAT publication on LID techniques)))~~ ▪ <u>Infiltrate or treat, detain and disperse new runoff from impervious surfaces and lawns</u>

~~((Change in water regime))~~	~~((Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns))~~
Pets and human disturbance <u>(from residential areas and recreation)</u>	▪ Use privacy fencing ▪ ~~((OR-P))~~ <u>Plant dense native vegetation to delineate buffer edge and to discourage disturbance</u> ~~((using vegetation appropriate for the ecoregion.))~~ ▪ Place wetland and its buffer in a separate tract or protect with a conservation easement ▪ <u>50-200 ft., and for subdivisions place signs at the back of each residential lot</u> ▪ <u>When platting new subdivisions, locate greenbelts, stormwater facilities, or other lower-intensity land uses adjacent to wetland buffers</u>
Dust <u>(from tilled fields, lands without vegetation and roads)</u>	Use best management practices to control dust
~~((Disruption of corridors or connections))~~	▪ ~~((Maintain connections to offsite areas that are undisturbed~~ ▪ ~~Restore corridors or connections to offsite habitats by replanting))~~

Table 15.04.040-3. Wetland Buffer Width Requirements, in feet not providing a habitat corridor or implementing measures in Table 15.04.040-2.

<u>Wetland Category</u>	<u>Habitat Score 3-5 (Corridor not required*</u>	<u>Habitat Score 6 - 7 points*</u>	<u>Habitat Score 8 - 9 points *</u>	<u>Buffer width based on special characteristics</u>
Category I and II: <u>Based on rating of wetland functions and not listed below</u>	100	150	200	NA
Category I & II: <u>Forested</u>	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 (all)	80	150	200	NA
Category IV (all)	50	50	50	NA

*Or latest method of scoring, if the Department of Ecology
updates its Wetland Rating

(c) Wetland Buffer Width Averaging. The Planning Administrator may allow modification of the standard wetland buffer width in accordance with an approved critical area report and the best available science on a case-by-case basis by averaging buffer widths. Averaging of buffer widths may only be allowed where a qualified professional wetland scientist demonstrates that:

- (1) It will not reduce wetland functions or functional performance;
- (2) The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;
- (3) The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; and
- (4) The buffer width is not reduced to less than seventy-five (75) percent of the standard width or thirty-five (35) feet whichever is less.
- (5) A deed restriction, conservation easement or other mechanism is in place for permanent protection.

(d) Buffer Uses. The following uses may be permitted 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 and Restoration Activities. Conservation or restoration activities aimed at protecting the soil, water, vegetation, or wildlife.
- (2) Passive Recreation. In the outer twenty-five (25) percent of wetland buffers, passive recreation facilities designed and in accordance with an approved critical area report, including pedestrian-only walkways, trails and

wildlife viewing structures constructed with a surface that does not interfere with the permeability.

~~((3) Stormwater Management Facilities. Stormwater management facilities, limited to stormwater dispersion outfalls and bioswales, may be allowed within the outer twenty-five (25) percent of the buffer of Category III or IV wetlands, provided that:~~

- ~~(i) No other location is feasible; and~~
- ~~(ii) The location of such facilities will not degrade the functions or values of the wetland.))~~

(3) 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:

- (i) The wetland is classified as a Category IV or a Category III wetland with a habitat score of 3-5 points.
- (ii) There will be no net loss of functions and values of the wetland.
- (iii) The wetland does not contain a breeding population of any native amphibian species.
- (iv) 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, [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.
- (v) The wetland lies in the natural routing of the runoff, and the discharge follows the natural routing.
- (vi) All regulations regarding stormwater and wetland management are followed, including but not limited to local and state wetland and stormwater codes, manuals, and permits.
- (vii) 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.

(4) 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.

SECTION 22. Ordinance 609, Section 35 and BCC 15.04.050 are hereby amended to read as follows:

PERFORMANCE STANDARDS-COMPENSATORY MITIGATION REQUIREMENTS.

Compensatory mitigation for alterations to wetlands shall be used only for impacts that cannot be avoided or minimized and shall achieve equivalent or greater ((biologic)) functions. Compensatory

mitigation plans shall be consistent with ~~((the following: Washington State Department of Ecology's Guidance on))~~ Wetland Mitigation in Washington State, Part ~~((1))~~2: ~~((Agency Policies and Guidance and Part 2:))~~ Developing Mitigation Plans (Version 1, Ecology Publication #06-06-011~~((a))~~b, March 2006), ~~((as now existing and hereafter amended))~~ or as revised, and selecting Wetland Mitigation Sites Using a Watershed Approach [Eastern Washington, (Ecology Publication #10-06-007), or as revised].

(a) Mitigation for Lost or Affected Functions. Compensatory mitigation actions shall address functions affected by the alteration, with an intention to achieve functional equivalency or improvement and shall provide similar wetland functions as those lost, except when out-of-kind replacement will best meet formally identified watershed goals, such as replacement of historically diminished wetland types.

(b) Mitigation requirements may be determined using the Credit-Debit Method described in Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Eastern Washington (Ecology Publication #10-06-015), or as revised.

(c) Plantings used in mitigation actions shall be native species appropriate to Benton County.

~~((b))~~ (d) Preference of Mitigation Actions. Mitigation actions that require compensation by replacing, enhancing, or substitution shall occur in the following order of preference:

(1) Restoring wetlands on upland sites that were formerly wetlands.

(2) Creating wetlands on disturbed upland sites such as those with vegetative cover consisting primarily of non-native introduced species. This should only be attempted when there is a consistent source of hydrology and it can be shown that the surface and subsurface hydrologic regime is conducive for the wetland community that is being designed.

(3) Enhancing significantly degraded wetlands in combination with restoration or creation. Such enhancement should be part of a mitigation package that includes replacing the impacted area meeting appropriate ratio requirements.

(e) Mitigation shall focus on the best possible outcome for compensating for impacts to functions and values within the wetland environment. The location of the compensatory mitigation action shall be preferred in the order referenced below:

(1) Preferential consideration shall be given to on-site mitigation measures that replace the impacted functions, and in areas where non-native vegetation is present adjacent to existing native vegetation to the extent practicable.

(2) Off-site compensatory mitigation located in the same watershed and that addresses limiting factors or identified critical needs for Water Resource Inventory Area (WRIA) or comprehensive resource management plans, as applicable.

(3) Alternative off-site mitigation programs such as mitigation banks or in-lieu fee programs as established by the county or city. This includes future mitigation banking opportunities, developed in coordination with the County.

~~((+e))~~ (f) Type and Location of Mitigation. Unless it is demonstrated that a higher level of ecological functioning would result from an alternate approach, compensatory mitigation for ecological functions shall be either in-kind and on-site, or in-kind and within the same sub-basin. Mitigation actions shall be conducted within the same subdrainage basin and on the site as the alteration except when all of the following apply:

- (1) There are no reasonable on-site or in-subdrainage basin opportunities or on-site and in-subdrainage basin opportunities do not have a high likelihood of success, after a determination of the natural capacity of the site to mitigate for the impacts. Consideration should include: anticipated wetland mitigation replacement ratios, buffer conditions and proposed widths, hydrogeomorphic classes of on-site wetlands when restored, proposed flood storage capacity, potential to mitigate riparian fish and wildlife impacts (such as connectivity);
- (2) Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland; and
- (3) Off-site locations shall be in the same subdrainage basin.

~~((+d))~~ (g) Mitigation Timing. Mitigation projects shall be completed with an approved monitoring plan prior to activities that will disturb wetlands. In all other cases, mitigation shall be completed immediately following disturbance and prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife, and flora.

~~((+e))~~ (h) Mitigation Ratios. Ratios for compensatory mitigation shall be as specified in Table 15.04.050-~~((3))~~1 for wetlands without special characteristics and Table 15.04.050-2 for wetlands with special characteristics. The ratios shall apply to creation, restoration, rehabilitation, or enhancement that is in-kind, is on-site, is the same category, is timed prior to or concurrent with alteration, and has a high probability of success. Greater ratios may apply in those cases of remedial actions resulting from unauthorized alterations. The first number specifies the acreage of replacement wetlands and the second specifies the acreage of wetlands altered.

