

WHITE PAPER: Development of a Mendocino County Riparian Corridor and Wetland Setback Ordinance

TO: Mendocino County Board of Supervisors

FROM: Mendocino County Fish and Game Commission

RE: Recommendation to Development Riparian Corridor and Wetland Setbacks

Overview

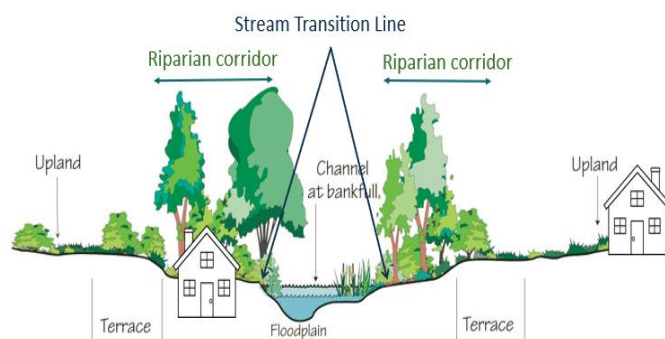
A presentation was made to the Mendocino Fish and Game Commission (Commission) on July 19, 2022 informing the Commission that riparian corridors and wetlands throughout Mendocino County are threatened by development and encroachment. The purpose of this paper is to show that wetland and riparian protections, still lacking in Mendocino County, are embedded in the Mendocino County General Plan, the Ukiah Valley Area Plan (UVAP) and the Resources Management Plan. Mendocino County, however, is not adhering to or enforcing the details of the plan resulting in no protections for riparian corridors and wetlands within Mendocino County outside the coastal zone. The Commission offers this guidance document to demonstrate how this is detrimental to the preservation and protection of sensitive areas, habitats, wildlife movement corridors, fish and wildlife species including State and Federally listed species, directly affects water quality, and creates a potential liability for the County.

The Commission requests the Board of Supervisors adopt riparian corridor and wetland protective measures and practices and enforce existing policies that require new development to protect the environment including the fish, wildlife, and native vegetation of Mendocino County. Riparian and wetland protection ordinances in neighboring counties, included as an attachment, offer different examples of ordinances and combining districts that protect these important resources. *See Attachment A for an overview of neighboring counties' riparian corridor and wetland setbacks.*

Background

Riparian corridors, a greenbelt of vegetation that protect freshwater resources, are critical habitats for many threatened and endangered species in Northern California, as well as provide some of our most treasured areas for recreation and water quality protections in our human communities. Riparian vegetation protects streambanks from erosion and slow floodwaters along alluvial floodplain terraces, while allowing water to infiltrate into the soil,

recharging groundwater and aquifers. Riparian areas provide critical food sources, habitat for nesting birds and large mammals and other wildlife, and are important wildlife migration



Riparian Ecosystem Cross Section
Gentle to Flat Terrain
not to scale

Source: "Riparian Restoration" U.S. Department of Agriculture Forest Service Technology & Development Program and California Department of Fish and Wildlife

(connectivity) corridors and often include rare plants and natural plant communities. Wetlands are lands transitional between uplands and waterways where the water table is usually at or near the surface or the land is covered by shallow water (USACOE). Wetlands are important breeding habitat for many species of amphibians and provide habitat for elk and migrating birds. On a national, state-wide, and regional scale, wetland and riparian habitats have undergone substantial declines. Over the past 200 years, the contiguous 48 states have lost an estimated 53 percent of their original wetlands, with California losing the largest percentage (91 percent) (Dahl 1990). An estimated 93 to 98 percent of California's and 75 percent of the North Coast's riparian habitat has been converted to other land uses (Katibah 1984, Dawdy 1989).

Threats to riparian corridors and wetlands include: catastrophic flood and fire, vegetation removal for property development, and the confinement and channelization of water courses, which results in decreased water quality and erosion. Working landscapes such as ranches, farms, and forests are subject to setbacks prescribed by the State through agricultural waivers and forest practice rules. See *attachment B for State and Federal definitions and descriptions for wetlands and riparian.*



Source: Northwest Treaty Tribes, Riparianhabitat.org

The following are just a few examples of recent problematic activities within the County, some of which were approved by the Mendocino County Planning and Building Services:

1. A new septic system approved in a known flood zone of York Creek within 50 feet of the creek. (Boundary of Districts 1 and 5)
2. Approved development in sensitive wetland and habitat area (for protected vegetation and an endangered species) in the Laytonville area. (District 3)
3. A fuel spill into String Creek of approximately 1,000 gallons of diesel fuel at an illegal cannabis operation's fuel storage site. (District 3)
4. Numerous permitted cannabis cultivation sites that have impacted local streams and wetlands.

