

TECHNICAL MEMORANDUM

Date:	October 17, 2025
To:	Skagit County Board of County Commissioners
Cc:	Robby Eckroth, Senior Planner, Skagit County Planning and Development Clay White, Kimley-Horn
From:	Tami Camper, M.A., PWS, Facet Dan Nickel, Principal of Planning, Facet
Project Name:	Skagit County Critical Areas Ordinance Update
Facet Number:	2304.0308.00

Riparian Management Zones in Skagit County

This memo summarizes Skagit County's proposed riparian protection standards as provided in the draft Critical Areas Ordinance (CAO) and outlines how the proposed standards are consistent with best available science (BAS). The County is updating the CAO, as mandated by the Growth Management Act (GMA), to ensure consistency with BAS and in doing so, has proposed several measures to ensure riparian functions and values are both protected and enhanced.

To assist with this update, a BAS Review¹ and Gap Analysis² was completed by Facet in 2025. Facet's BAS review includes references to the Washington Department of Fish and Wildlife (WDFW) BAS synthesis completed in 2020 on riparian management³. This BAS synthesis by WDFW includes a discussion on riparian management implications and the use of site potential tree height (SPTH) as a means to assess riparian protection. WDFW also recently compiled a Riparian Buffer Evaluation for Skagit County⁴ to demonstrate the spatial implications of the buffer width framework proposed by Skagit County.

Riparian Management Zone Width

The appropriate width for Riparian Management Zones (RMZs) has been extensively studied, focusing on factors such as erosion and sedimentation processes, instream woody debris, habitats, stream temperature, pollution, pathogens, and nutrients. Research indicates that the necessary widths of

¹ Facet. 2025. *Best Available Science Review: Skagit County Critical Areas Ordinance Update*.

² Facet. 2025. *Gap Analysis: Skagit County Critical Areas Ordinance Update*.

³ 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.

⁴ Whittaker and Fuchs, "Skagit County Riparian Buffer Evaluation."

riparian buffers for effective pollution attenuation can vary significantly based on site-specific conditions, including slope, the area of adjacent uplands, drainage paths, and vegetation density.

Moreover, the relationship between buffer width and function is non-linear, meaning that after a certain buffer distance, a considerable increase in width is needed to achieve even a small improvement in function (e.g. sediment or pollutant removal). Figures 1 and 3 visually illustrate the efficiency variables and relationships regarding buffer widths. (See Attachments A-B).

As noted in Facet’s BAS report (2025), WDFW developed BAS guidance for the protection of riparian areas⁵. The guidance emphasizes a shift in terminology and framework from the concept of “stream buffers” to “riparian management zones”. A RMZ is defined as “...a scientifically based description of the area adjacent to rivers and streams that has the potential to provide full function based on the SPTH [site potential tree height] conceptual framework.”

WDFW’s current recommendations for establishing RMZ widths are based primarily on a site potential tree height framework. The site potential tree height is defined as “...the average maximum height of the tallest dominant trees (200 years or more) for a given site class.” Exceptions may occur where the site potential tree height is less than 100 feet, in which case WDFW recommends assigning an RMZ width of 100 feet at a minimum to provide adequate biofiltration and infiltration of runoff for water quality protection from most pollutants, but also in consideration of other habitat-related factors including shade and wood recruitment. A 100-foot-wide buffer is estimated to achieve 95% pollution removal and approximately 85% uptake of surface nitrogen (Rentz et al. 2020).

A graphical representation of the Forest Ecosystem Management Assessment Team (FEMAT) Curves are shown in Figure 1 of Attachment A, which are considered in WDFW’s recommendations for establishing the dimensions of RMZs (Rentz et al. 2020). The figure depicts the effectiveness of several functions based on buffer width from the edge of a stream. SPTH is a practical buffer dimension because it is large enough to protect nearly all riparian functions. **However, the FEMAT curve also shows that further buffer increases yield diminishing returns and most buffer function is achieved at roughly 75 to 80 percent of SPTH.**

As noted in Facet’s Gap Analysis (2025), the average SPTH200 in Skagit County is 192 ft; with a minimum of 91 ft, a first quartile of 185 ft, a median of 202 ft, a third quartile of 223 ft, and a maximum of 245 (Figure 4 in Attachment C).

WDFW Skagit County Buffer Evaluation

Whittaker and Fuchs (2025) of WDFW evaluated Skagit County Riparian Buffers. This analysis examined the impact of different riparian buffer widths in Skagit County, focusing on historical tree loss and current forest cover. The study compared three scenarios: SPTH per WDFW, current proposed amendments, and existing CAO requirements, using publicly available datasets. It excluded tribal and federal lands and focused on relevant zoning. It did include forest lands that are regulated by Forest

⁵ 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.

Practices and the Washington Department of Natural Resources (DNR), and not subject to the County CAO

Data from the DNR and WDFW indicated that most tree loss is due to human activities, particularly "Tree Removal" and "Forestry." Tree removal is a catch-all for any trees removed by humans that were not part of forestry operations. Tree loss was most evident in areas within SPTH buffers (460 acres, or 35 acres per year), while existing CAO buffers saw the least loss (197 acres total, or 15 acres per year). Presumably, this is due to the existing protections afforded by the CAO.