Table 15.04.050- ~~((3))~~ <u>1</u> . Wetland Mitigation Ratios			
Category and Type of Wetland	~~((Creation or))~~ Re-establishment or Creation	Rehabilitation	<u>Preservation</u> <u>/Enhancement</u>
Category I ~~((÷ Bog, Natural Heritage site))~~	~~((Not considered possible))~~ <u>4:1</u>	~~((Case by case))~~ <u>8:1</u>	~~((Case by case))~~ <u>16:1</u>

~~((Category I: Mature Forested))~~	~~((6:1))~~	~~((12:1))~~	~~((24:1))~~
~~((Category I: Based on functions))~~	~~((4:1))~~	~~((8:1))~~	~~((16:1))~~
Category II	3:1	6:1	12:1
Category III	2:1	4:1	8:1
Category IV	1.5:1	3:1	6:1

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 be consistent with the following preservation criteria:
 - (a) The Planning 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
 - (ii) Rare or irreplaceable wetland type [e.g, 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 Planning 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.
- The ratios provided in Table 15.04.050 -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 15.04.050-2 below.

Table 15.04.050-2. Compensation Ratios for Wetlands with Special Characteristics

<u>Category and Type of Wetland</u>	<u>Re-establishment or Creation</u>	<u>Re-habilitation</u>	<u>Preservation</u>	<u>Enhancement</u>
<u>Category I forested</u>	<u>6:1</u>	<u>12:1</u>	<u>24:1</u>	<u>24:1</u>
<u>Category II forested</u>	<u>3:1</u>	<u>6:1</u>	<u>12:1</u>	<u>12:1</u>
<u>Bogs and calcareous fens</u>	<u>NA</u>	<u>NA</u>	<u>24:1</u>	<u>NA</u>
<u>Wetlands of High Conservation Value</u>	<u>Consult with WA DNR</u>	<u>Consult with WA DNR</u>	<u>24:1</u>	<u>Consult with WA DNR</u>
<u>Alkali wetlands</u>	<u>NA</u>	<u>NA</u>	<u>24:1</u>	<u>NA</u>
<u>Vernal pools</u>	<u>Case by case or 3:1 for re-establishment of a seasonally ponded wetland</u>	<u>Case by case or 6:1 for re-establishment of a seasonally ponded wetland</u>	<u>16:1 (preservation of a vernal pool complex)</u>	<u>16:1 (enhancement of both wetlands and uplands within a vernal pool complex)</u>

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 reestablish. 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.

SECTION 23. Ordinance 609, Section 51 and BCC 15.14.010 are hereby amended to read as follows:

DESIGNATION OF FISH AND WILDLIFE HABITAT CONSERVATION AREAS.

(a) Fish and wildlife habitat conservation areas include:

(1) Areas where federal or state designated endangered, threatened, and sensitive species have a primary association.

(i) Federal designated endangered and threatened species are those fish, wildlife, and plant species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that are in danger of extinction or threatened to become endangered. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service should be consulted as necessary for current federal listing status.

(ii) State designated endangered, threatened, and sensitive species are those fish, wildlife and plant species identified by the Washington State Department of Fish and Wildlife and/or State of Washington Natural Heritage Program. The State of Washington's Department of Fish and Wildlife and/or Natural Heritage Program maintains the most current listing and should be consulted as necessary for current state listing status.

(2) State priority habitats and areas associated with state priority species.

(i) State of Washington Priority Habitats and Species are considered priorities for conservation and management.

(ii) The State of Washington's Department of Fish and Wildlife should be consulted for current listing of priority habitats and species. Riparian Management Zones (RMZs) define the boundaries of riparian ecosystems, a priority habitat.

(3) Habitats and species of local importance. Benton County designates the following as a habitat and species of local importance:

(i) Shrub-steppe habitat. Critical to supporting priority species in Benton County, shrub-steppe habitat as identified by the Washington State Department of Fish and Wildlife and included in the State Priority Habitats and Species List.

(4) Waters of the state, as defined in RCW 90.48.020, as it now exists or may be hereinafter amended, and include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses in Washington State.

(i) For the purposes of this chapter, Benton County hereby adopts the water typing system specified in WAC 222-16-030 as existing and hereafter amended.

(5) Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat. These do not include ponds deliberately designed and created from dry sites such as canals, detention facilities,

wastewater treatment facilities, farm ponds, temporary construction ponds (of less than three years duration) and landscape amenities. However, naturally occurring ponds may include those artificial ponds intentionally created from dry areas in order to mitigate conversion of ponds, if permitted by a regulatory authority;

(6) Lakes, ponds, streams and rivers planted with native fish populations, including fish planted under the auspices of federal, state, local or tribal programs or which supports priority fish species as identified by the Washington State Department of Fish and Wildlife;

(7) Washington State Wildlife Areas are defined, established, and managed by the Washington State Department of Fish and Wildlife;

(8) Washington State Natural Area Preserves and Natural Resource Conservation Areas are defined, established, and managed by the Washington State Department of Natural Resources; and

(9) The areas listed as a national wildlife refuge, national park, national monument, natural area preserve;

- Badger Mountain Preserve;
- Candy Mountain Preserve;
- Category I wetlands.

(b) All areas meeting one or more of these criteria, regardless of any formal identification, are hereby designated fish and wildlife habitat conservation areas and are subject to the provisions of this chapter and shall be managed consistent with the best available science.

(c) Fish and wildlife habitat conservation areas does not include (~~such~~) wholly man-made artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of, and are maintained by, a port district or an irrigation district or company.

(d) Fish and wildlife habitat conservation areas are intended to:

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

(2) Limit the level of human activity within such areas that is appropriate for certain areas and habitats, including presence of roads and level of recreation type (passive or active recreation);

(3) Protect riparian ecosystems including potential for restoring lost or impaired salmonid habitat;

(4) Evaluate land uses that may negatively impact these areas, or conversely, that may contribute positively to their function;

(5) Establish buffer zones around these areas to separate incompatible uses from habitat areas; and

(6) Promote biodiversity in part by preserving local gene pools of seeds/insects/other species.

SECTION 24. The section which follows is hereby added to Chapter 15.14 BCC:

DESIGNATION OF HABITATS AND SPECIES OF LOCAL IMPORTANCE.

(a) When presented with supporting evidence, the Planning Administrator may recommend designating or de-designating a habitat or species of local importance. Recommendations for designating or de-designating habitats or species of local importance must meet the definitions in Chapter 15.02.070.

Additionally, while this section is focused on designation of habitats and species of local importance, the criteria listed in subsection (b) shall also be addressed for de-designation describing how these designation criteria no longer apply and including supporting justification. WDFW should be consulted when the de-designation process is started.

(b) Nominations for designating habitats or species of local importance shall include the following:

(1) Identification of the habitat or species being nominated. Identification shall include, at a minimum, the following information:

(i) A legible map or maps of species and/or habitat location(s);

(ii) Specific features to be protected (for example, nest sites, breeding areas, nurseries, vegetation communities) or, if a habitat is being nominated in its entirety, a description of the habitat, its structure, function, species, and geographic boundaries of the habitat(s) encompassed, and any other relevant attributes; and

(iii) An analysis of the habitat and hydrologic functions, where applicable, and location of the area relative to already designated critical areas and the nearest similar habitat if known.

The Planning Administrator has the authority to alter these requirements if he/she determines that alternative methods of identification or characterization are more accurate or reliable.

(2) A demonstrated need for special consideration based on one or more the following:

(i) Habitat or species rarity or vulnerability to rarity as evidenced by restricted, small or declining species population and habitats or community loss or degradation;

(ii) Vulnerability to habitat perturbation, including a discussion of and the potential cause of that perturbation;

(iii) The need for protection, maintenance, and/or restoration of the nominated habitat to ensure the long-term persistence of a species;

(iv) The ability of the site to disproportionately contribute to regional biodiversity as evidenced by species use, richness, abundance, and/or rarity;

(v) The commercial, recreational, cultural, or other special value, such as public appeal; or

(vi) The need for maintaining connectivity between habitat areas.

(3) An explanation of why special protection is needed and how existing County, state, and federal programs and regulations do not provide adequate protection.

(4) Proposed management strategies for the species or habitats. Management strategies must be supported by best available science.

(5) Identification of effects on property ownership and use.

(6) The Planning Administrator may, on a case-by-case basis, require additional information needed to evaluate the resource being proposed.

(c) Proposals shall be reviewed by the County and should be forwarded to the State Departments of Fish and Wildlife, Natural Resources, and/or other local, state, federal, and/or tribal agencies, or experts for comments and recommendations.

(d) The Planning Administrator shall evaluate the supporting evidence according to the characteristics enumerated in this section and make a recommendation to the Planning Commission based on those findings.

