

PUBLIC REVIEW DRAFT

Sonoma County Local Coastal Plan

APPENDIX E: NATURAL RESOURCES September 2019



**Local Coastal Program
Permit Sonoma**

2550 Ventura Avenue
Santa Rosa, CA 95403

Adopted by Resolution No. 19-XXXX
of the Sonoma County Board of Supervisors
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APPENDIX E: NATURAL RESOURCES

TABLE OF CONTENTS

1.	RESTORATION AND MONITORING REQUIREMENTS	1
2.	BIOLOGICAL RESOURCE ASSESSMENT REQUIREMENTS	3
3.	CRITERIA FOR ESTABLISHING BUFFER AREAS	5
4.	TECHNICAL CRITERIA FOR IDENTIFYING AND MAPPING WETLANDS AND OTHER WET ENVIRONMENTALLY SENSITIVE HABITAT AREAS	8
5.	HABITAT PROTECTION GUIDELINES	16
6.	ADMINISTRATIVE WAIVER OF WETLAND (100 FOOT SETBACKS) REQUIREMENTS IN THE LOCAL COASTAL PLAN IN "RURAL COMMUNITIES" AND "URBAN SERVICE AREAS" ONLY, WHERE ROADS, TOPOGRAPHY, OTHER DEVELOPMENT EXISTS BETWEEN PROPERTY DEVELOPMENT AREA AND WETLAND	20
7.	REVISION OF MAPPED ENVIRONMENTALLY SENSITIVE HABITAT AREAS	21

APPENDIX E: NATURAL RESOURCES

1. RESTORATION AND MONITORING REQUIREMENTS

Restoration and Monitoring

A Restoration and Monitoring Plan shall be required for any project involving habitat mitigation or restoration consistent with **Policy C-OSRC-5a(7)**. The Restoration and Monitoring Plan shall consist of a stand-alone document that specifies performance standards, success criteria, adaptive management, and monitoring requirements as described below. Permit Sonoma County staff may request additional information to address site-specific conditions.

Restoration and Monitoring Plan. A Restoration and Monitoring Plan shall:

- (a) Be a stand-alone document that describes actual methods and practices to be employed, including performance/success criteria and adaptive management and monitoring requirements;
- (b) Provide complete information, avoiding generalizations and oversimplification of data and references;
- (c) Be able to be implemented by a technical specialist who has not been involved in the project;
- (d) Be written in such a way that an educated layman could understand and evaluate the plan;

Key Components. A Restoration and Monitoring Plan shall include, but not be limited to, the following key components:

- (a) A clear statement of the goals of the restoration for all habitat types;
- (b) Characterization of the desired habitat, including at least one actual sampled site, that can act as both a model (with clear rationale and criteria for comparison with the project site) for the restoration and as a reference site for developing success criteria;
- (c) Details about the sampling protocol used for the reference site and those methods that will be applied to the restoration site, along with a report and discussion of the data collected from the reference site;
- (d) A clear rationale for selecting the proposed restoration site, including specific characteristics that make it a strong candidate for a successful restoration project;
- (e) A detailed qualitative and quantitative description of the chosen restoration site prior to restoration, including existing biological resources and their conditions;