In WDFW's analysis of 2021-2022 aerial imagery, 16,024 acres of forest canopy were located within SPTH areas and 11,950 acres of forest canopy were located within existing CAO buffers. Rural and Agricultural Lands had the highest areas of forest canopy coverage. Per WDFW, increasing stream buffers to meet SPTH values would potentially protect an additional 4,000 acres of forest that is currently outside of the existing CAO buffers. The study highlighted WDFW's recommendation to amend its CAO to improve riparian protection based on BAS.

Updated CAO and Increased Buffers

The Skagit County CAO is codified in the Skagit County Code (SCC) 14.24. Skagit County is currently updating its CAO to include updated definitions and protections for riparian areas (See Attachment D). These updates introduce the term "Riparian Management Zones," in accordance with guidance from the WDFW (SCC 14.24.530(1)). The revisions also emphasized the value of these zones as wildlife corridors and their role in protecting water quality from pollutants (SCC 14.24.530(1)(a)).

County staff and Facet team members reviewed the BAS, including both the Facet BAS report and the WDFW synthesis document (Quinn, et al., 2020) and discussed the Gap Analysis with the Planning Commission, specifically focusing on stream protection standards and WDFW recommendations. The County has proposed to keep its current stream typing system which differentiates stream type by fish habitat and stream flow. However, the County has also evaluated the existing stream buffers and has amended buffer widths to align with BAS. For Type F streams, the buffer widths were adjusted: previously, the width was 100 feet for streams less than five feet wide and 150 feet for larger Type F streams. Type F stream buffers were amended to 150 feet for all Type F streams. Similarly, the buffer for Type N streams was increased from 50 feet to 100 feet (SCC 14.24.530(1)(b)) to account for the minimum recommended buffer to protect water quality. See Table 1 below for a comparison of existing and proposed stream buffers.

Table 1: Existing and proposed stream buffers

Stream Type	Existing CAO Buffer Width	Proposed CAO Buffer Width
F	150 feet if stream > 5 feet wide 100 feet if stream < 5 feet wide	150 feet
Np	50 feet	100 feet
Ns	50 feet	100 feet

While the proposed Type F stream buffer of 150 feet does not match up with the average SPTH values found throughout Skagit County (192 feet, as noted above), the County has proposed additional parameters to ensure buffers are either fully vegetated and therefore have a high degree of riparian function or the buffers are increased by 33 percent, essentially reaching 200 feet in width. With these added provisions, buffer enhancements are required to achieve 80% native plant cover of the appropriate community through an approved mitigation plan (SCC 14.24.530(1)(c)). The ordinance also introduced a 15-foot wide setback for structures from the upland edge of the riparian buffer (SCC 14.24.530(1)(b)).

Conclusions

In an effort to enhance protections for streams, riparian zones, and their associated functions and values, Skagit County has amended its CAO. **This amendment implements increased protection measures in line with BAS.**

Key changes include a 100% increase in buffer sizes for Type N streams, which WDFW identified as having historically suffered the greatest loss of trees. Additionally, buffers for Type F streams smaller than five feet wide will increase by 50 percent. Recent guidance from WDFW recommends a minimum buffer of 100 feet for all streams, consistent with BAS to protect water quality.

Moreover, **Skagit County has introduced measures to improve riparian functionality by restoring degraded riparian areas and ensuring that these zones are populated with appropriate native vegetation at suitable densities to provide water quality and habitat functions. Additionally, in absence of effective riparian vegetation, riparian buffers would be increased by 33 percent.**

If you have any questions, please contact us at your convenience.

Attachments:

ATTACHMENT A. FEMAT Curve

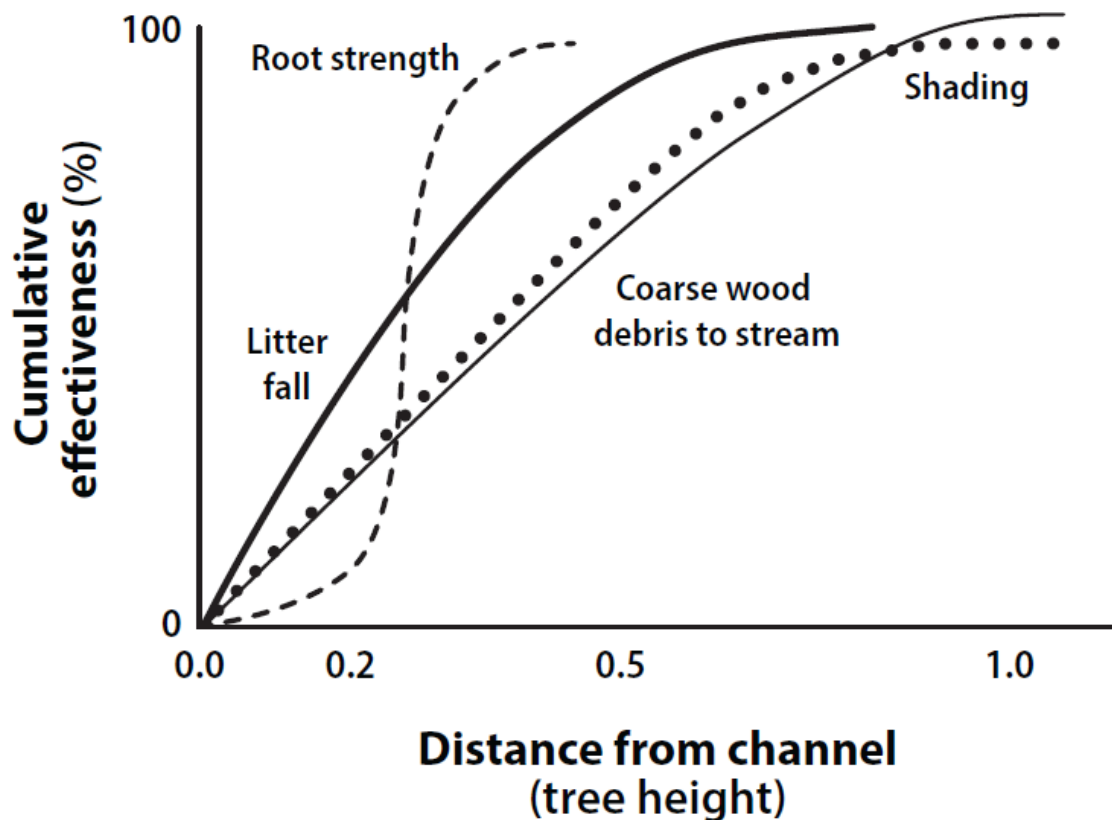
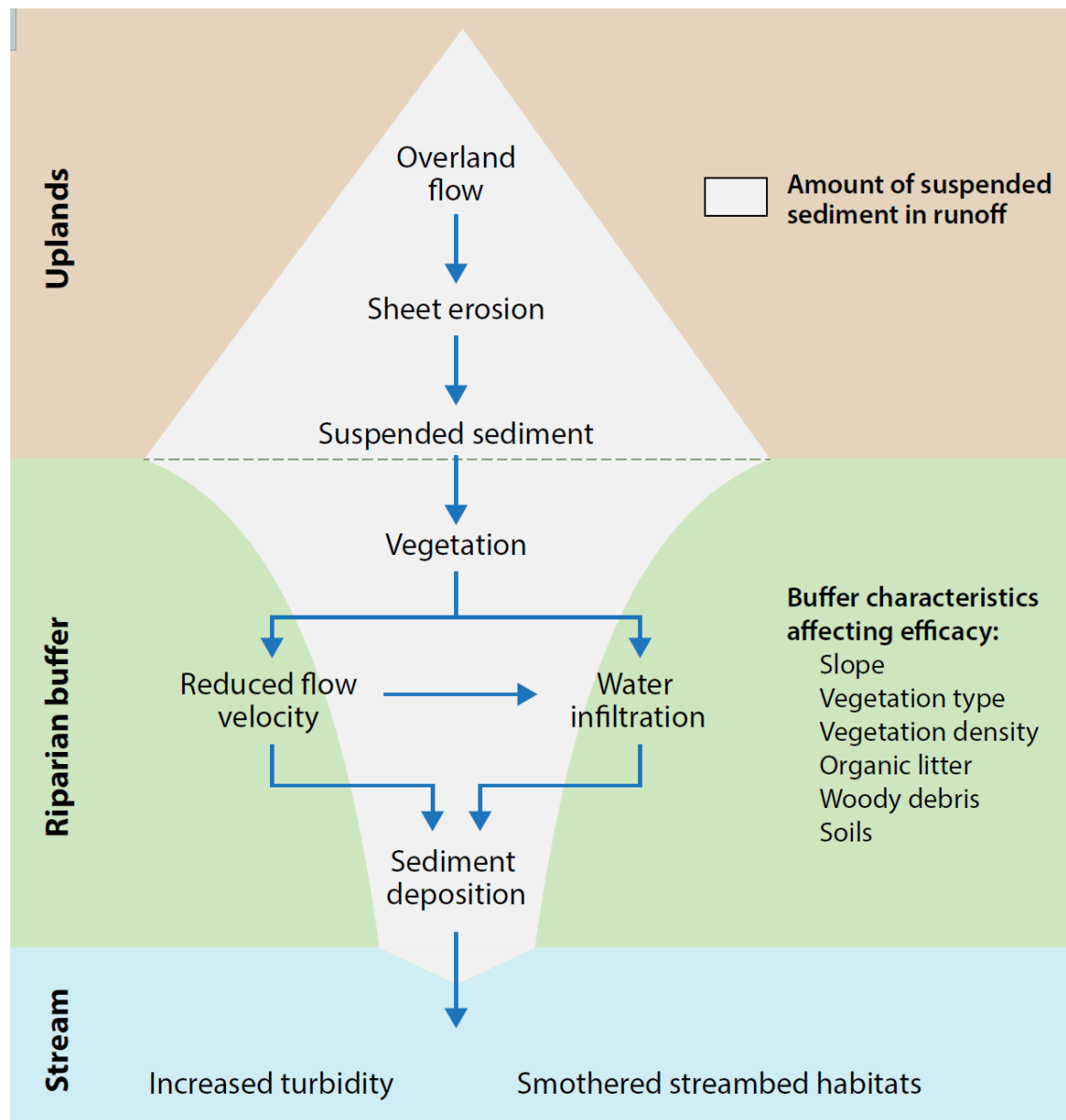


Figure 1. The "FEMAT Curves": a conceptual model of the contributions of key riparian ecosystem functions which influence aquatic ecosystems by distance and cumulative effectiveness. Tree height refers to the average relative height of the site potential tree height (reproduced from FEMAT 1993).