(e) The Planning Commission shall hold a public hearing for proposals recommended for action by the Planning Administrator and make a recommendation to the Board of Commissioners to approve or deny the recommendation based on the standards enumerated in subsection b.

(f) The Board of Commissioners shall take action to approve or deny the proposal to designate a habitat or species of local importance. Action to approve will be based on all of the following:

(1) Satisfies the criteria and includes the information required in subsection b;

(2) Best available science supports the subject species or habitat of local importance;

(3) Management strategies are practicable; and

(4) Without protection, there is a likelihood that the species or habitat will not persist over the long term.

SECTION 25. Ordinance 609, Section 53 and BCC 15.14.030 are hereby amended to read as follows:

CRITICAL AREA REPORT-ADDITIONAL REQUIREMENTS FOR FISH AND WILDLIFE HABITAT CONSERVATION AREAS.

In addition to the general critical area report requirements of BCC 15.02.190, critical area reports for fish and wildlife habitat conservation areas must meet the requirements of this section.

Critical area reports for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

(a) Preparation by a Qualified Professional. A critical areas report for a fish and wildlife habitat conservation area shall be prepared by a qualified professional with experience preparing reports for the relevant type of habitat. A qualified professional shall meet the standard specified in BCC 15.02.070(57).

(b) Areas Addressed in Critical Area Report. The following areas shall be addressed in a critical area report for fish and wildlife habitat conservation areas:

(1) The project area of the proposed activity;

(2) All fish and wildlife habitat conservation areas and recommended RMZs or other habitat buffers within three-hundred (300) feet; and

(3) All shoreline areas, floodplains, other critical areas, and related RMZs or other habitat buffers within three-hundred (300) feet.

(c) Habitat Assessment. A habitat assessment is an investigation of the project area to evaluate the potential presence or absence of designated critical fish or wildlife species or habitat. A critical area report for a habitat conservation area shall be submitted as part of a complete application and included in SEPA review. It must contain an assessment of habitats including the following site and proposal related information at a minimum:

(1) Detailed description of vegetation on and adjacent to the project area and its associated RMZ or other habitat buffer;

(2) Identification of any species of local importance, priority species, or endangered, threatened, sensitive, or candidate species that have a primary association with habitat on or adjacent to the project area, and assessment of potential project impacts to the use of the site by the species;

(3) A discussion of any federal, state, or local special management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the project area;

(4) A detailed discussion of the direct and indirect potential impacts on habitat by the project, including potential impacts to water quality, impacts from light and noise and other related factors, as applicable;

(5) A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing habitats and restore any habitat that was degraded prior to the current proposed land use activity and to be conducted in accordance with mitigation sequencing BCC 15.02.~~((220))~~210;

(6) A discussion of ongoing management practices that will protect habitat after the project site has been developed, including proposed monitoring and maintenance programs; and

(7) Agency Consultation May Be Required. When appropriate due to the type of habitat or species present or the project area conditions, the Planning Administrator (~~(may)~~) should also require the critical area report/habitat assessment to include a request for consultation with the Washington State Department of Fish and Wildlife or the local Confederated Indian Tribe or other appropriate agency.

SECTION 26. Ordinance 609, Section 54, Ordinance 637, Section 2 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 fish and wildlife 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 fish and wildlife 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 RMZ or other habitat buffers, as necessary to minimize or mitigate any potential adverse impacts. Conditions shall be based on the best available science and (~~(may)~~) should include, but are not limited to, the following:

- (1) Establishment of RMZ or other habitat 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 wildlife-friendly 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. After applying mitigation sequencing per BCC 15.02.210, (~~(M)~~) mitigation of alterations to fish and wildlife habitat conservation areas shall achieve (~~(equivalent)~~) no net loss 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))~~ no-net loss equivalency or functional improvement on a per-function basis.

Mitigation sites may be located off-site to support habitat connectivity only when it can be demonstrated that such siting achieves equal or greater ecological function, value, and long-term viability than on-site mitigation.

(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) FWHCA Buffers

(1) Establishment of Buffers. Buffers often consist of an undisturbed area of native vegetation or areas identified for restoration established to protect the integrity, all key habitat functions, and values of the affected habitat. Required buffers reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby and shall be protected consistent with the management recommendations issued by the Washington State Department of Fish and Wildlife and documented local conditions in critical areas reports or other local studies that characterize existing conditions, as applicable.

~~((g))~~ (h) ~~((Buffers))~~ Riparian Management Zones (RMZs).

(1) Establishment of ~~((Buffers))~~ RMZs. ~~((Required buffer areas for activities adjacent to habitat conservation areas to))~~ RMZs protect riparian habitat functions and values. ~~((conservation areas are as set forth in this section (g). Buffers shall))~~ RMZs often consist of an undisturbed area of native vegetation or areas identified for restoration established to protect the integrity, all key riparian functions, and values of the affected habitat. Required ~~((buffer widths))~~ RMZs reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby and shall be protected consistent with the management recommendations issued by the Washington State Department of Fish and Wildlife and documented local conditions in critical areas reports or other local studies that characterize existing conditions, as applicable. RMZs shall be included in the project's mitigation plan and are subject to the same monitoring and performance standards as other mitigation areas.

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

(i) Type S (Shorelines of the State) ~~((Standard Buffer Width))~~ RMZ: Type S water ~~((s))~~ RMZs and associated Channel Migration Zones (CMZs) are protected by the Benton County Shoreline Master Program, as existing and hereafter amended, rather than this chapter.

(ii) Type F (Fish), Type Np (Non-Fish Perennial) and Type Ns (Non-Fish Seasonal) RMZ: One-hundred (100) feet minimum. ~~((Standard Buffer Width: 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: 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.))~~

(3) ~~((Buffer Width))~~ RMZ Width Averaging. With written approval of the Planning Administrator, ~~((riparian buffer))~~ RMZ 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))~~ RMZs be applied on an averaging basis. Averaging of ~~((buffer widths))~~ RMZ area may only be allowed where a qualified professional demonstrates that:

(i) It will not reduce riparian functions or functional performance of other PHS habitat(s) part of or adjacent to the RMZ, as applicable;

(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))~~ RMZ in places and would not be adversely impacted by a narrower ~~((buffer))~~ RMZ in other places;

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

(iv) The ~~((buffer))~~ RMZ width is not reduced more than twenty-five (25) percent of the standard width or fifteen (15) feet, whichever is less.

(4) RMZ Width Measurement and Protection.

(i) ~~((Buffers))~~ RMZs for rivers, lakes, ponds, and streams shall be measured in all directions from the ordinary high-water mark (OHWM) or the CMZ where one exists, as identified in the field.~~((, and))~~

In the case where a waterbody is adjacent to a steep slope or bluff (slope greater than fifteen (15) percent), the RMZ would be increased beyond the one hundred (100) foot minimum to take into account the increased potential for pollution runoff and the possibility of erosion or sloughing as determined by a qualified professional hydrologist and geologist, respectively.

The RMZ would extend to a geologically safe distance away from the edge of the steep slope or bluff to prevent erosion or sloughing, as determined by a qualified professional (licensed geologist or geotechnical engineer).

(i) RMZ and Buffer Width Increase.

The Planning administrator shall have the authority to increase the width of a RMZ on a case-by-case basis when such an increase is necessary to achieve any of the following, as documented through preparation of a Critical Areas report or through technical review comments by a state or federal agency responsible for fish and wildlife species and habitat, and supported by best available science:

(1) Protect fish and wildlife habitat, maintain water quality, ensure adequate flow conveyance; provide adequate recruitment for large woody debris, maintain adequate stream temperatures, or maintain or improve existing in-stream conditions.

(2) Compensate for degraded vegetation communities or steep slopes adjacent to the drainage.

(3) Maintain areas for channel migration.

(4) Provide adequate pollution filtration functions.

(5) Protect adjacent or downstream areas from erosion, landslides, or other hazards

(j) Other General Buffer and RMZ Provisions

~~((+ii))~~ (1) 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).)
Buffers for all PHS habitat types within or adjacent to the proposed action area shall be identified in critical areas report and be identified consistent with best available science. These buffers 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).

(2) Buffers and RMZs shall be included in the project's mitigation plan (15.02.230) and are subject to the same monitoring and performance standards as other mitigation areas.

(3) Buffers and RMZs must be permanently protected and maintained in an undisturbed, vegetated state consistent with its intended ecological function through a conservation easement, deed restriction or other similar instrument.

(4) Onsite sewage systems must be located outside of RMZs.