- (f) Specific performance criteria and the rationale for their selection, procedures for determining performance success, a formal sampling design including analytical methods, and a reporting schedule (interim and final);
- (g) Requirements for designation of a qualified restoration biologist as the Restoration Manager who will be personally responsible for all phases of the restoration;
- (h) Prohibition on assignment of different phases of the restoration to different contractors without onsite supervision by the Restoration Manager;
- (i) A detailed Grading Plan if the topography must be altered, including fill amounts and locations, and the locations of fill removal and disposal;
- (j) A specific Erosion Control Plan if soil or other substrate will be significantly disturbed during the course of the restoration;
- (k) A Weed Eradication Plan. The Plan should be designed to eradicate existing weeds and to control future invasion by exotic species, to be approved by and carried out or supervised by a restoration biologist;
- (l) A Planting Plan that specifies a detailed plant palette based on the natural habitat type and reference site(s) that is the model for the restoration, using local native and non-invasive stock, and requiring that if plants, cuttings, or seed are obtained from a nursery, the nursery must certify that they are of local origin and are not cultivars. The Planting Plan shall provide specifications for preparation of nursery stock and include technical details of planting methods (e.g., spacing, mycorrhizal inoculation, etc.);
- (m) An Irrigation Plan that describes the method and timing of watering, conserves water, and ensures removal of watering infrastructure by the end of the monitoring period. Where feasible, planting and seeding should be timed to take advantage of naturally-favorable conditions (e.g., prior to the onset of winter rains) to help reduce reliance on irrigation for establishment;
- (n) An Interim Monitoring Plan that includes maintenance and remediation activities, interim performance goals, assessment methods, and schedule. The Interim Monitoring Plan should serve as an adaptive management plan, guiding modifications to the restoration project based upon observed and measured performance, to maximize the success of the effort;
- (o) A Final Monitoring Plan to determine whether the restoration has been successful that specifies: the basis for selection of the performance criteria, types of performance criteria, procedure for judging success, formal sampling design, sample size, approval of a final report, and provision for possible further action.

2. BIOLOGICAL RESOURCE ASSESSMENT REQUIREMENTS

Biological Resources

A biological resource assessment shall be required for any project which could impact biological resources consistent with **Policy C-OSRC-5b(3)**. The biological resource assessment shall be performed by a qualified biologist and shall meet criteria described below. Permit Sonoma staff may require additional information to address site-specific conditions.

Permit Sonoma County staff may request additional information to address site-specific conditions.

Site Description. A description of the regional setting and physical characteristics of the site, including, topography (e.g. slope orientation, etc.), soil types, habitat and/or wildlife migration corridors, and microclimate.

Photographic Documentation. Photographic documentation of the existing condition of the proposed development site.

Sensitive Habitats. A list of sensitive habitats and species that could occur on the site, which can be generated from the California Natural Diversity Database, California Native Plant Society, and other reliable source(s).

Site Specific Assessment. A site-specific assessment, based upon the list of sensitive habitats and species with potential to occur on the site and at least one field visit for all parcels that are part of the proposed development. The assessment shall include a discussion of any species observations during the field visit, and whether other species are likely to be present during other times of the year, based upon habitat analysis and professional opinion. Constraints on the accuracy of the assessment (e.g., wrong season, time-of-day) should be explicitly discussed.

Trees for Sensitive Species. Identification of trees suitable for nesting or roosting or significant foraging habitat, and any evidence of sensitive bird species and raptor use.

Wetlands. Identification, assessment, and mapping of potential wetland areas in accordance with **Appendix E**, Section 4.

Field Visit. Details of the field visit, including date, time, weather, temperature, and methods employed. The field visit shall be completed in spring, unless a different

and/or additional time of year is recommended by the Sonoma County staff biologist based on the likelihood of finding particular sensitive habitats or species.

Habitat and Plant Community Types. Identification of and delineation within polygons all the habitat/plant community types (at the alliance level based on the classification methodology used in the *Manual of California Vegetation* (Sawyer et al. 2009 or subsequent editions) present on the property and generally indicate the locations of the plant communities on adjacent properties. The location of observed sensitive plant or animal species should also be shown on the map.

ESHA. Identification and delineation of the limits of potential ESHA on and immediately adjacent to the project site, based upon **Policies C-OSRC-5b(2)** through **C-OSRC-5b(5)**.

Pre and Post Project Conditions. A comparison of pre-project and post-project conditions, including identification of potential project impacts on ESHA and other biotic resources both on and off the project site, and a discussion of the duration, extent, and severity of the project's effects on the condition of the resource within its natural range locally. **(New)**

3. CRITERIA FOR ESTABLISHING BUFFER AREAS

A buffer area provides essential open space between the development and the environmentally sensitive habitat area. The existence of this open space ensures that the type and scale of development proposed will not significantly degrade the habitat area (as required by CA Coastal Act Section 30240). Therefore, development allowed in a buffer area is limited to access paths, fences necessary to protect the habitat area, and similar uses which have either beneficial effects or at least no significant adverse effects on the environmentally sensitive habitat area. A buffer area is not itself a part of the environmentally sensitive habitat area, but a "buffer" or "screen" that protects the habitat area from adverse environmental impacts caused by the development.