Summary of Existing Plans and Policies on Riparian and Wetland Protection in Mendocino County Outside of the Coastal Zone:

The Mendocino County's General Plan includes policies and identified action items to protect riparian corridors and wetlands, however, the created protective measures including ordinances have not been developed. The Commission recommends that policy language throughout the General Plan needs to include definitive direction to aid development, County approvals, and enforcement. Neighboring counties have achieved protection of these resources through either ordinances and/or combining districts. The development of a riparian corridor

and wetland setback ordinance or combining district would codify policies into clear guidance for development and County permitting, review, and approvals.

A. **Mendocino County General Plan**

Wetlands and Waters of the United States

Wetlands and waters of the United States are protected under Section 404 of the federal Clean Water Act. They include freshwater and saltwater marshes, seasonal wetlands, lakes, ponds, streams, and rivers. Wetlands are often the most ecologically productive portions of the landscape. Moreover, wetlands provide habitat for many special-status wildlife species, directly affect the habitat of most special status fish species, and provide habitat for some of the special-status plant species in Mendocino County. Wetlands and waters of the U.S. located within Mendocino County may be negatively affected by residential and commercial development and by agricultural and forest management practices. The rivers and streams in Mendocino County, and the wetlands and seasonal drainages that are tributaries to those rivers, are essential fish habitat. Land use activities in the county that affect the volume and quality of surface water runoff may consequently affect the value and production of fish habitat (*Resources Management Element: 4-23*).

Water Resources Watershed Policies

Policy RM-1: Protect stream corridors and associated riparian habitat.

Action Item RM-1.1: Require adequate buffers for all projects potentially impacting stream corridors and/or their associated riparian habitat.

Policy RM-74: Discretionary development shall be designed or conditioned to achieve no net loss of sensitive resources.

Policy RM-77: Maintain resource diversity and integrity by protecting and enhancing continuous resource corridors compatible with adjacent uses through project design.

Policy RM-78: Conserve native vegetation, critical habitats, and soil resources through education, technical and financial assistance, cooperative endeavors, best management practices, and soils and vegetation management plans for development and resource uses.

Action Item RM-80.1: Consider adopting an ordinance for the regulation of vegetation removal.

Policy RM-90: Conserve and enhance streamside (riparian) vegetation through development design and standards.

Action Item RM-98.1: Support State and Federal measures to protect and enhance the freshwater and marine ecology through development process, such as:

- Stream corridor protection and restoration.
- Riparian vegetation protection and restoration.

B. Ukiah Valley Area Plan

GOAL OC1

Maintain and enhance the area's natural resources by balancing protection, conservation, replenishment and sustainable use.

Policy OC 1.1 Protect the river corridor and riparian habitat while accommodating responsible development.

OC1.1a River Corridor Planning Area Definition. Define the river planning corridor and extent of surrounding riparian areas within which proposed development will trigger design review, performance standard requirements and use of river design guidelines. Classify "Riparian Corridors" designated in the Open Space and Conservation Section as follows:

- "Russian River Riparian Corridor" is the corridor adjacent to the main stem of the Russian River, excluding lands located within the urban land use categories or within the jurisdiction of a city. The corridor is 200 feet from the top of the higher bank on each side of the stream as determined by the County Department of Planning and Building Services.
- "Other Riparian Corridors" are the corridors within other land use categories along the Russian River and the designated corridors along other rivers and streams. The corridor will be 50 feet from the top of the higher bank on each side of the stream as determined by the County Department of Planning and Building Services.
- Establish a River Corridor Combining Zoning District. Rezone all lands within the River Corridor areas to this combining district.

OC1.1b Stream Setbacks. Determine appropriate development setback distances from all perennial and intermittent streams, as shown on USGS topographic maps as of January 2011 (utilizing current ecological and scientific data) and specify setback requirements in the zoning code.

OC1.1c Riparian System Management Plan. Develop, implement and maintain a *Riparian System Management Plan* and companion design guidelines that will include:

- Identification of critical areas for preservation (through limited or prohibited development) and priority segments for restoration;
- Strategies for restoration, maintenance and preservation;
- Description of the specific functions for which each stream or stream reach will be managed (aquatic habitat preservation/enhancement, flood control, storm water management, groundwater recharge, recreation, etc.);
- Identification of opportunities to cultivate and use native plant species that are culturally significant to local Native American Tribes in planned restoration projects;
- Identification of potential projects and locations for public access and recreational greenways; and
- Design guidelines for projects proposed within the defined river corridor planning area.