~~((+5))~~ (k) Seasonal Restrictions for Buffers. 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 27. Ordinance 609, Section 55 and BCC 15.14.050 are hereby amended to read as follows:

PERFORMANCE STANDARDS-SPECIFIC HABITATS.

(a) Endangered, threatened, and sensitive species.

(1) No development shall be allowed within a habitat conservation area or buffer with which state or federal endangered, threatened, or sensitive species have a primary association, unless provided for through a federal or state permit, or other approval.

(2) Whenever activities are proposed adjacent to a habitat conservation area with which state or federally endangered, threatened, or sensitive species have a primary association, such area shall be protected through the application of protection measures in accordance with a critical area report prepared by a qualified professional and submitted to the county. Approval for alteration of land adjacent to the habitat conservation area or its buffer shall not occur prior to consultation with the Washington State Department of Fish and Wildlife and the appropriate federal agency.

(b) Shrubsteppe Habitat Protection and Mitigation.

(1) The County and cities in Benton County require mitigation to offset impacts from removal or degradation of shrubsteppe habitat when developed. When mitigation cannot be completely accomplished through mitigation sequencing avoidance and minimization and associated onsite actions then offsite, compensatory mitigation is required.

(2) Impacts and mitigation shall be applied with a consistent and transparent method as described in the Benton County Shrubsteppe Mitigation Program description to achieve no net loss of ecological function. The latest version of this program document is adopted by reference in this code.

(3) At the time of a development application in the County or cities, if critical areas are present, then a critical areas (CA) report is prepared by a qualified professional. The report documents observed shrubsteppe species and habitat features and confirm shrubsteppe habitat quantity and quality and Washington Shrubsteppe Restoration and Resilience Initiative (WSRRI) and PHS spatial priority ratings, as applicable, and include a calculation of the number of debits/impacts to mitigation for habitat loss. A mitigation report will be prepared identifying the preferred mitigation strategies to achieve no net loss of ecological function. If offsite mitigation is part of the strategy, and the applicant would like to take advantage of the County mitigation program then the steps outlined below will be followed.

(4) The County would use the CA report/ mitigation report and calculated debits/impacts and assign the required credits (with associated cost) from the mitigation bank as part of the permit condition.

(5) Once the mitigation obligation is determined, the developer satisfies the requirement by purchasing the prescribed number of credits from the mitigation bank and the County receives purchase verification.

(6) Credits/debits are assigned based on ratios provided in the County's program document. An area of impacted shrubsteppe habitat proposed for development shall be documented for habitat extent, quality and spatial priority through a qualified professional's CA report including associated WSRRI and PHS mapping, noting some properties may have a range of quality or even spatial priorities, and these

would be separated into sub-areas with varied ratios applied, as applicable. The CA report will also identify the ratio(s) that would be applied from the anticipated impact, and the required credit as determined in advance for banked mitigation properties that are permanently protected through the program.

(7) The program document will be periodically reviewed and updated to reflect the latest WDFW guidance, other best available science, program performance and adaptive management.

SECTION 28. Ordinance 619, Section 10 and BCC 15.18.100 are hereby amended to read as follows:

METERING REQUIREMENTS. (a) All dwelling units relying on private wells pursuant to a mitigation certificate issued by Benton County or by a private water bank shall meter their water usage through a meter approved by the County and pay an annual fee, in the amounts set forth by resolution adopted by the Board of County Commissioners, for the administration of a metering and monitoring program.

(b) Participants are responsible for the installation of meters and metering equipment and any associated costs as determined by County specifications, with the equipment and inspection fees set by Board of Commissioner resolution. Meter installment must meet the following specifications and will be subject to inspection:

(i) The meter must be installed on the mainline prior to any ((~~residential~~)) lateral connections((~~7~~)) or spigots((~~7-08~~)). Additionally, the meter may be installed immediately after the pressure tank((~~s in a well house~~)) , but must still be installed prior to any lateral connections or spigots.

(ii) Meters must be accessible.

(iii) The meter must be installed according to the manufacturer specifications despite varying pipe-fitting, pipe size, well locations and landscape conditions.

(iv) Meter installation must have an accessible, weather resistant, meter structure, such as a meter box or equivalent, and be appropriate for location and geographic area.

(v) Meter installation must contain provisions for cellular endpoints for automatic reading. Below ground installations shall utilize a manufacturer's recommended meter box and lid specifications with accommodations for the end point. Installations inside a building shall properly mount the end point in accordance with the manufacturer's recommendations. End points shall be mounted on the building exterior if necessary to ensure adequate signal strength.

(c) Installation of metering equipment and functional water flow must be complete and approved prior to the inspection and issuance of a Certificate of Occupancy.

(d) If metering equipment requires maintenance, repair, and/or replacement, the property owner is responsible for ensuring proper equipment functionality. If the property owner does not comply with any needed maintenance, repair, and/or replacement of the metering equipment at the cost of the property owner Benton County may undertake such work and recover the costs from the property owner through either an invoice for costs or a lien on the parcel.

SECTION 29. Ordinance 609, Section 56, Ordinance 637, Section 3 are hereby amended to read as follows 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.

GENERAL REFERENCES

Municipal Research and Services Center of Washington. 2018. Website. City and county codes for Washington State jurisdictions available at URL- <http://mrsc.org/Home/Research-Tools/Washington-County-Codes.aspx>

Washington State Department of Community, Trade, and Economic Development. 2007.

Critical Areas Handbook: Protecting Critical Areas within the Framework of the Washington Growth Management Act.

Benton County Codes, as existing or hereafter amended.

Natural Resource Conservation Service, Field Office Technical Guides. Latest Editions.

RCW 36.70A. Growth Management Act

RCW 36.70A.172 Critical Areas - Designation and Protection - Best Available Science.

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

RCW 43.21C State Environmental Policy

RCW 90.44 Regulation of Public Groundwaters

RCW 90.48.020 Waters of the State

RCW 77. Department of Fish and Wildlife

BEST AVAILABLE SCIENCE SOURCES

WETLANDS

Azous, A. and Homer, R. 2010. Wetlands and urbanization: implications for the future. Washington State Department of Ecology; King County Water and Land Resources Division; and University of Washington.

Brinson, M. M. 1993. A hydrogeomorphic classification for wetlands. Technical Report WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. NTIS No. AD A270 053.

Bunten, D., A. McMillan, R. Mraz, and J. Sikes. 2012. Wetlands and CAO Updates: Guidance for Small Cities Eastern Washington Version: 2012 Update. Washington State Department of Ecology. Publication #10-06-001. Olympia, WA.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service. Publ. # FWS/OBS-79/31. 131p.

Granger, T., T. Hruby, A. McMillan, D. Peters, J. Rubey, D. Sheldon, S; Stanley, E. Stockdale. April 2005. Wetlands in Washington State - Volume 2: Guidance for Protecting and Managing Wetlands. Washington State Department of Ecology. Publication #05-06-008. Olympia, WA.

Hattermann, F. Krysanova, V., Hesse, C. 2008. Modelling wetland processes in regional applications. Hydrological Sciences Journal 53(5):1001-1012.

Hogan, D. M., and M. R. Walbridge. 2007. Urbanization and nutrient retention in freshwater riparian wetlands. Ecological Applications 17(4):1142-1155.

Hruby, T. 2013. Update on Wetland Buffers: The State of the Science, Final Report, October 2013: Washington State Department of Ecology Publication #13-06-11. Olympia, WA.

Hruby, T. 2014, 2018. Washington State Wetland Rating System for Eastern Washington: 2014 and 2018 Updates. Washington State Department of Ecology. Publication #14-06-030. Olympia, WA.

Hunt, R., D. Krabbenhoft, and M. Anderson . 1996. Groundwater inflow measurements in wetland systems. Water Resour. Res. 32(3): 495-507.

Mitsch, W.J. and J. G. Gosselink. 2000. Wetlands, Third Edition. John Wiley & Sons, Inc. New York, New York.

Sheldon, O., T. Hruby, P. Johnson, K. Harper, A. McMillan, T. Granger, S. Stanley, and E. Stockdale. 2005. Wetlands in Washington State - Volume 1: A Synthesis of the Science. Washington State Department of Ecology. Publication #05-06-006. Olympia, WA.

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). Environmental Laboratory ERDC/EL TR-08-13, Wetlands Regulatory Assistance Program, U.S. Army Corps of Engineers Engineer Research and Development Center, Vicksburg, Mississippi.

U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetland Delineation Manual: Wetlands Research Program Technical Report Y-87-1 (on-line edition).