A buffer area should be established for each development adjacent to environmentally sensitive habitat areas based on the standards enumerated below. The width of a buffer area will vary depending upon the analysis. The buffer area should be a minimum of 100 feet for small projects on existing lots (such as one single family home or one commercial office building) unless the applicant can demonstrate that 100 feet is unnecessary to protect the resources of the habitat area. If the project involves substantial improvements or increased human impacts, such as a subdivision, a much wider buffer area should be required. For this reason, the guideline does not recommend a uniform width. The appropriate width will vary with the analysis based upon the standards. For a wetland, the buffer area should be measured from the landward edge of the wetland (Appendix D). For a stream or river, the buffer area should be measured landward from the landward edge of riparian vegetation or from the top edge of the bank (e.g., in channelized streams). Maps and supplemental information may be required to determine these boundaries. Standards for determining the appropriate width of the buffer area as follows:

1. Biological significance of adjacent lands. Lands adjacent to a wetland, stream, or riparian habitat area vary in the degree to which they are functionally related to these habitat areas. That is, functional relationships may exist if species associated with such areas spend a significant portion of their life cycle on adjacent lands. The degree of significance would depend upon the habitat requirements of the species in the habitat area (e.g., nesting, feeding, breeding or resting). This determination requires the expertise of an ecologist, wildlife biologist, ornithologist, or botanist who is familiar with the particular type of habitat involved. Where a significant functional relationship exists, the land supporting this relationship should also be considered to be part of the environmentally sensitive habitat area, and the buffer area should be measured from the edge of these lands and be sufficiently wide to protect these functional relationships. Where no significant functional relationships exist, the buffer should be extended

from the edge of the wetland, stream or riparian habitat (for example) which is adjacent to the proposed development (as opposed to the adjacent area which is significantly related ecologically).

2. Sensitivity of species to disturbance. The width of the buffer area should be based, in part, on the distance necessary to ensure that the most sensitive species of plants and animals will not be disturbed significantly by the permitted development. Such a determination should be based on the following:
 - a. Nesting, feeding, breeding, resting or other habitat requirements of both resident and migratory fish and wildlife species.
 - b. An assessment of the short-term and long-term adaptability of various species to human disturbance.
3. Susceptibility of parcel to erosion. The width of the buffer area should be based, in part, on an assessment of the slope, soils, impervious surface coverage, runoff characteristics, and vegetative cover of the parcel and to what degree the development will change the potential for erosion. A sufficient buffer to allow for the interception of any additional material eroded as a result of the proposed development should be provided.
4. Use of natural topographic features to located development. Hills and bluffs adjacent to environmentally sensitive habitat areas should be used, where feasible, to buffer habitat areas. Where otherwise permitted, development should be located on the sides of hills away from environmentally sensitive habitat areas. Similarly, bluff faces should not be developed, but should be included in the buffer area.
5. Use of existing cultural features to locate buffer zones. Cultural features, (e.g., roads and dikes) should be used, where feasible, to buffer habitat areas. Where feasible, development should be located on the side of roads, dikes, irrigation canals, flood control channels, etc., away from the environmentally sensitive habitat area.
6. Lot configuration and location of existing development. Where an existing subdivision or other development is largely built out and the buildings are a uniform distance from a habitat area, at least that same distance will be required as a buffer area for any new development permitted. However, if that distance is less than 100 feet, additional mitigation measures (e.g., planting of native vegetation which grows locally) should be provided to ensure additional protection. Where development is proposed in an area which is largely undeveloped, the widest and most protective buffer area feasible should be required.
7. Type and scale of development proposed. The type and scale of the proposed development will, to a large degree, determine the size of the buffer area necessary to protect the environmentally sensitive habitat area. For example, due

to domestic pets, human use and vandalism, residential developments may not be as compatible as light industrial developments adjacent to wetlands, and may therefore require wider buffer areas. However, such evaluations should be made on a case-by-case basis depending upon the resources involved, and the type and density of development on adjacent lands.