OC1.1e Zoning Code. Update the zoning code to reflect findings, goals and guidelines specified in the river restoration and preservation plan and design guidelines.

OC1.1g River and Stream Maintenance Education. Collaborate with the Mendocino County Resource Conservation District to develop public education materials and programs that balance invasive species removal with native plant restoration. Develop effective post-planting maintenance and retention of large, woody debris to maintain floodwater carrying capacity and critical habitat.

OC1.1h River Corridor Uses. Develop and adopt regulations establishing standards applicable to River Corridors. Until the regulations and the final Stream Setbacks are adopted, require that land use and development comply with the following principles. Allow or consider allowing the following uses within any River Corridor area:

- Streamside maintenance, fire fuel management, and restoration.
- Livestock grazing.
- Agricultural cultivation, but not within 100 feet of top of bank for the Russian River and 25 feet for Other Riparian Corridors.
- Public projects, including water-dependent public recreational facilities.
- Timber operations conducted in accordance with an approved timber harvest plan.
- Mining operations conducted in accordance with the County Surface Mining regulations.
- Road, street, and utility crossings.
- Equipment turnaround and access roads associated with agricultural cultivation, provided that the affected area is the minimum necessary for these turnaround and access roads and that a minimum 25' vegetative filter strip is provided and maintained between the affected area and the top of the bank.
- Vegetation removal as part of an integrated pest management program administered by the Agricultural Commissioner. Prohibit, except as otherwise listed above, grading, vegetation removal, agricultural cultivation, structures, roads, utility lines and parking lots within any streamside conservation area. Consider an exception to this prohibition if:
 - It makes a lot unbuildable and if vegetation removal is minimized, or
 - The use involves only the maintenance, restoration, or minor expansion of an existing structure or other existing use, or
 - It can be clearly demonstrated through photographs or other information that the affected area has no substantial value for riparian functions, or
 - A conservation plan is approved that provides for the appropriate protection of the biotic resources, water quality, flood management, bank stability, groundwater recharge, and other applicable riparian functions.

Policy OC1.2: Protect and maintain the Russian River

Corridor channel elevation and banks.

OC1.2a Performance Standards. Change applicable County Codes to require that new

development follow performance standards to protect the river and tributaries from erosion, decrease sedimentation and degradation of water quality, increase water carrying capacity, and protect native vegetation and wildlife habitat.

Commission Recommendations

It is the Commission's recommendation that the Board of Supervisors make it a priority to develop and adopt specific procedures to protect the County's riparian and wetland zones including, but not limited to the following:

- Provide clear and strong direction to the Department of Planning and Building Services, and any other relevant County departments, to implement and enforce policies to protect the environment within the county;
- Review policies and procedures implemented by our neighboring counties to use as a model to ensure the timely implementation of environmental protections.
- Formalize policy language within the County's General Plan to protect riparian and wetland zones throughout Mendocino County by developing a stream and wetland setback combining district or ordinance; and
- Consult with the California Department of Fish and Wildlife to ensure the County is adhering to state policies and procedures.



Source: California Department of Fish and Wildlife

The Commission further recommends that, as a County, stewardship of our resources, including water, wildlife, and natural plant communities, should be a top priority. The surrounding counties, including Humboldt, Lake, and Sonoma, have all established riparian and wetland protections and as we share responsibility for our riparian and wetland resources as a region, Mendocino County's Board of Supervisors should take this opportunity to give direction and do the same.

Attachment A: Neighboring Counties' Riparian Corridor and Wetland Ordinances and Combining Districts

The neighboring counties of Lake, Sonoma, and Humboldt have ordinances or combining districts that established riparian and wetland setbacks and regulate development within these areas. Each county's key points including definitions, allowable uses, exemptions, and exceptions are provided below.

In addition to the water quality and fish and wildlife habitat benefits that setbacks provide, setbacks from rivers, creeks, and streams can also prevent or minimize loss of structures and infrastructure by providing a buffer between development and waterways. Ordinances and combining districts provide clear standards for landowners during the County permitting processes.

LAKE COUNTY – (2007 WITH LATER AMENDMENTS)

Lake County's ordinance includes both riparian and wetland setbacks.