U.S. Fish and Wildlife Service. 2018. National Wetlands Inventory. Washington, D.C.: Available at: <http://www.fws.gov/wetlands/>.

~~((Washington State Department of Ecology, 1997. Washington State Wetlands Identification and Delineation Manual. Ecology Publication No. 96-94.~~

~~Washington State Department of Ecology. 2016. Wetland Guidance for CAO Updates, Eastern Washington Version. Publication No. 16-06-002.))~~

Washington State Department of Ecology. 2022. Wetland Guidance for CAO Updates, Western and Eastern Washington. Publication No. 22-06-014. October 2022. Shorelands and Environmental Assistance Program.

Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. 2006a. Wetland Mitigation in Washington State - Part 1: Agency Policies and Guidance (Version 1). Washington State Department of Ecology Publication #06-06-011a. Olympia, WA.

Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. 2006b. Wetland Mitigation in Washington State - Part 2: Developing Mitigation Plans (Version 1). Washington State Department of Ecology Publication #06-06-011b. Olympia, WA.

Washington State Department of Natural Resources. 2018. Wetlands of High Conservation Value- Map Viewer [computer file]. Olympia, WA. Available at: <https://www.dnr.wa.gov/NHPwetlandviewer>

Zedler, J. B., and S. Kercher .2004. Causes and Consequences of Invasive Plants in Wetlands: Opportunities, Opportunists, and Outcomes. Critical Reviews in Plant Sciences 23(5):431-452.

CRITICAL AQUIFER RECHARGE AREAS

Bauer, H.H. and Vaccarro, J.J. 1987. Documentation of a Deep Percolation Model for Estimating Ground-Water Recharge. A contribution of the Regional Aquifer- System Analysis Program. U.S. Geological Survey. Open-File Report 86-536. Tacoma, WA.

Bauer, H.H. and Vaccarro, J.J. 1989. Estimates of Ground-Water Recharge to the Columbia Plateau Regional Aquifer System, Washington, Oregon, and Idaho, for Predevelopment and Current Land-Use Conditions. U.S. Geological Survey. Water Resources Investigations Report 88-4108. Tacoma, WA.

Cook, Kirk V. 2000. Guidance Document for the Establishment of Critical Aquifer Recharge Area Ordinances. Washington State Department of Ecology. Water Quality Program. Publication 97-30. Version 4.0. Olympia, WA.

Drost, B.W. and Whiteman, KJ. 1986. Surficial Geology, Structure, and Thickness of Selected Geohydrologic Units in the Columbia Plateau, Washington. U.S. Geological Survey. Water-Resources Investigations Report 84-4326. 11 sheets. Tacoma, WA.

Drost, B.W. et al. 1989. Well Data, Surface Water Discharges, and Nitrate Concentrations, February 1986 - September, 1987, in

Parts of the Pasco Basin, Washington. U.S. Geological Survey. Open-File Report 89-38. Tacoma, WA.

Drost, B.W., J.C. Ebbert, and S.E. Cox. 1993. Long-Term Effects of Irrigation with Imported Water on Water Levels and Water Quality. 1993. U.S. Geological Survey. Water-Resources Investigations Report 93-4060. Tacoma, WA

Drost, B.W., KM. Schurr, and W.E. Lum II. 1989. Selected Ground-Water Information for the Pasco Basin and Adjacent Areas, Washington, 1986-1989. U.S. Geological Survey. Open-File Report 89-228. Tacoma, WA.

Drost, B.W., S.E. Cox, and KM. Schurr. 1997. Changes in Ground-Water Levels and Ground-Water Budgets, from Predevelopment to 1986, in Parts of the Pasco Basin, Washington. U.S. Geological Survey. Water-Resources Investigations Report 96-4086. Tacoma, WA.

Hermanson, Ronald, et al. 2000. Nitrogen Use by Crops .and the Fate of Nitrogen in the Soil and Vadose Zone. A Literature Search. Washington State University. By Interagency Agreement with the Washington Department of Ecology. Publication 00-10-015. Olympia, WA.

Jenkins, Olaf P. 1922. Underground Water Supply of the Region About White Bluffs and Hanford. State of Washington Department of Conservation and Development. Division of Geology. Bulletin No. 26. Olympia, WA.

Kinnison, Hallard B. and Jack E. Sceva. 1963. Effects of Hydraulic and Geologic Factors on Streamflow of the Yakima River Basin, Washington. U.S. Geological Survey. Water Supply Paper 1595. U.S. Government Printing Office. Washington, D.C.

Liveray, D.M. 1986. The Hydrogeology of the Upper Wanapum Basalt, Upper Cold Creek Valley, Washington. Washington State University. M.S. Thesis. Pullman, WA.

Molenaar, Dee. 1961. Flowing Artesian Wells in Washington State. State of Washington Department of Conservation. Division of Water Resources, Water Supply Bulletin 16. Olympia, WA.

Molenaar, Dee. 1982. Water In The Horse Heaven Hills, South-Central Washington. State of Washington Department of Ecology. Prepared in cooperation with the U.S. Geological Survey. Water Supply Bulletin 51. Olympia, WA.

Molenaar, Dee. 1985. Water in the Lower Yakima River Basin, Washington. State of Washington Department of Ecology. Prepared in cooperation with the U.S. Geological Survey. Water Supply Bulletin 53. Olympia, WA.

Morgan, Laurie. 2005. Critical Aquifer Recharge Areas. Guidance Document. Washington Department of Ecology. Publication 05-10-028. Olympia, WA.

Pacific Groundwater Group. 2011. Request for Identification. Lower Yakima Valley Groundwater Management Area. Project Report prepared for Yakima County. Yakima, WA.

Packard, F.A., A.J. Hansen, Jr. and H.H. Bauer. 1996. Hydrogeology and Simulation of Flow and the Effects of Development Alternatives on the Basalt Aquifers of the Horse-Heaven Hills, South-Central Washington. Report including Plates I and II.

U.S. Geological Survey. Water-Resources Investigations Report 94-4068. Tacoma, WA.

Phillips, Earl L. 1970. Washington Climate For These Counties Asotin, Benton, Columbia, Franklin, Garfield, and Walla Walla. Cooperative Extension Service. College of Agriculture. Washington State University. EM 3127. Pullman, WA.

Rasmussen, Jack J. 1971. Soil Survey of Benton County Area, Washington. United States Department of Agriculture, Soil Conservation Service. In cooperation with the Washington Agricultural Experiment Station. Washington, D.C.

Sell, Ron and L. Knutson. 2002. Quality of Ground Water in Private Wells in the Lower Yakima Valley 2001-2002. Valley Institute of Research and Education. Re-issued by Washington Department of Ecology. Publication 02-10-074. Olympia, WA.

U.S. Bureau of Reclamation. 2011. Yakima River Basin Study. Groundwater Infiltration Appraisal-Level Study Technical Memorandum. Golder Assoc. and HOR, Inc. Yakima, WA

Washington State Department of Ecology. 1974. Inventory and Reconnaissance of Irrigation Districts in the State of Washington. Part I. Summary Report. URS Co. Olympia, WA

Washington State Department of Ecology. 2005. Critical Aquifer Recharge Areas: Guidance Document. Publication 05-10-028. Olympia, WA

Washington State Department of Ecology. 2010. Lower Yakima Valley Groundwater Quality. Publication 10-10-009. Olympia, WA

Yakima River Basin Watershed Planning Unit and Tri-County Water Resources Agency. 2003. Watershed Management Plan Yakima River Basin. Economic and Engineering Services, Inc. and others. Funded by Washington Department of Ecology. Olympia, WA.

FREQUENTLY FLOODED AREAS

Bolton, S. and J. Shellberg. 2001. Ecological Issues in Floodplains and Riparian Corridors. Report to Washington Dept. of Transportation, Olympia.

Federal Emergency Management Agency. 1994. Flood Insurance Study, Benton County, Washington and Unincorporated Areas.

Washington State Department of Ecology. 1991. Comprehensive Planning for Flood Hazard Management. Ecology Publication No. 91-44.

GEOLOGICALLY HAZARDOUS AREAS

Advanced Engineering Consultants. 1979. Benton County. Excerpts From The Side Hill Development Standards Report. Project E-78022. Olympia, WA.

Galster, Richard W. 1989. Engineering Geology in Washington. Volume I. Washington Division of Geology and Earth Resources. Washington Department of Natural Resources, In cooperation with the Washington State Section of the Association of Engineering Geologists. Bulletin 78. Olympia, WA

Phillips, Earl L. 1970. Washington Climate For These Counties Asotin, Benton, Columbia, Franklin, Garfield, and Walla Walla.