4. TECHNICAL CRITERIA FOR IDENTIFYING AND MAPPING WETLANDS AND OTHER WET ENVIRONMENTALLY SENSITIVE HABITAT AREAS

The purpose of this discussion is to provide guidance in the practical application of the definition of "wetland" contained in the California Coastal Act. The Coastal Act definition of "wetland" is set forth in Section 30121 of the Act which states:

Sec. 30121 "Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

This is the definition upon which the California Coastal Commission relies to identify "wetlands". The definition refers to lands "...which may be periodically or permanently covered with shallow water..." However, due to highly variable environmental conditions along the length of the California Coast, wetlands may include a variety of different types of habitat areas. For this reason, some wetlands may not be readily identifiable by simple means. In such cases, the Commission will also rely on the presence of hydrophytes and/or the presence of hydric soils. The rationale for this in general is that wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. For this reason, the single features that most wetlands share is soil or substrata that is at least periodically saturated with or covered by water, and this is the feature used to describe wetlands in the Coastal Act. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil, and therefore only plants adapted to these wet conditions (hydrophytes) could thrive in these wet (hydric) soils. Thus, the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal Act, but they are not the sole criteria. In some cases, proper identification of wetlands will require the skills of a qualified professional.

The United States Fish and Wildlife Service has officially adopted a wetland classification system¹ which defines and classifies wetland habitats in these terms. Contained in the classification system are specific biological criteria for identifying wetlands and establishing their upland limits. Since the wetland definition used in the classification

¹ "Classification of Wetlands and Deep-Water Habitats of the United States." By Lewis M. Cowardin, et al, United States Department of the interior, Fish and Wildlife Service, December 1979.

system is based upon a feature identical to that contained in the Coastal Act definitions, i.e., soil or substrata that is at least periodically saturated or covered by water, the Commission will use the classification system as a guide in wetland identification. Applying the same set of biological criteria consistently should help avoid confusion and assure certainty in the regulatory process. This appendix discusses the adaptation of this classification system to the Coastal Act definition of "wetland" and other terms used in the Act, and will form the basis of the Commission's review of proposals to dike, fill or dredge wetlands, estuaries or other wet habitat areas.

4.1 U.S. Fish and Wildlife Classification System: Upland, Wetland/Deep-water Habitat Distinction

The United States Fish and Wildlife Service classification is hierarchical, progressing from systems and subsystems, at the most general levels, to classes, subclasses, and dominance types. The term "system" refers here to a complex of wetland and deep-water habitats that share the influence of one or more dominant hydrologic, geomorphic, chemical, or biological factors.

The Service provides general definitions of wetland and deep-water habitat and designates the boundary between wetland and deep-water habitat and the upland limit of a wetland. The following are the Services' definitions of wetland and deep-water habitats:

A. Wetlands

"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 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 substrata is predominantly undrained hydric soil; and (3) the substrata is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

Wetlands as defined here include lands that are identified under other categories in some land use classifications. For example, wetlands and farm lands are not necessarily exclusive. Many areas that we define as wetlands are farmed during dry periods, but if they are not tilled or planted to crops, a practice that destroys the natural vegetation, they will support hydrophytes.²

² For the purpose of identifying wetlands using the technical criteria contained in this guideline, one limited exception will be made. That is, drainage ditches as defined herein will not be considered wetlands under the Coastal Act. A drainage ditch shall be defined as a narrow (usually less than 5-foot wide), manmade, non-tidal ditch excavated from dry land.

Drained hydric soils that are now incapable of supporting hydrophytes because of a change in water regime are not considered wetlands by our definition. These drained hydric soils furnish a valuable record of historic wetlands, as well as an indication of areas that may be suitable for restoration.