LAKE COUNTY - RIPARIAN CORRIDOR AND WETLAND DESCRIPTIONS

Riparian corridors are those areas which fall into any of the following four (4) categories:

1. Perennial streams: An area extending outward thirty (30) feet from the top of the streambank.
2. Intermittent streams: An area extending outward twenty (20) feet from the top of the streambank.
3. An area extending outward twenty (20) feet from the high-water mark of an adjacent area of wetlands or natural body of standing water; or
4. An adjacent area of riparian vegetation. The boundary shall be defined as the outer limit of the occurrence of riparian vegetation and may extend farther than the above specified distances. This boundary may be determined by the Planning Director or Zoning Administrator. (Article 37.3).

Article 29 (Section 21-29): Regulations for the Wetlands combining district. Purpose to preserve and protect environmentally sensitive wetlands valuable for their plant and wildlife habitat and natural appearance and character.

<http://www.lakecountycalifornia.gov/Assets/Departments/CDD/ZoningOrd/Zoning+Article+29.pdf>

LAKE COUNTY - ALLOWABLE USES & EXEMPTIONS

Section 37.5 Exemptions: The following activities shall be exempt from the provision of this Article:

- (a) The continuance of any pre-existing non-agricultural use provided such use has not been abandoned for a period of one (1) year or more.
- (b) Agricultural activities not involving the placement of structures or the removal of riparian vegetation (defined as vegetation four (4) or more inches in diameter at three (3) feet in height) within twenty (20) feet of the top of the streambank.
- (c) All activities done pursuant to a valid timber harvest permit.
- (d) Emergency clearing and filling measures for the protection of human safety, health or welfare. (e) Administrative gravel extraction permits pursuant to Chapter 24 which do not result in the removal of riparian vegetation.
- (f) Clearing or removal of dead, dying, diseased or downed vegetation within the streambed or on the streambank; and the removal of vegetation obstructing streamflow or causing streambed or streambank erosion.
- (g) Maintenance and operation of existing flood control, irrigation and drainage facilities.

Section 21-29.20 Management Plans. Management plan required: Applicants for major use permits pursuant to Section 29.4 shall submit, as part of the use permit application, a wetlands management plan for review and approval by the Planning Commission.

LAKE COUNTY - EXCEPTIONS

Section 37.6: Exceptions and conditional exceptions to the provisions of this Article may be authorized by the Zoning Administrator.

- (a) The granting of an exception may be conditioned by the requirement of measures to ensure compliance with the purposes of this Article. Required measures may include but are not limited to:
 1. Maintenance of a protective strip of vegetation between the development and a stream, marsh, or body of standing water. The strip should have sufficient filter capacity to prevent significant degradation of water quality, and sufficient width to provide value for wildlife habitat, as determined by the Zoning Administrator.
 2. Installation and maintenance of water breaks. 37-4
 3. Surface treatment to prevent erosion or slope instabilities.
 4. Installation and maintenance of drainage facilities.
 5. Seeding or planting of bare soil including the establishment of ground cover or the planting of woody vegetation.
 6. Installation and maintenance of sediment catch basins.

SONOMA COUNTY (2014) ORDINANCE NO. 6089

Sonoma County's Riparian Corridor combining district has definitions and setbacks for common development actions including septic systems, wells, and grading.

SONOMA COUNTY - RIPARIAN CORRIDOR AND WETLAND DESCRIPTIONS, DEFINITIONS, AND PROTECTIONS

Wetlands

1. Wetlands designated in zoning code – 100 feet setback from the delineated wetland boundary.
2. All other wetlands – 50 feet from the assessed wetland boundary, unless the wetland assessment recommends a greater or lesser setback.

Riparian Corridor combining zone (Article 65. - RC Riparian Corridor Combining Zone)

The Riparian Corridor combining zone includes the stream bed, bank and adjacent streamside conservation area on each side of a designated stream as measured from the top of the higher bank. Land uses and development, including grading, vegetation removal, agricultural cultivation, structures, roads, utility lines, and parking lots, is prohibited within the Riparian Corridor, except as allowed by SCC §26.65.030 and 26.65.040. The minimum setback for development and agricultural cultivation is indicated by the zoning for each property. For example, a parcel zoned "RC 100/50" indicates that there is a 100 feet setback for development and a 50 feet setback for agricultural cultivation.