ATTACHMENT B. Riparian Effectiveness



Source: Quinn et.al. 2020

Figure 2. Efficacy of riparian buffers in removing sediment from runoff.

Source: Quinn et al.,
2020

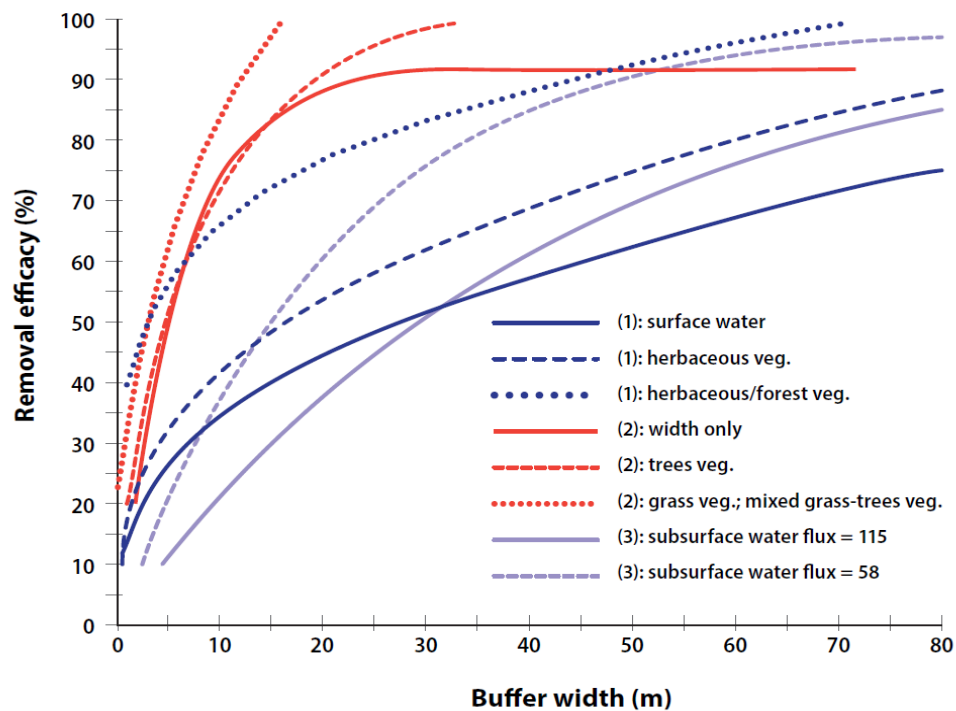
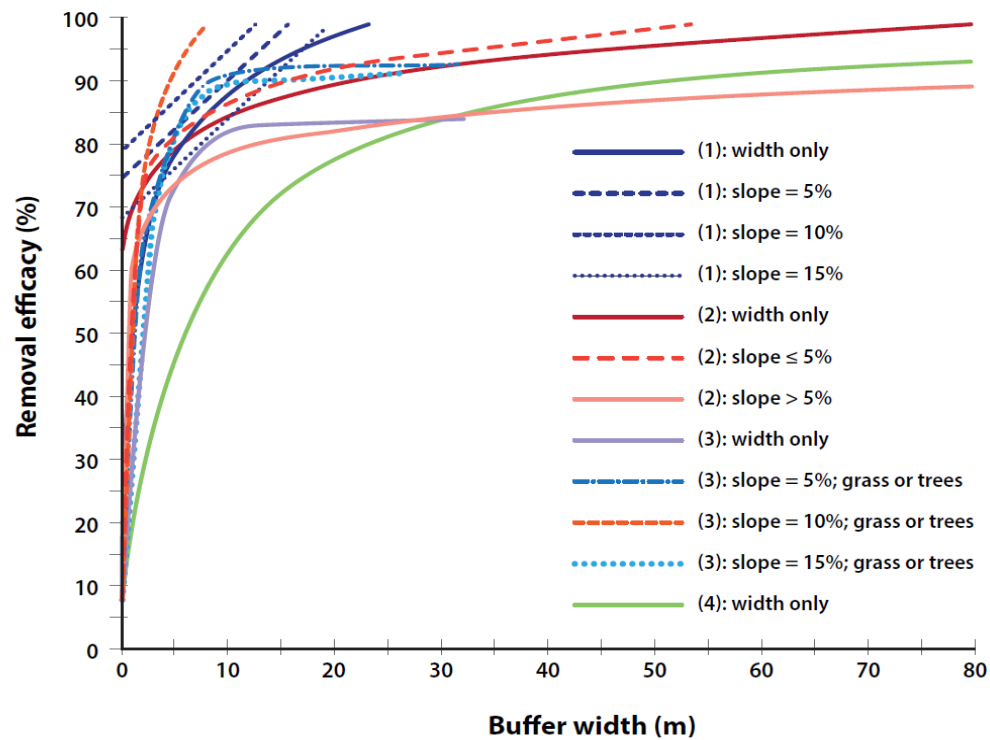


Figure 3. Efficacy of riparian buffers in removing sediment (above) and nitrogen (below) from runoff.