Cooperative Extension Service. College of Agriculture. Washington State University. EM 3127. Pullman, WA.

Rasmussen, Jack J. 1971. Soil Survey of Benton County Area, Washington. United States Department of Agriculture, Soil Conservation Service. In cooperation with the Washington Agricultural Experiment Station. Washington, D.C.

The Watershed Company and BERK. 2013. Final Shoreline Analysis Report for Shorelines in Benton County: Yakima and Columbia Rivers. Appendix D Channel Migration Zone Memo. Prepared for the Benton County Planning Department. Prosser, WA.

Thorson, Gerald W. 1989. Landslide Provinces in Washington. Washington Division of Geology and Earth Resources. Bulletin 78. Olympia, WA.

United States Geological Survey. 2015. Geologic Units in Benton County, Washington. Mineral Resources On-Line Spatial Data. Washington Geology. www.mrdata.usgs.gov/geology/state/

Washington State Department of Natural Resources. Interactive Maps. Natural Hazards. <http://www.dnr.wa.gov/programs-and-services/geology/publications-and-data/geologic-information-portal>

FISH AND WILDLIFE CONSERVATION AREAS

AC Geospatial, 2020. Riparian Buffer Analysis Summary Memorandum. Prepared for Benton County, May 2020. (This provides an existing conditions characterization of riparian conditions for selected streams in the County.)

Alexander R.B., E.W. Boyer, RA. Smith, et al. 2007. The role of headwater streams in downstream water quality. J. Am. Water Resour. 43:41-59.

Allan, J.D., M.S. Wipfli, J.P. Caouette, A. Prussian, J. Rodgers. 2003. Influence of streamside vegetation on inputs of terrestrial invertebrates to salmonid food webs. Canadian Journal of Fisheries and Aquatic Sciences 60(3):309-320.

Anchor QEA. 2021. Proposed Riparian Buffers within the Benton County Critical Areas Code Update. Prepared for Benton County, January 30, 2021. (This provides an existing conditions characterization of riparian conditions for selected streams in the County.)

Anchor QEA. 2013. Final Draft Semi-Arid Riparian Functions and Associated Regulatory Protections to Support Shoreline Master Program Updates. Prepared for Grant County.

Anchor QEA and HOR. 2011. Yakima River Basin Study: Mainstem Floodplain Restoration Technical Memorandum. Prepared for the U.S. Bureau of Reclamation and Washington Department of Ecology. (This provides an existing conditions characterization of riparian conditions for selected streams in the County.)

Appel, M., R. Little, H. Wendt, M. Nielson. 2011. Assessment of the Lower Yakima River in Benton County, Washington. Produced in cooperation with the Yakima Basin Fish and Wildlife Recovery Board.

Arnold, C.L. and C.J. Gibbons. 1996. Impervious Surface Coverage: The Emergence of a Key Environmental Indicator. American Planners Association Journal 62:243- 258.

Azerrad, J. M., K. A. Divens, M. F. Livingston, M. S. Teske, H. L. Ferguson, and J. L. Davis. 2011. Management recommendations for Washingtons priority habitats: managing shrub-steppe in developing landscapes. Washington Department of Fish and Wildlife, Olympia, Washington.

Azerrad, J. M., K. A. Divens, M. F. Livingston, M. S. Teske, H. L. Ferguson, and J. L. Davis. 2011. Long-range planning: considering the shrub-steppe landscape. Washington Department of Fish and Wildlife, Olympia, Washington.

Azerrad, J. M., K. A. Divens, M. F. Livingston, M. S. Teske, H. L. Ferguson, and J. L. Davis. 2011. Site-specific management: how to avoid and minimize impacts of development to shrub-steppe. Washington Department of Fish and Wildlife, Olympia, Washington.

Beier, P. and R.F. Noss. 1998. Do habitat corridors provide connectivity? *Conserv. Bio.* 12:1241-1252

Beschta, R.L. 1997. Restoration of riparian and aquatic systems for improved aquatic habitats in the Upper Columbia River Basin. In: Strouder DJ, Bisson PA, Naiman RJ (eds) *Pacific salmon and their ecosystems: status and future options*. Chapman and Hall, New York, NY, pp 475-491.

Beschta, R. L., Bilby, R. E., Brown, G. W., Holtby, L. B., and Hofstra, T. D. 1987. Stream temperature and aquatic habitat: Fisheries and forestry interactions. Pages 191- 232 in E.O. Salo, and T. W. Cundy, editors. *Streamside management: Forestry and Fishery Interactions*. University of Washington, Seattle, WA.

Beeson, C. and P.Doyle. 1995. Comparison of Bank Erosion and Vegetated and Non-Vegetated Channel Bends. *Journal of American Water Resources Association* 31(6):983-990.

Belsky, A.J., A. Matzke, S.Uselman. 1999. "Survey of Livestock Influences on Stream and Riparian Ecosystems in the Western United States". *Journal of Soil and Water Conservation*. 54:419-431.

Benton County. 2008. Benton County Comprehensive Plan. Available: <http://www.co.benton.wa.us/pView.aspx?id=1450&catid=45>. [Accessed: August 2015].

Bilby, R. E., and P. A. Bisson. 1998. Function and distribution of large woody debris. R. J.

Naiman and R. E. Bilby, editors. *River ecology and management: lessons from the Pacific coastal ecoregion*. Springer-Verlag, New York, N.Y ., USA.

Bisson, P. A., S.M. Claeson, S.M. Wondzell, A.D. Foster, and A. Steel. 2013. Evaluating Headwater Stream Buffers: Lessons Learned from Watershed- scale Experiments in Southwest Washington. Pgs. 165-184. In: Anderson, P. D. and Ronnenberg, K.L. (eds.). *Density Management in the 21st Century: West Side Story*. General Technical Report, PNW-GTR-880. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Blair, R. 1999. Birds and butterflies along an urban gradient: surrogate taxa for assessing biodiversity? *Ecol. Appl.* 9:164-170.

Booth, D.B. and C.R. Jackson. 1997. Urbanization of aquatic systems-- degradation thresholds, stormwater detention, and the

limits of mitigation. Journal of American Water Resources Association 22.

Booth, D. B., J. R. Karr, S. Schauman, C. P. Komad, S. A. Morley, M. G. Larson, and S. J. Burges. 2004. Reviving urban streams: land use, hydrology, biology, and human behavior. Journal of the American Water Resources Association, 40:1351-1364.

Braatne. J.H., Jamieson, R., Gill, K.M. and SB. Rood. 2007. Instream Flows and the Decline of Riparian Cottonwoods along the Yakima River, Washington, USA. River Research and Applications 23:247-267.

Bradley CE, Smith DG. 1986. Plains cottonwood recruitment and survival on a prairie meandering river floodplain, Milk River, Southern Alberta and Northern Montana. Canadian Journal of Botany 64:1433-1442.

Bragg, DC. 2000. Simulating Catastrophic and Individualistic Large Woody Debris Recruitment for a Small Riparian System. Ecology 81(5):1383-1394.

Brosofske, K.D., J. Chen, R.J. Naiman, J.F. Franklin 1997. Harvesting effects on microclimatic gradients from small streams to uplands in western Washington. Ecol. Appl. 7, 1188-1200.

Buffle, S., C. Johnson, J. Nicholson, and N. Mesner. 2005. Synthesis of design guidelines and experimental data for water quality function in agricultural landscapes in the Intermountain West. USDA Forest Service/UNL Faculty Publications, 13.

Burges, S. J., M. S. Wigmosta, and J.M. Meena. 1998. Hydrological effects of land-use change in a zero-order catchment. Journal of Hydrologic Engineering.

Chatters. J.C., D.A. Neitzel. M.J Scott and S.A. Schankle. 1991. The effect of climate change on stream environments; the salmonid resource of the Columbia River Basin. Northwest Environ. J.

Chescheir C.M., J.W. Gilliam, R.W. Skaggs & R.G. Broadhead. 1991. Nutrient and sediment removal in forested wetlands receiving pumped agricultural drainage water. Wetlands 11:87-103.

Cristea, N. and J. Janisch. 2007. Modeling the effects of riparian buffer width on effective shade and stream temperature. Publication No. 07-03-028. Washington Department of Ecology.

Danehy, R.J. and B.J. Kirpes. 2000. Relative humidity gradients across riparian areas in eastern Oregon and Washington forests. Northwest Sci. 74:224-233.