- **Stream Setbacks for Grading Work (SCC §11.14.100).** Grading work and land disturbance shall be set back 25 feet from top of stream banks, unless a greater setback is required by general plan, local coastal plan, or zoning code.
- **Setbacks for Grading Work near Lakes, Ponds, and Reservoirs (SCC §11.14.090).** Grading work and land disturbance shall be set back 50 feet from the high water mark of lakes, ponds, and reservoirs, unless a greater setback is required by general plan, local coastal plan, or zoning code.
- **Setbacks for Grading Work near Wetlands (SCC §11.14.110).** Grading work and land disturbance shall be set back from wetlands in compliance with the requirements in Table 1, unless a greater setback is required by general plan, local coastal plan, or zoning code. These setback requirements shall not apply where all necessary state and federal permits, approvals, authorizations to fill wetlands are obtained.
- **Stream Setbacks for Water Wells (SSC §25B-6.b).** Wells shall be setback 30 feet from the top of stream banks.
- **Stream Setbacks for Septic Systems (Sonoma County Onsite Wastewater Treatment Systems Regulations and Technical Standards).** Septic systems shall be setback 50 feet from the top of ephemeral stream banks and 100 feet from the top of perennial stream banks.

Sec. 26-65-005. - Purpose. The RC combining zone is established to protect biotic resource communities, including critical habitat areas within and along riparian corridors, for their habitat and environmental value, and to implement the provisions of the General Plan Open Space and Resource Conservation and Water Resources Elements. These provisions are intended to protect and enhance riparian corridors and functions along designated streams, balancing the need for agricultural production, urban development, timber and mining operations, and other land uses with the preservation of riparian vegetation, protection of water resources, floodplain management, wildlife habitat and movement, stream shade, fisheries, water quality, channel stability, groundwater recharge, opportunities for recreation, education and aesthetic appreciation and other riparian functions and values.

Sec. 26-65-010. - Applicability. The RC combining zone shall be applied to designated streams and include the stream bed and bank and an adjacent streamside conservation area on each side of the stream as measured from the top of the higher bank. The minimum streamside conservation area shall be shown in the zoning database followed by the minimum setback for agricultural cultivation (e.g., RC 100/50). Where the drip line of existing riparian trees with trunks located wholly or partially within the streamside conservation area extends beyond the streamside conservation area boundary, as indicated in the zoning database, the boundary shall be increased to include the outer drip line of the riparian trees.

Sec. 26-65-020. - Determination of streamside conservation areas and setbacks for agricultural cultivation. The streamside conservation area indicated in the zoning database is approximate to allow for a parcel-specific determination of the boundary based upon the location of the top of the higher bank and existing riparian vegetation. The streamside conservation area shall be determined by the director. The setback for agricultural cultivation indicated in the zoning database is also approximate to allow for a site-specific determination of the boundary based upon the location of the top of the higher bank, existing riparian vegetation, and, for upland areas of 50-foot riparian corridors, the slope and soil types of the planting area. The setback for agricultural cultivation shall be determined by the agricultural commissioner.

SONOMA COUNTY - ALLOWABLE USES & EXEMPTIONS

Sec. 26-65-040. - Allowed land uses, activities, and permit requirements.

The following activities and uses may be allowed within a streamside conservation area, if allowed by the base zone and any combining zones, subject to any required permits and the standards specified in this section. These activities and uses shall also be conducted and maintained in compliance with any prohibitions, permits, approvals, or authorizations required by applicable resource agencies.

- A. Stream maintenance and restoration carried out or overseen by the Sonoma County Water Agency.
- B. Levee maintenance.
- C. Invasive plant removal, such as Himalayan blackberry (*Rubus armeniacus*), giant reed (*Arundo donax*), salt cedar (*Tamrix sp.*), and star thistle (*Centaurea solstitialis*), not

exceeding five (5) acres in disturbed area, principally involving hand labor and not using mechanized equipment. Streamside maintenance and small riparian habitat restoration not exceeding five (5) acres of disturbed area, principally involving hand labor and not using mechanized equipment, as described by State CEQA Guidelines Section 15333, subject to a zoning permit.