ATTACHMENT C. SPTH-200

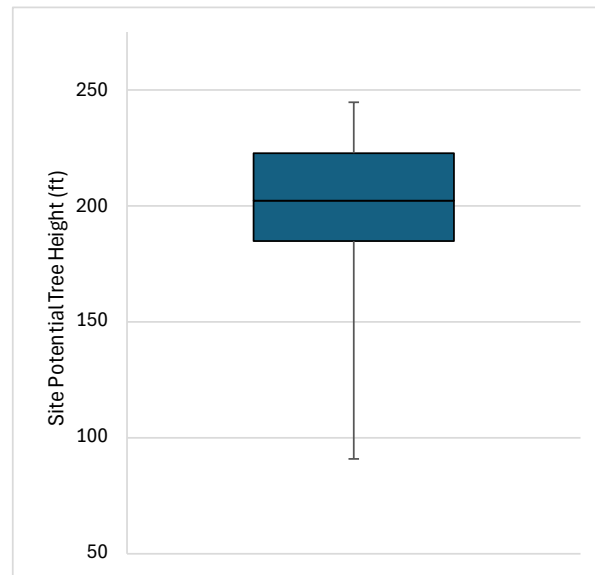


Figure 4. Box plot of SPTH200 distribution in Skagit County (WDFW SPTH200 Mapping Tool data accessed 6/18/24).

ATTACHMENT D. Revised Skagit County CAO for FWHCAs

1. 14.24.520 Fish and wildlife habitat conservation area site assessment requirements.

Any project within 200 feet of a fish and wildlife habitat conservation area outside the special flood hazard area (SFHA) or within the protected review area as defined in SCC 14.34.055 requires a FWHCA site assessment. In addition to the requirements of SCC 14.24.080, the following must be included in the site assessment:

- (1) Functions and values analysis, which includes but is not limited to a discussion of water quality/quantity and fish and wildlife habitat; and
- (2) An analysis of the buffer areas above the ordinary high water mark including:
 - (a) Recruitment of large woody debris (LWD) to the stream;
 - (b) Shade;
 - (c) Bank integrity (root reinforcement);
 - (d) Runoff filtration;
 - (e) Wildlife habitat;
 - (f) Microclimate;
 - (g) Nutrient inputs.
- (3) Bald eagle habitats must be protected pursuant to the federal Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act, as revised; a cooperative habitat management plan must be developed in coordination with the U.S. Fish and Wildlife Service with support from the Washington Department of Fish and Wildlife whenever activities that alter habitat are proposed near a verified nest territory or communal roost.
- (4) All other fish and wildlife habitat conservation areas, including habitats and species of local importance, must be protected on a case-by-case basis by means of a habitat management plan based on information from the Washington State Priority Habitat and Species (PHS) program, U.S. Fish and Wildlife Service, National Atmospheric Administration (NOAA), and other applicable agencies. as set forth in the site assessment requirements in SCC 14.24.080 and this Section. (Ord. O20110008 (part); Ord. O20090011 Attch. 2 (part); Ord. 17938 Attch. F (part), 2000)

2. 14.24.530 Fish and wildlife habitat conservation area protection standards.

(1) Riparian Management Zone Riparian Management Zones apply only to streams and rivers.

(a) Intent of buffers is to act as Riparian Management Zones. The intent of riparian management zones is to protect the following basic functions:

(i) Recruitment of Large Woody Debris (LWD) to the Stream. LWD creates habitat structures necessary to maintain salmon/trout and other aquatic organisms' productive capacity and species diversity.

(ii) Shade. Shading by the forest canopy maintains cooler water temperatures and influences the availability of oxygen for salmon/trout and other aquatic organisms.

(iii) Bank Integrity (Root Reinforcement). Bank integrity helps maintain habitat quality and water quality by reducing bank erosion and creating habitat structure and in-stream hiding cover for salmon/trout and other aquatic organisms.

(iv) Runoff Pollutant Removal. Riparian management zones reduce nonpoint source pollutants, including nutrients and sediments in runoff (surface and shallow subsurface flows) through biogeochemical cycles that help maintain water quality.

(v) Wildlife Habitat. Functional wildlife habitat for riparian-dependent species is based on sufficient amounts of riparian vegetation to provide protection for nesting and feeding.

(vi) Microclimate. Riparian vegetation creates small- scale microclimates upon which plants, fish, and wildlife depend.

(vii) Nutrient inputs. Riparian vegetation supports substantial populations of insects, which are important for the diet of marine fishes like juvenile salmon.

(viii) Wildlife Habitat Connectivity. Riparian areas serve as critical corridors that allow terrestrial wildlife to move between habitats. These corridors support biodiversity by facilitating species migration, dispersal, foraging, and access to water.