Daniels, R.B., and J.W. Gilliam. 1996. Sediment and Chemical Load Reduction by Grass and Riparian Filters. Soil Sciences 60:246-251.

Dillaha TA, RB Reneau, S Mostaghimi, D Lee. 1989. Vegetative filter strips for agricultural nonpoint source pollution control. Transactions of the ASAE 32(2):513-519.

Dosskey, M.G., K.D. Hoagland, and J.R. Brandle 2007. Change in filter strip performance over ten years. J Soil Water Conserv 62(1):21-32.

Dosskey, M. G., M. J. Helmers, and D. E. Eisenhauer. 2008. A design aid for determining width of filter strips. Journal of Soil and Water Conservation 63(4):232-241.

Dwire, K.A. and JB. Kauffman, 2003. Fire and riparian ecosystems in landscapes of the western USA. *Forest Ecology and Management* 178:61-74.

Ebbert, J .C., S.S. Embrey, and J.A. Kelley. 2003. Concentrations and Loads of Suspended Sediment and Nutrients in Surface Water of the Yakima Basin, Washington, 1999-2000 - With an Analysis of Trends in Concentrations, Water-Resources Investigations Report 03-4026, U .S. Geological Survey.

Forest Ecosystem Management Assessment Team (FEMAT). 1993. Forest ecosystem management: an ecological, economic, and social assessment. Portland, OR: U.S. Department of Agriculture; U.S. Department of the Interior [and others].

Fullerton, A. H., T. J. Beechie, S. E. Baker, J. E. Hall, and K. A. Barnas. 2006. Regional patterns of riparian characteristics in the interior Columbia River basin, northwestern USA: Application for restoration planning. *Landscape Ecology* 21: 1347-1360.

Gorni, T., R. Sidle, and J. Richardson. 2002. Understanding processes and downstream linkages of headwater systems. *Bioscience* 52(10):905-16.

Gregory, S.V., F. J. Swanson, W. A. McKee, and K W. Cummins, 1991. An ecosystem perspective of riparian zones. *BioScience* 41:540-551.

Gurnell, A.M., H. Piegay, F.J. Swanson, and S.V. Gregory. 2002. Large wood and fluvial processes. *Freshwater Biology*, 47(4), 601-619. Haring, D. 2001. Habitat Limiting Factors Yakima River Watershed, Water Resources Inventory Areas 37-39, Final Report. Prepared by the Washington State Conservation Commission. 364 pp.

Harding, J. S., K Claassen, and N. Evers. 2006. Can forest fragments reset physical and water quality conditions in agricultural catchments and act as refugia for forest stream invertebrates? *Hydrobiologia* 568:391-402.

HDR Engineering, Anchor QEA, ECONorthwest, Natural Resource Economics, and ESA. 2012. Yakima River Basin Integrated Water Resource Management Plan: Framework for Implementation Report. Prepared for U.S. Department of the

Interior, Bureau of Reclamation, Pacific Northwest Region, Columbia-Cascades Area Office and Washington Department of Ecology, Office of Columbia River.

Hecht, S.A., D.H. Baldwin, C.A. Mebane, T. Hawkes, S.J. Gross, and N.L. Scholz. 2007. An overview of sensory effects on juvenile salmonids exposed to dissolved copper: applying a benchmark concentration approach to evaluate sublethal neurobehavioral toxicity. NOAA Technical Memorandum NMFS-NWFSC-83 .

Helmers, M.J., D.E. Eisenhauer, M.G. Dosskey, T.G. Franti, J.M. Brothers, and M.C. McCullough. 2005. Flow pathways and sediment trapping in a field-scale vegetative filter. *Transactions of the ASAE* 48:955-968.

Inter-Fluve. 2013. Columbia River Shoreline Project Identification. Mainstem Columbia River- Klickitat Lead Entity Area, WA. Prepared for Mid-Columbia Fisheries Enhancement Group, White Salmon, WA. April, 2013.

Jensen, D.W., E.A. Steel, A.H. Fullerton, G.R. Pess. 2009. Impact of Fine Sediment on Egg-To-Fry Survival of Pacific Salmon: A Meta-Analysis of Published Studies. Reviews in Fisheries Science.

Jin, C.X. and M.J.M. Romkens. 2001. Experimental studies of factors in determining sediment trapping in vegetative filter strips. Trans. ASAE 44:277-288.

Johnson, D.H. and T.A. O'Neil. 2001. Wildlife-Habitat Relationships in Oregon and Washington. Oregon State University Press. Corvallis, Oregon. 736 pp.

Jordan, N'. R., D.L. Larson, and S.C. Huerd. 2008. Soil modification by invasive plants: effects on native and invasive species of mixed-grass prairies. Biological Invasions 10(2):177-190.

Joy, J. and B. Patterson. 1997. A Suspended Sediment and DDT Total Maximum Daily Load Evaluation Report for the Yakima River, Publication No. 97-321, Washington State Department of Ecology.

Kershner, J. L., & B. B. Roper. 2010. An evaluation of management objectives used to assess stream habitat conditions on Federal lands within the Interior Columbia Basin. Fisheries 35(6):269-278.

Kinnison, H.B. and J. E. Sceva. 1963. Effects of Hydraulic and Geologic Streamflow of the Yakima River Basin Washington. Geological Survey Water-Supply Paper 1595. U.S. Department of the Interior.

Knight, K., 2009. Land Use Planning for Salmon, Steelhead and Trout. Washington State Department of Fish and Wildlife. Olympia, Washington.

Larsen, E., J. M. Azerrad, N. Nordstrom, editors. 2012. Management Recommendations for Washington's Priority Species, Volume IV: Birds. Washington Department of Fish and Wildlife, Olympia, Washington, USA.

Lautz, K. 2000. Salmon and Steelhead Limiting Factors Water Resource Area 31. Washington State Conservation Commission. 50 pp.

Mahoney JM, Rood SB. 1998. Streamflow requirements for cottonwood seedling recruitment- an integrative model. Wetlands 18:6345.

Marriott, D., and 27 contributors. 2002. Lower Columbia River and Columbia River Estuary Subbasin Summary. Report Prepared for the Northwest Power Planning Council, dated May 17, 2002. (Available at: <http://www.cbfwa.org/>)

Mastin, M., 2008, Effects of potential future warming on runoff in the Yakima River Basin, Washington, Scientific Investigations Report 2008-5124, U.S. Geological Survey.

Mayer, P.M., S.K. Reynolds, J. Marshall, D. McCutchen, and T.J. Canfield. 2007. Meta- Analysis of Nitrogen Removal in Riparian Buffers. Journal of Environmental Quality 36: 1172-1180.

Mcintosh, B.A., Sedell, J.R., Smith, J.E., Wissmar, R.C., Clarke, S.E., Reeves, G.H. and L.A. Brown. 1994. Historical Changes in Fish Habitat for Select River Basins of Eastern Oregon and Washington. Northwest Science 68:36-52.

Mcintyre, J. K., D. H. Baldwin, J. P. Meador, and N. L. Scholz. 2008. Chemosensory deprivation in juvenile coho salmon exposed to

dissolved copper under varying water chemistry conditions. Environmental Science & Technology 42:1352-1358.

Mcintyre, J. K., D.H. Baldwin, D.Beauchamp, and N.L. Scholz. 2012. Low-level copper exposures increase visibility and vulnerability of juvenile coho salmon to cutthroat trout predators. Ecological applications: a publication of the Ecological Society of America. 22(5):1460-71.

Moore, A.A. and M.A. Palmer. 2005. Invertebrate biodiversity in agricultural and urban headwater streams: Implications for conservation and management. Ecological Applications 15:1169-1177.

Morace, J.M., G.J. Fuhrer, J.F. Rinella, S.W. McKenzie, and others. 1999. Surface-Water- Quality Assessment of the Yakima River Basin in Washington: Overview of Major Findings, 1987-91. Water-Resources Investigations Report 98-4113. U.S. Geological Survey.

Naiman, Robert J., and Henri Decamps, 1997. The ecology of interfaces: riparian zones. Annual review of Ecology and Systematics 1997: 621-658.

Naiman, Decamps, and McClain, 2005. Riparia-- Ecology, Conservation, and Management of Streamside Communities. Elsevier Academic Press.

Natural Resources Conservation Service. 2015. Benton County Rare Plants.

http://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/wapmsmtl1979.pdf.

National Marine Fisheries Service (NMFS). 2009. Middle Columbia River Steelhead Distinct Population Segment ESA Recovery Plan. National Marine Fisheries Service Northwest Region.