- D. Stream dams and stream-related water storage systems, subject to a zoning permit.
- E. Road and utility line crossings in compliance with county road construction standards and maintenance guidelines, subject to a zoning permit.
- F. Fencing and maintenance of existing outdoor activity areas, such as yards, gardens, and landscaped or natural vegetation, associated with a legally established structure or use and not involving further encroachment into existing riparian vegetation.
- G. The following agricultural activities, provided that they are conducted and maintained in compliance with agricultural best management practices developed or referenced by the agricultural commissioner, or defined in a farm or ranch water quality plan acceptable to the agricultural commissioner. The agricultural commissioner shall determine the applicable agricultural best management practices and shall enforce the provisions of this subsection.
 - 1. Grazing and similar agricultural production, not involving cultivation or structures. Livestock control fencing and watering facilities are allowed.
 - 2. Agricultural cultivation and related access roads, drainage, planting, seeding, fertilizing, weeding, tree trimming, irrigation, and harvesting that do not involve the removal of existing contiguous riparian vegetation within two hundred feet (200') of the top of the higher bank, and are located as follows:
 - a. No closer than one hundred feet (100') from the top of the higher bank in the 200-foot riparian corridor for the Russian River;
 - b. No closer than fifty feet (50') from the top of the higher bank in the 100-foot riparian corridors designated in the General Plan and the upland areas of the 50-foot riparian corridors; or
 - c. No closer than twenty-five feet (25') from the top of the higher bank in all other riparian corridors.
 - 3. Replanting existing cropland and related access roads, drainage, planting, seeding, fertilizing, weeding, tree trimming, irrigation, and harvesting that are located closer to the top of the higher bank than specified in Subsection 26-65-040.H.2, provided that the existing cropland is under active cultivation and the footprint of the planting area is not increased within the applicable setback for agricultural cultivation.
 - 4. Filter strips, equipment turnarounds, grassy avenues, and fencing associated with agricultural cultivation that does not involve the removal of existing contiguous riparian vegetation within two hundred feet (200') of the top of the higher bank.
- I. Selective vegetation removal as part of an integrated pest management program administered by the agricultural commissioner.
- J. Wells in compliance with Sonoma County Code [Chapter 25B](#) (Water Wells).
- K. Fire fuel management in compliance with county fire safe standards, provided that no redwood trees are removed and vegetation removal is limited to the minimum required for fire safety purposes. New development located within one hundred feet (100') of any

riparian corridor shall be allowed with a zoning permit only where there are no feasible alternative development locations that do not require vegetation removal for fire protection and fire resistive construction materials are used to avoid or minimize the need for vegetation removal in the riparian corridor.

- L. Bikeways, trails, and parks on publicly owned land or public use easements, or on private lands, subject to a zoning permit.
- M. Temporary seasonal gangway and floating dock of up to one hundred twenty square feet (120' sq.) with encapsulated floatation and grated deck, subject to a zoning permit.
- N. Timber operations conducted in compliance with an approved Timber Harvest Plan.
- O. Tree removal subject to a zoning permit, to protect life or property from the threat of harm posed by a dead, dying, diseased, or damaged tree likely to die within one (1) year of the date proposed for removal, or a tree at risk of falling when the structural instability cannot be remedied. A report by a certified arborist or registered professional forester documenting the hazardous condition and a tree replacement plan is required.
- P. Mining operations, subject to a use permit for surface mining activities in compliance with the [Chapter 26A](#) (Surface Mining) of this code.
- Q. Other activities or uses not meeting the above criteria may be permitted with an exception under [Section 26-65-030](#) (Prohibited Uses and Exceptions), subject to a use permit and approval of a conservation plan. [Sec. 26-64-050. - Design review approval.](#)
[Article 66. - BH Biotic Habitat Combining Zone.](#)

SONOMA COUNTY - EXCEPTIONS

Sec. 26-65-030. - Prohibited uses and exceptions. Except as allowed by [Section 26-65-040](#), grading, vegetation removal, agricultural cultivation, structures, roads, utility lines, and parking lots shall be prohibited within any stream channel or streamside conservation area.

- A. An exception to this prohibition may be approved by the director with a zoning permit if:
 - 1. It makes a parcel unbuildable, provided vegetation removal is minimized;
 - 2. The use involves the minor expansion of an existing legally established structure in conformance with [Article 94](#) where it is demonstrated that the expansion will be accomplished with minimum vegetation removal and protection of riparian functions;
 - 3. The use involves only the maintenance, restoration, or reconstruction of an existing legally established structure or use in conformance with [Article 94](#); or
 - 4. The director determines that the affected area has no substantial value for riparian functions.

- B. An exception to this prohibition may be approved with a use permit if a conservation plan is adopted that provides for the appropriate protection of the biotic resources, water quality, floodplain management, bank stability, groundwater recharge, and other applicable riparian functions. Off-site mitigation will be considered only where on-site mitigation is infeasible or would provide superior ecological benefits, as determined by the director.