The upland limit or wetland is designated as (1) the boundary between land with predominantly hydrophytic cover; (2) the boundary between soil that is predominantly hydric and soil that is predominantly non-hydric; or (3) in the case of wetlands without vegetation or soil, the boundary between land that is flooded or saturated at some time each year and land that is not. Wetlands should be identified and mapped only after a site survey by a qualified botanist, ecologist, or a soil scientist (See section III. 3. or the guideline for a list of required information).³

B. Deep water Habitats

"Deep water habitats are permanently flooded lands lying below the Deep water boundary of wetlands. Deep water habitats include environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live, whether or not they are attached to the substrata. As in wetlands, the dominant plants are hydrophytes; however, the substrata are considered non-soil because the water is too deep to support emergent vegetation (U.S. Conservation Service, Soil Survey Staff, 1975).

"The boundary between wetland and deep-water habitat in the Marine and Estuarine Systems (i.e., areas subject to tidal influence) coincides with the elevation of the extreme low-water of spring tide (ELIS); permanently flooded areas are considered deep-water habitats in these systems. The boundary between wetland and deep-water habitat in the Riverine, Lacustrine and Palustrine System lies at a depth of 2 meters (6.6 ft.) below low water; however, if emergents, shrubs or trees grow beyond this depth at any time, their deep-water edge is the boundary."

4.2 Wetland/Estuary/Open Coastal Water Distinction

For the purposes of mapping "wetlands" under the Coastal Act's definition of wetlands, and of mapping the other wet environmentally sensitive habitat areas referred to in the Act, including "estuaries", "streams", "riparian habitats", "lakes", and "open coastal water", certain adaptations of this classification system will be made. The following is a discussion of these adaptations.

³ Further details regarding the standards and criteria for mapping wetlands using the Service's classification system may be found in the following, "Mapping Conventions of the National Wetland Inventory", (undated), published by the U.S.F.W.S. The document may be obtained from the U.S.F.W.S., Regional Coordinator, Region 1, Portland, Oregon.

"Wetland as defined in Section 30121 of the Coastal Act, refers to land covered by "shallow water", and the examples given in this section include fresh, salt and brackish water marshes, mudflats and fens. A distinction between "wetland" and the other habitat areas in the Act, for example, "estuary", must be made because the Coastal Act's policies apply differently to these areas, and because the Coastal Act does not define some of these terms (such as "estuary"). A reasonable distinction can be made between "wetland" and "estuary" on the basis of an interpretation of the phrase "shallow water". Using the Service's classification system, "shallow water" would be water that is above the boundary of deep-water habitat, which would be the line of extreme low-water of spring tide⁴ for areas subject to tidal influence and 2 meters for non-tidal areas. Therefore, wetland begins at extreme low-water of spring tide and "estuary" or "open coastal water" is anything deeper. The Coastal Act definition of "wetlands" would include the wetland areas of Estuaries, Palustrine, and Lacustrine ecological systems defined by the Fish and Wildlife classification system.

For the purposes of the Coastal Act, an "estuary" is a coastal water body usually semi-enclosed by land, but which has open, partially obstructed, or intermittent exchange with the open ocean and in which ocean water is at least occasionally diluted by fresh water runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation.

"Open coastal water" or "coastal water" as used in the Coastal Act refers to the open ocean overlying the continental shelf and its associated coastline with extensive wave action. Salinities exceed 30 parts per thousand with little or no dilution except opposite mouths of estuaries.

⁴ While the Service's classification system uses "extreme low-water of spring tide" as the datum to distinguish between "shallow-water" and "deep-water habitat", such datum is not readily available for the California coast. Therefore, the lowest historic tide recorded on the nearest available tidal bench mark established by the U.S. National Ocean Survey should be used as the datum.

Data for such bench marks are published separately for each station in loose-leaf form by the National Ocean Survey, Tideland Water Levels, Datum and Information Branch, (C23), Riverdale, MD 20840. These compilations include the description of all bench marks at each tide station (for ready identification on the ground), and their elevations above the basic hydrographic or chart datum for the area, which is mean lower low-water on the Pacific coast. The date and length of the tidal series on which the bench mark elevations are based are also given.