(b) Standard Riparian Buffers Measurement. Riparian buffer areas are measured horizontally in a landward direction from the ordinary high water mark. Where a stream buffer is within a continuous slope of 30% or greater, the buffer must include such sloping areas. Where the horizontal distance of the sloping area is greater than the required standard buffer, the buffer must be extended to a point 25 feet beyond the top of the bank of the sloping area. Riparian areas do not extend beyond the toe of the slope on the landward side of existing dikes or levees within established dike districts along the Skagit and Samish Rivers.

(c) Standard Riparian Buffer Widths. Riparian areas have the following standard buffer widths:

DNR Water Type	Riparian Buffer
S	200 feet
F	150 feet

DNR Water Type	Riparian Buffer
Np	100 feet
Ns	100 feet

- i. Standard riparian buffer widths presume the buffer is densely vegetated with a native plant community appropriate for the ecoregion, consisting of an average of 80% native cover comprised of trees, shrubs and groundcover plants. If the existing buffer is sparsely vegetated or vegetated with invasive species, the buffer must either be enhanced through an approved mitigation plan or increased by 33% or to a 100-foot minimum, whichever is greater.
- (d) A 15-foot wide structure setback is required from the upland edge of the entire riparian management zone to provide an area for construction and maintenance of buildings and other structures. This distance may be modified with approval of the Director. The following may be allowed within the structure setback:
- (i) Landscaping with non-invasive species only;
 - (ii) Building overhangs if such overhangs do not extend more than 18 inches into the setback area;
 - (iii) Impervious ground surfaces, such as driveways and patios; provided, that such improvements may be subject to special drainage provisions adopted for the various critical areas; and
 - (iv) Trails.

(2) Lake and Marine Shoreline Buffers. Lake and marine shoreline areas have the following standard buffer widths, based on the shoreline area designations defined in the Shoreline Master Program (Chapter 14.26 SCC):

Shoreline Area Designations	Shoreline Buffer
Natural	200 feet
Conservancy	150 feet
Rural	100 feet
Rural Residential	100 feet
Urban	140 feet

Natural Ponds less than 20 acres 100 feet if non-fish bearing, 150-feet if fish-bearing.

(3) Where a buffer has been previously established after June 13, 1996, through a County development review and is permanently recorded on title or placed within a separate tract or easement, the buffer will be as previously established provided:

- (a) It is equal to or greater than 50 percent of the current required standard buffer width for the water type classification; and
- (b) It is densely vegetated with native plants and invasive plant cover is low; or it is restored to meet vegetated buffer standards (SCC 14.24.230(1)(c)); and

(c) If stream location or ordinary high-water mark has changed since the previous review, additional review should occur.

If provisions a through c above are not met, then current riparian buffer widths per SCC 14.24.530(1) apply. Additional review may be requested by the applicant or required by the Director to determine whether or not conditions on site have changed resulting in the previously established buffer no longer being applicable. If (a) cannot be met, the Director may allow the buffer to be as previously established, provided the proposed development does not expand beyond the previously approved area of impact.

(4) Where a legally established and constructed public roadway, private roadway, or other legally established development functionally isolates a riparian buffer, the Department may approve a modification of the standard buffer width to the edge of the development, provided:

- (a) The isolated part of the buffer does not provide additional protection of the riparian area; and
- (b) The isolated part of the buffer provides insignificant biological, geological or hydrological buffer functions relating to the riparian area; and
- (c) If the resulting buffer distance is less than 50% of the standard buffer for the applicable stream type or shoreline designation, no further reduction will be allowed. (Ord. O20090011 Attch. 2 (part); Ord. O20080014 (part))
- (d) The legally established development includes hard surfaces a minimum of 20 feet wide that completely isolates the project area from the critical area.

(5) On development proposal sites involving land division, long plat, and/or a binding site plan, that contain streams and/or wetlands with a high habitat score greater than or equal to six, that are also located within 200 feet of an on-site or off-site a stream and/or wetland with a high habitat score greater than or equal to six a fish and wildlife habitat corridor shall be set aside and protected as follows:

- (a) New development proposals, subdivisions, short subdivisions, commercial site plans, and binding site plans shall place the corridor in a contiguous permanent critical area tract with all developable lots sited on the remaining portion of the project site.
- (b) The fish and wildlife habitat corridor shall be sited on the development in order to meet the following conditions, where feasible:
 - (i) Forms one contiguous tract that connects on-site high value habitat areas to other on-site or off-site high value habitat areas;
 - (ii) New development proposals shall provide a minimum fish and wildlife habitat corridor width of 100 feet or a corridor width that is consistent with an approved habitat management plan. The corridor width should not be less than 100 feet wide at any point;
 - (iii) New development proposals on sites constrained by a fish and wildlife habitat corridor and where development already exists shall maintain a minimum fish and wildlife habitat corridor width of 100 feet unless, through an approved habitat management plan, it can be shown that a lesser habitat corridor width supports and maintains the corridor's function and value;
 - (iv) Be contiguous with and include and/or connect critical areas, buffers, wildlife habitat corridors, native growth protection easements, and open space tracts or wooded areas on site or on adjacent properties, if present; and