Neal, V. 1972. Physical aspects of the Columbia River and its Estuary. In The Columbia River Estuary and Adjacent Ocean Waters: Bioenvironmental Studies, edited by A. T. Pruter and D. L. Alverson (Seattle: University of Washington Press), pp. 19- 70.

Newbold, J.D., S. Herbert, B.W. Sweeney, P. Kiry, and S.J. Alberts. 2010. Water Quality Functions of a 15-Year-Old Riparian Forest Buffer System. JAWRA Journal of the American Water Resources Association 46:299-310.

Northwest Power Planning Council (NPPC). 2001. Yakima Subbasin Summary. Laura Berg, editor. Portland, OR. 376 pp.

Osborne, L.L. and D.A. Kovacic. 1993. Riparian vegetated buffer strips in water quality restoration and stream management. Freshwater Biology 29:243-258.

Otto S., M. Vianello, A. Infantino, G. Zanin, and A. Di Guardo. 2008. Effect of a full- grown vegetative filter strip on herbicide runoff: Maintaining of filter capacity over time. Chemosphere 71(1):74-82.

Patten, D. T. 1998. Riparian ecosystems of semi-arid North America: Diversity and human impacts. Wetlands 18(4):498-512.

Pacific Northwest Laboratory, Ecology Group, Earth and Environmental Sciences Center. No date. Field Guide to Species of Concern on the Hanford Site. Prepared under U.S. Department of Energy contract DE-AC06-76RLO 1830.

Patton, G.W. 2009. Surface-Water and Sediment Monitoring in Hanford Site Environmental Report. Pacific Northwest National Laboratory. Prepared of the U.S. Department of Energy.

Peterjohn W.T. & Correll D.L., 1986. The effect of riparian forest on the volume and chemical composition of baseflow in an agricultural watershed. Watershed Research Perspectives, (ed. D. L. Correll), pp. 244-262. Smithsonian Press, Washington, DC.

Qiu, Z. 2009. Assessing Critical Source Areas in Watersheds for Conservation Buffer Planning and Riparian Restoration. Environmental Management 44:968-980.

Quinn, T., G.F. Wilhere, and K.L. Krueger, technical editors, 2020. Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications. Habitat Program, Washington Department of Fish and Wildlife, Olympia.

Rentz, R., A. Windrope, K. Folkerts, and J. Azerrad. 2020. Riparian Ecosystems, Volume 2: Management Recommendations. Habitat Program, Washington Department of Fish and Wildlife, Olympia.

Rinella, J.F., S.W. McKenzie, and G.J. Fuhrer. 1992. Surface-Water-Quality Assessment of the Yakima River Basin in Washington: Analysis of Available Water-Quality Data through 1985 Water Year, Open-File Report 91-453, U.S. Geological Survey.

Smith, D.L., G. Johnson, and T. Williams. 2006. Natural Streamflow Estimates for Watersheds in the Lower Yakima River, S.P. Cramer and Associates.

Stinson, D.W. 2016. Periodic status review for the Greater Sage-grouse in Washington. Washington Department of Fish and Wildlife, Olympia, Washington.

The Watershed Company and BERK. 2013. Final Shoreline Analysis Report for Shorelines in Benton County: Yakima and Columbia Rivers. Prepared for the Benton County Planning Department, Prosser, WA.

U.S. Bureau of Reclamation. 2008. Sediment Transport Modeling of the Yakima Basin, A Component of Yakima River Basin Water Storage Feasibility Study, Washington, Technical Series No. TS-YSS-17.

U.S. Bureau of Reclamation. 2002. Interim Comprehensive Basin Operating Plan (IOP) for the Yakima Project, Washington. 434 pp.

U.S. Bureau of Reclamation and Washington State Department of Ecology. 2012. Yakima River Integrated Water Resource Management Plan Final Programmatic Environmental Impact Statement, Benton, Kittitas, Klickitat and Yakima Counties.

Vaccaro, J.J. 2011. River-Aquifer Exchanges in the Yakima River Basin, Washington, Scientific Investigations Report 2011-5026. U.S. Geological Survey.

Vaccaro, J.J. and T.D. Olsen. 2007. Estimates of Ground-Water Recharge to the Yakima River Basin Aquifer System, Washington, for Predevelopment and Current Land- Use and Land-Cover Conditions. Scientific Investigations Report 2007-5007, U.S. Geological Survey.

Voss, F.D, C.A. Curran, and M.C. Mastin, 2008, Modeling Water Temperature in the Yakima River, Washington, from Roza Diversion Dam to Prosser Dam, 2005-06, Scientific Investigations Report 2008-5070, U.S. Geological Survey.

Ward, D. and 19 contributors. 2001. Draft Mainstem Columbia River Subbasin Plan. Prepared for Northwest Power and Conservation Council. 169 pp.

Washington State Department of Ecology. 2012. Focus On Mitigation in the Yakima Basin. Publication No. 12-11-024.

Water Quality Assessment 2008. (WQA) 305(b) Report for Benton County, WA [computer file]. Olympia, WA: Available at: <http://www.ecy.wa.gov/services/gis/data/data.htm>

Washington State Department of Fish and Wildlife (WDFW). 2018. Priority Habitats and Species [computer file]. Olympia, WA. Available at: <http://wdfw.wa.gov/conservation/phs/list/>.

Washington State Department of Fish and Wildlife (WDFW). 2015. Washington State. Wildlife Action Plan: 2015 Update. Washington Department of Fish and Wildlife, Olympia, Washington.

Washington State Department of Fish and Wildlife (WDFW). 2009. Landscape Planning for Washington's Wildlife: Managing for Biodiversity in Developing Areas.

Washington State Department of Fish and Wildlife (WDFW). 1997. Management Recommendations for Washington's Priority Habitats-Riparian.

Washington State Department of Natural Resources. 2011. Field Guide to the Rare Plants of Washington. Natural Heritage Program.

Washington State Department of Natural Resources. 2018. Wetlands of High Conservation Value- Map Viewer [computer file]. Olympia, WA. Available at: <https://www.dnr.wa.gov/NHPwetlandviewer>

Wigington, Jr., P.J., J.L. Ebersole, M.E. Colvin, et al. 2006. Coho salmon dependence on intermittent streams. *Front. Ecol. Environ.* 10:513-18.

Windrope, Amy, Terra Rentz, Keith Folkerts, and Jeff Azerrad. *Riparian Ecosystems, Volume 2: Management Recommendations*. 2020. A Priority Habitats and Species Document of the Washington Department of Fish and Wildlife, Olympia, Washington.

Wipfli M.S., J.S. Richardson, and R.J. Naiman. 2007. Ecological linkages between headwaters and downstream ecosystems: Transport of organic matter, invertebrates, and wood down headwater channels. *J Am Water Resour Assoc* 43(1):72-85.

Wipfli, M. S. 2005. Trophic linkages between headwater forests and downstream fish habitats: implications for forest and fish management. *Landscape and Urban Planning* 72:205-213.

Wipfli, M.S. and D.P. Gregovich. 2002. Export of invertebrates and detritus from fishless headwater streams in southeastern Alaska: implications for downstream salmonid production. *Freshwater Biology* 47:957-969.

Wise, D.R., M.L. Zuroske, K.D. Carpenter, and R.L. Kiesling. 2009. Assessment of Eutrophication in the Lower Yakima River Basin, Washington, 2004-07. Scientific Investigations Report 2009-5078. U.S. Geological Survey.

Yakima Basin Fish and Wildlife Recovery Board (Yakima Basin Recovery Board). 2009. 2009 Yakima Steelhead Recovery Plan- Extracted from the 2005 Yakima Subbasin Recovery Plan with Updates.

Yakima Subbasin Fish and Wildlife Planning Board (Yakima Subbasin Planning Board). 2004. Yakima Subbasin Plan. Prepared for Northwest Power and Conservation Council. 1038 pp.

Zhang, X., X. Liu, M. Zhang, and RA. Dahlgren. 2010. A review of vegetated buffers and a meta-analysis of their mitigation efficacy in reducing nonpoint source pollution. Journal of Environmental Quality 39:76-84.

SECTION 30. 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 31. Effective Date. This ordinance shall take effect and be in full force on January 1, 2027.

ADOPTED AND PASSED this _____ day of _____.

Chairman of the Board.

Chairman Pro-Tem.

Member.

Approved as to Form:



Deputy Prosecuting Attorney

Constituting the Board of
County Commissioners of
Benton County, Washington

Attest: _____
Clerk of the Board