HUMBOLDT COUNTY - RIPARIAN CORRIDOR AND WETLAND DESCRIPTIONS, DEFINITIONS, AND PROTECTIONS

BR-S5. Streamside Management Areas (SMA) are identified and modified as follows:

- A. Areas specifically mapped as SMA and Wetland (WR) Combining Zones, subject to verification and adjustment pursuant to site-specific biological reporting and review procedures.
- B. For areas along streams not specifically mapped as SMA and Wetland (WR) Combining Zones, the outer boundaries of the SMA shall be defined as:
 1. 100 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of perennial streams.
 2. 50 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of intermittent streams.
 3. The width of Streamside Management Areas shall not exceed 200 feet measured as a horizontal distance from the top of bank.
- C. The width of Streamside Management Areas shall be expanded to up to 200 feet measured as a horizontal distance from the top of bank as necessary to include slides, or areas with visible evidence of slope instability.
- D. The Streamside Management Area may be reduced or eliminated where the County determines, based on specific factual findings, that the mapping of the SMA is not accurate, there are no in-channel wetland characteristics or off-channel riparian vegetation, the reduction will not significantly affect the biological resources of the SMA on the property. When the prescribed buffer would prohibit development of the site for the principal use for which it is designated, measures shall be applied that result in the least environmentally damaging feasible project.
- E. SMAs do not include watercourses consisting entirely of a man-made drainage ditch, or other man-made drainage device, construction, or system.

BR-S10. Development Standards for Wetlands. Development standards for wetlands shall be consistent with the standards for Streamside Management Areas, as applicable except that the widths of the SMA for wetlands are as follows:

1. Seasonal wetlands = 50 ft.
2. Perennial wetlands = 150 ft., and
3. The setback begins at the edge of the delineated wetland.
4. Buffers may be reduced based on site specific information and consultation with the California Department of Fish and Wildlife. No buffer shall be required for man-made wetlands except wetlands created for mitigation purposes.

BR-S11. Wetlands Defined. The County shall follow the US Army Corps of Engineers Wetland Delineation manual in the identification and classification of wetlands which considers wetlands

as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

HUMBOLDT COUNTY - ALLOWABLE USES & EXEMPTIONS

Stream Channels BR-S6. Development within Stream Channels. Development within stream channels may be approved where consistent with Policy BR-P4, Development within Stream Channels, and is limited to the following projects.

- A. Fishery, wildlife, and aquaculture enhancement and restoration projects.
- B. Road crossings consistent with Standard BR-S9, Erosion Control, of this section.
- C. Flood control and drainage channels, levees, dikes, and floodgates.
- D. Mineral extraction consistent with other County regulations.
- E. Small-scale hydroelectric power plants in compliance with applicable County regulations and those of other agencies.
- F. Wells and spring boxes, and agricultural diversions.
- G. New fencing, so long as it would not impede the natural drainage or wildlife movement and would not adversely affect the stream environment or wildlife movement.
- H. Bank protection, provided it is the least environmentally damaging alternative.
- I. Other essential projects, including municipal groundwater pumping stations, provided they are the least environmentally damaging alternative, or necessary for the protection of the public's health and safety.

Streamside Management Areas BR-S7. Development within Streamside Management Areas. Development within Streamside Management Areas may be approved where consistent with Policy BR-P6, Development within Streamside Management Areas, and shall be limited to the following uses:

- A. Development permitted within stream channels per BR-S6, Development within Stream Channels.
- B. Timber management and harvest activities under a timber harvesting plan or non-industrial timber management plan, or activities exempt from local regulation as per California Public Resources Code 4516.5(d).
- C. Road, bridge, and trail replacement or construction, when it can be demonstrated that it would not degrade fish and wildlife resources or water quality, and that vegetative clearing is kept to a minimum.
- D. Removal of vegetation for disease control or public safety purposes.
- E. Normal, usual and historical agricultural practices and uses which are principally permitted within the SMA shall not be considered development for the purposes of this standard.
- F. Normal, usual and historical agricultural and surface mining practices and uses which are principally permitted within the SMA shall not be considered development for the purposes of this standard. Humboldt County General Plan Adopted October 23, 2017 Part 3, Chapter 10. Conservation and Open Space 10-20

BR-S8. Required Mitigation Measures for development within Streamside Management Areas shall, at a minimum, include:

- A. Retaining snags unless felling is required by CAL-OSHA, by CAL FIRE forest and fire protection regulations or for public health and safety reasons. The felling must be approved by the Planning Director. Felled snags shall be left on the ground if consistent with fire protection regulations and the required treatment of slash or fuels.
- B. Retain live trees with visible evidence of current or historical use as nesting sites by hawks, owls, eagles, osprey, herons, kites or egrets.
- C. Erosion control measures (as per Standard BR-S9- Erosion Control). D. Maximum feasible retention of overstory canopy in riparian corridors.