- (v) The Director may modify corridor widths based on supporting documentation from an approved habitat management plan.
- (c) A management plan for the wildlife corridor contained within a tract or tracts shall be prepared that specifies the permissible extent of recreation, forestry or other uses compatible with preserving and enhancing the wildlife habitat value of the tract or tracts. The management plan shall be reviewed and approved by the Department. The approved management plan for a development proposal shall be contained within and recorded on title or with the covenants, conditions and restrictions (CCRs). If the wildlife corridor is contained in a conservation easement, a management plan is not required, but may be submitted to the Department for review and approval and recorded with the conservation easement.
- (d) Clearing within the wildlife corridor contained in a tract or tracts shall be limited to that allowed by the management plan or as otherwise allowed by this chapter. No clearing, including the removal of woody debris, shall be allowed within a wildlife corridor contained within a conservation easement on individual lots, unless the property owner has an approved management plan.
- (e) Where feasible, a homeowners' association or other entity capable of long-term maintenance and operation shall be established to monitor and assure compliance with the management plan. The association shall provide homeowners with information on the Washington Department of Fish and Wildlife's backyard wildlife sanctuary program.
- (f) Low impact uses and activities which are consistent with the purpose and function of the habitat corridor and do not detract from its integrity may be permitted within the corridor depending on the sensitivity of the habitat area. Examples of uses and activities which may be permitted in appropriate cases include trails that are pervious, viewing platforms, stormwater management facilities such as grass-lined swales, utility easements and other similar uses, or activities otherwise described and approved by the Washington Department of Fish and Wildlife; provided, that any impacts to the corridor resulting from such permitted facilities shall be fully mitigated.
- (h) At the discretion of the Director, these standards may be waived or reduced for public facilities such as public schools, fire stations, public parks, and public road projects.
- (i) The wildlife corridor tract or easement shall be permanently marked and/or fenced consistent with the methods contained in SCC 14.24.090 and the County's design and construction standards in effect at the time of application.

3.14.24.540 Fish and wildlife habitat conservation area performance-based buffer alternatives and mitigation standards.

(1) Buffer Width Increasing. The Director may require the standard buffer width to be increased or to establish habitat corridors, when such buffers are necessary for 1 of the following:

- (a) To protect priority fish or wildlife using the FWHCA.
- (b) To provide connectivity when a Type S or F water body is located within 300 feet of:
 - (i) Another Type S or F water body; or
 - (ii) A FWHCA; or
 - (iii) A Category I, II or III wetland;
 - (iv) To protect habitat corridor connections between open spaces and critical areas inside and outside the county.

The increased buffer distance may be limited to those areas that provide connectivity or are necessary to protect habitat functions. Increasing the buffer widths will only be done where necessary to preserve the structure, function and value of the habitat.

(2) Buffer Width Averaging. Buffer width averaging allows limited reductions of buffer width in specified locations, while requiring increases in others. Prior to considering buffer averaging, the applicant shall demonstrate application of mitigation sequencing as required in SCC 14.24.080. Averaging of required buffer widths will be allowed only where the applicant demonstrates to the Director that all of the following criteria are met:

- (a) Averaging is necessary to accomplish the purpose of the proposal and no reasonable alternative is available; and
- (b) The habitat contains variations in sensitivity due to existing physical characteristics; and
- (c) Averaging will not adversely impact the functions and values of fish and wildlife conservation areas; and
- (d) Averaging meets performance standards for protecting fish species; and
- (e) The total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging; and
- (f) The buffer width will not be reduced below 75% of the standard buffer width.
- (g) Compensatory mitigation is provided to address degraded buffers

(3) Buffer Width Decreasing. Buffer widths may only be decreased as part of a reasonable use exception or variance request pursuant to SCC 14.24.140 or SCC 14.24.150. Prior to considering buffer reductions, the

applicant shall demonstrate application of mitigation sequencing as required in SCC 14.24.080. In all circumstances where a substantial portion of the remaining buffer is degraded, the buffer reduction plan shall include replanting with native vegetation in the degraded portions of the remaining buffer area and shall include a five-year monitoring and maintenance plan.

(4) Allowed Uses in FWHCAs or Buffers. The following activities may be permitted within FWHCAs, provided the activities comply with SCC 14.24.080, 14.24.520, and Chapter 14.34 SCC, where applicable.

(a) Roads, Bridges and Utilities, and driveways. Road, bridge and utility construction may be permitted across a FWHCA and/or its buffer under the following conditions:

- (i) It is demonstrated to the Director that there are no alternative routes that can be reasonably used to achieve the proposed development; and
- (ii) The activity will have minimum adverse impact to the FWHCA; and
- (iii) The activity will not significantly degrade surface or groundwater; and
- (iv) The intrusion into the FWHCA and its buffers is fully mitigated.
- (v) The need for placing a driveway within an FWHCA buffer was not created by a development action or land division after June, 13, 1996.
- (vi) A mitigation plan prepared by a qualified professional demonstrating compliance with mitigation sequencing is provided and approved by the Director.

(b) Docks. Docks designed to facilitate low-impact uses, such as education and/or private, noncommercial recreation, may be permitted within FWHCAs when a FWHCA report prepared by a qualified professional demonstrates that the project meets the following conditions the following conditions:

- (i) The activity will have minimum adverse impact to the FWHCA; and
- (ii) The activity will not significantly degrade surface or groundwater; and
- (iii) The intrusion into the FWHCA and its buffers is fully mitigated; and
- (iv) The activity must be consistent with the provisions of Chapter 14.26 SCC.