4.3 Wetland/Riparian Area Distinction

For the purpose of interpreting Coastal Act policies, another important distinction is between "wetland" and "riparian habitat". While the Service's classification system includes riparian areas as a kind of wetland, the intent of the Coastal Act was to distinguish these two areas. "Riparian habitat" in the Coastal Act refers to riparian vegetation and the animal species that require or utilize these plants. The geographic extent of a riparian habitat would be the extent of the riparian vegetation. As used in the Coastal Act, "riparian habitat" would include the "wetland" areas associated with Palustrine ecological systems as defined by the Fish and Wildlife Service classification system.

Unfortunately, a complete and universally acceptable definition of riparian vegetation has not yet been developed, so determining the geographic extent of such vegetation is rather difficult. The special case of determining consistent boundaries of riparian vegetation along watercourses throughout California is particularly difficult. In Southern California, these boundaries are usually obvious; the riparian vegetation grows immediately adjacent to watercourses and only extends a short distance away from the watercourse. In Northern California, however, the boundaries are much less distinct; vegetation that occurs alongside a stream may also be found on hillsides and far away from a watercourse.

For the purposes of this guideline, riparian vegetation is defined as that association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other freshwater bodies. Riparian plant species and wetland plant species either require or tolerate a higher level of soil moisture than dryer upland vegetation, and are therefore considered hydrophytic. However, riparian vegetation may be distinguished from wetland vegetation by the different kinds of plant species. At the end of this appendix, lists are provided of some wetland hydrophytes and riparian hydrophytes. These lists are partial, but give a general indication of the representative plant species in these habitat areas and should be sufficient to generally distinguish between the two types of plant communities.

The upland limit of a riparian habitat, as with the upland limit of vegetated wetlands, is determined by the extent of vegetative cover. The upland limit of riparian habitat is where riparian hydrophytes are no longer predominant.

As with wetland, riparian habitats should be identified and mapped only after a site survey by a qualified botanist, freshwater ecologist, or soil scientist.⁵ (See pp. 6-9 of the guideline for a list of information which may be required of the applicant.)

4.4 Vernal Pools

Senate Bill No. 1699 (Wilson) was approved by the Governor on September 13, 1980 and the Bill added Section 30607.5 to the Public Resources Code to read:

30607.5: Within the City of San Diego, the commission shall not impose or adopt any requirements in conflict with the provisions of the plan for the protection of vernal pools approved and adopted by the City of San Diego on June 17, 1980, following consultation with state and federal agencies, and approved and adopted by the United States Fish and Wildlife Service.

The Commission shall adhere to Section 30607.5 of the Public Resources Code in all permit and planning matters involving vernal pools within the City of San Diego.

All vernal pools located within the City of San Diego in the coastal zone are depicted on a map attached as Exhibit 1 to a letter from Commission staff to Mr. James Gleason, City of San Diego (4/29/30). While "vernal pool" is a poorly defined regional term, all information available to the Commission suggests that all vernal pools are distinct from vernal ponds and vernal lakes, which exist in other parts of the coastal zone (e.g., Oso Flaco Lakes in San Luis Obispo County). The Commission generally considers these habitat areas to be wetlands for the purposes of the Coastal Act, and therefore all applicable sections of the Coastal Act will be applied to these areas.

4.5 Representative Plant Species in Wetlands and Riparian Habitat Areas

This is a list of "representative" species that can be expected to be found in the various habitat areas indicated. Not all of them will be found in all areas of the State, and there are numerous others that could be included. However, this test should suffice to generally distinguish between these types of plant communities.

⁵ Identification of riparian habitat areas in Northern California presents peculiar difficulties. While Southern California riparian vegetation generally occurs in a narrow band along streams and rivers, along the major rivers in Northern California it may be found in broad floodplains, abandoned river channels and the bottoms adjacent to the channels. In forested areas, the overstory of riparian vegetation may remain similar to the adjacent forest but the understory may contain a variety of plant species adapted to moist or wet substrates. For example, a salmonberry, bayberry, willow, twinberry, and lady fern, may all be more common in the understory of riparian habitat areas than in other types of forest habitats.