BR-S9. Erosion Control. Erosion control measures for development within Streamside Management Areas shall include the following:

- A. During construction, land clearing and vegetation removal will be minimized, following the provisions of the Water Resources Element and the standards listed here.
- B. Consistent with BR-S8, construction sites with at least 100 square feet of exposed soil will be planted or seeded as appropriate per mitigations as recommended in writing by the lead agency with native or non-invasive vegetation and mulched with natural or chemical stabilizers to aid in erosion control and ensure revegetation.
- C. Long slopes will be minimized to increase infiltration and reduce water velocities down cut slopes by such techniques as soil roughing, serrated cuts, selective grading, shaping, benching, and berm construction.
- D. Concentrated runoff will be controlled by the construction and continued maintenance of culverts, conduits, non-erodible channels, diversion dikes, interceptor ditches, slope drains, or appropriate mechanisms. Concentrated runoff will be carried to the nearest drainage course. Energy dissipaters may be installed to prevent erosion at the point of discharge, where discharge is to natural ground or channels.
- E. Runoff shall be controlled to prevent erosion by on-site or off- site methods. On-site methods include, but are not limited to, the use of infiltration basins, percolation pits, or trenches. On-site methods are not suitable where high groundwater or slope stability problems would inhibit or be aggravated by on-site retention or where retention will provide no benefits for groundwater recharge or erosion control. Off-site methods include detention or dispersal of runoff over non-erodible vegetated surfaces where it would not contribute to downstream erosion or flooding.
- F. Disposal of silt, organic, and earthen material from sediment basins and excess material from construction will be disposed of out of the Streamside Management Area to comply with California Department of Fish and Wildlife and the North Coast Regional Water Quality Control Board requirements. Humboldt County General Plan Adopted October 23, 2017 Part 3, Chapter 10. Conservation and Open Space 10-21
- G. Winter operations (generally October 15 thru April 15) shall employ the following special considerations:
 - 1. Slopes will be temporarily stabilized by stage seeding and/or planting of fast germinating seeds, such as barley or rye grass, and mulched with protective coverings such as natural or chemical stabilizations, and

2. Runoff from the site will be temporarily detained or filtered by berms, vegetated filter strips, and/or catch basins to prevent the escape of sediment from the site. Drainage controls are to be maintained as long as necessary to prevent erosion throughout construction.

Development Standards for Wetlands and Other Wet Areas BR-S10.

Development standards for wetlands shall be consistent with the standards for Streamside Management Areas, as applicable except that the widths of the SMA for wetlands are as follows: seasonal wetlands = 50 ft. perennial wetlands = 150 ft. and the setback begins at the edge of the delineated wetland. Buffers may be reduced based on site specific information and consultation with the California Department of Fish and Wildlife. No buffer shall be required for man-made wetlands except wetlands created for mitigation purposes.

Attachment B: State and Federal Definitions of Wetlands and Riparian

U.S. Fish and Wildlife Service classification of wetlands (Cowardin et al. 1979) include swamps; freshwater, brackish water, and saltwater marshes; bogs; vernal pools; periodically inundated saltflats; intertidal mudflats; wet meadows; wet pastures; springs and seeps; portions of lakes, ponds, rivers and streams; and all other areas which are periodically or permanently covered by shallow water; or dominated by hydrophytic vegetation, or in which the soils are predominantly hydric in nature. Pursuant to the Fish and Game Commission Wetlands Resources Policy, the California Department of Fish and Wildlife utilizes the U.S. Fish and Wildlife Service wetlands definition for purposes of wetland identification. The U.S. Fish and Wildlife Service wetlands definition is (Cowardin et al. 1979):

“Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.”

The State Water Resources Control Board (State Water Board) adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2020):

“An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate and; (3) the area either lacks vegetation or the vegetation is dominated by hydrophytes. This modified three-parameter definition is similar to the federal definition in that it identifies three wetland characteristics that determine the presence of a wetland: wetland hydrology, hydric soils, and hydrophytic vegetation. Unlike the federal definition, however, the Procedures’ wetland definition allows for the presence of hydric substrates as a criteria for wetland identification (not just wetland soils) and wetland hydrology for an area devoid of vegetation (less than 5% cover) to be considered a wetland.”

The SWRCB has also developed a working definition for riparian areas, which is based in part on Brinson et al. (2002) (SWRCB 2012b):

“Riparian Areas are areas through which surface and subsurface hydrology interconnect aquatic areas and connect them with their adjacent uplands (Brinson et al. 2002). They are distinguished by gradients in biophysical conditions, ecological processes, and biota. They can include wetlands, aquatic support areas, and portions of uplands that significantly influence the conditions or processes of aquatic areas.”

Sources

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