(c) Bulkheads. Bulkheads designed to protect existing single-family residences may be permitted within FWHCAs if a FWHCA report prepared by a qualified professional demonstrates that the project meets the following conditions :

- (i) The activity will have minimum adverse impact to the FWHCA; and
- (ii) The activity will not significantly degrade surface or groundwater; and
- (iii) The intrusion into the FWHCA must be fully mitigated; and
- (iv) The activity must be consistent with the provisions of Chapter 14.26 SCC.

(d) Limited park or recreational access to an FWHCA or its required buffer; provided, that a FWHCA report prepared by a qualified professional demonstrates that the project meets the following conditions:

- (i) The access is part of a public park or a recreational resort development that is dependent on the access for its location and recreational function; and
- (ii) The access is limited to the minimum necessary to accomplish the recreational function; and
- (iii) The access and the balance of the development are consistent with other requirements of SCC Title 14; and
- (iv) The proponent obtains written approval from the County for the limited access and associated mitigation.

(e) Low-impact uses and activities which are consistent with the purpose and function of the buffer and do not detract from its integrity may be permitted within the buffer depending on the sensitivity of the habitat involved; provided, that such activity will not result in a decrease in riparian functions and values and will not prevent or inhibit the buffer's recovery to at least pre-altered condition or function. Examples of uses and activities which may be permitted in appropriate cases, as long as the activity does not retard the overall recovery of the buffer, include removal of noxious vegetation, pedestrian trails, structures under 200 square feet in public or publicly managed parks that are in accordance with park management goals and designed to conserve the natural character of the landscape, and viewing platforms less than 200 square feet in size which may be covered but not enclosed.

(f) Stormwater discharges must be controlled and treated in accordance with currently adopted the Stormwater Management Manual for Western Washington (2024 or as revised),

(g) To allow for greater flexibility in a development proposal, an applicant has the opportunity to remove timber within the standard buffer widths shown above if the applicant's mitigation measures incorporate all of the performance standards based upon water type listed in the table below. In conformance with professional standards used by the Washington Department of Natural Resources for forest practices in sensitive areas, all removal of timber within FWHCA buffers will be subject to conditioning specified by the Director in conjunction with an on-site technical team review in which participation by representatives of the proponent, Ecology, WDFW, WDNR and natural resource representatives of affected Indian tribes is solicited. No net loss of ecological functions must be demonstrated through the critical area report process.

The intent of this Section is to provide an additional opportunity for an applicant to propose some level of timber removal within the riparian habitat zone, as long as it can be demonstrated that the function of the buffer can be maintained at the levels described below. If the buffer, in its current state, cannot meet these standards, then the Director will not be able to give its approval for any activity which would inhibit recovery of or degrade the current buffer.

The current performance of a given buffer area is compared to its potential performance as rated by the Soil Conservation Service, Soil Survey of Skagit County, 1989. In consultation with a representative from the Natural Resource Conservation Service, Soil Conservation District or professional forester, the applicant will determine the capability of the site for woodland management, using the most suitable tree species according to the soil survey, and establish the stand characteristics that would be expected from a mature stand of those species established on site:

If the current stand can exceed the riparian protection that could be expected based on site potential, then additional activity may be allowed provided the following performance standards can be met. For Type S streams, an alternative method may be utilized to allow limited timber harvest within the outer 100 feet of a buffer:

PERFORMANCE-BASED RIPARIAN STANDARDS*

(These standards must be exceeded before additional activity can be permitted within the riparian zone.)

Watertype	Performance Standards
Type S	Maintain 95% of total LWD recruitment expected to enter the stream from a mature stand; and Maintain 85% of the trees which are greater than 24 inches DBH within 100 feet of stream; and Maintain an average of 75% canopy cover (based on canopy densitometer readings at stream edge). The applicant may further request some limited timber harvest of up to 30% of the merchantable timber within the outer 100 feet of any 200-foot required buffer provided the harvest: (a) Does not reduce the LWD and canopy requirements; and (b) The applicant will increase the total buffer size by 50 feet to mitigate for the limited timber harvest in the required buffer to provide additional wildlife habitat. The additional 50-foot buffer must retain a minimum of 50% of the total number of trees with 25% of the total trees left having a diameter at breast height (DBH—4-1/2 feet) greater than 12 inches; and (c) No more than 50% of the dominant trees in the outer 100 feet may be harvested.
Type F	Maintain 85% of total LWD recruitment expected to enter the stream from a mature stand; and Maintain 85% of the trees which are greater than 18 inches DBH within 100 feet of stream; and Maintain an average of 75% canopy cover (based on canopy densitometer readings at stream edge).
Types Np and Ns	Maintain 50% of total LWD recruitment expected to enter the stream from a mature stand; and Maintain 85% of the trees which are greater than 24 inches DBH within 50 feet of stream; and Maintain an average of 75% canopy cover (based on canopy densitometer readings at stream edge).

* Note: Applicants electing to employ performance-based mitigation in accordance with the above matrix must include appropriate analysis and justification in their site assessment/habitat management plan.

(Ord. O20110008 (part); Ord. O20080014 (part))