A. Salt Marsh

Pickleweed (*Salicornia virginica*)
Glasswort (*S. subterminales*)
Saltgrass (*Distichlis spicata*)
Cordgrass (*Spartina foliosa*)
Jaumea (*Jaumea carnosa*)
Saltwort (*Batis maritima*)
Alkali heath (*Frankenia grandifolia*)
Salt cedar (*Monanthocalce littoralis*)
Arrow grass (*Trizicocnin maritimum*)
Sea-bliza (*Suaeda californica* var *pubescens*)
Marsh rosemary (*Limonium californicum* var *mexicanum*)
Gum plant (*Grindelia stricta*)
Salt Marsh fleabane (*Plucnea purpurescens*)

B. Freshwater Marsh

Cattails (*Typha* spp.)
Bulrushes (*Scirpus* spp.)
Sedges (*Carex* spp.)
Rushes (*Juncus* spp.)
Spikerush (*Heleochois palustris*)
Pondweeds (*Potamogeton* spp.)
Smartweeds (*Polygonum* spp.)
Water Lilies (*Nupnar* spp.)
Buttercup (*Ranunculus aquatilis*)
Water-cress (*Nasturium officinale*)
Bur-reed (*Sparganium eurycarpum*)
Water parsley (*Venanthe sarmentosa*)
Naiads (Na)

C. Brackish Marsh

Alkali bulrush (*Scirpus robustus*)
Rush (*Juncus balnicus*)
Brass buttons (*Cotula coronopifolia*)
Fat-hen (*Atriplex patula* var *hastata*)
Olney's bulrush (*Scirpus olneyi*)
Common tula (*Scirpus acutus*)
Common reed (*Phragmites communis*)

D. Riparian

Willows (*Salix* spp.)
Cottonwoods (*Populus* spp.)
Red alder (*Alnus rubra*)

Box alder (*Acer negundo*)
Sycamore (*Platanus racemosa*)
Blackberry (*Rubus vitifolia*)
So. Black W alnut (*Juglans californica*) (So. Calif.)
California Bay (*Umbelularia californicum*) (So. Calif.)
Bracken fern (*Pteris aquilinum*) (Cen. Calif.)
Current (*Ribes* spp.)
Twinberry (*Lonicera involucrata*) (No. Calif.)
Lady fern (*Athyrium filix-femina*)
Salmonberry (No. Calif.)
Bayberry (No. Calif.)

E. Vernal Pools

Downingia (*Downingia* sp.)
Meadow-foxtail (*Alopecurus howellii*)
Hair Grass (*Deschampsia danthonioides*)
Quilwort (*Isoetes* sp.)
Meadow-foam (*Limnanthus* sp.)
Pogogyne (*Pogogyne* sp.)
Flowering Quilwort (*Lilaea scilloides*)
Cryptantha (*Cryptantha* sp.)
Loosestrife (*Lythrum hyssopifolium*)
Skunkweed (*Navarretia* sp.)
Burton-celery (*Eryngium* sp.)
Crouse-grass (*Orcuttia* sp.)
Water-starwort (*Callitriche* sp.)
Waterwort (*Elatine* sp.)
Woolly-heads (*Psilocarpus* sp.)
Brodiaea (*Brodiaea* sp.)
Tilaea (*Crassula aquatica*)

5. HABITAT PROTECTION GUIDELINES

5.1 Streamside Conservation Area or Riparian Corridor

Allowable uses and development within any streamside conservation area or Riparian Corridor shall be limited to uses and methods described below consistent with **Policy C-OSRC-5c(2)**.

Timber Harvest. Timber harvest operations conducted in accordance with an approved timber harvest plan.

Vegetation Removal. Vegetation removal, including as part of an integrated pest management program administered by the Sonoma County Agricultural Commissioner, necessary for continued viability of the riparian habitat.

Streamside Maintenance and Restoration. Streamside maintenance and restoration necessary for continued viability of the riparian habitat.

Fire Fuel Management. Fire fuel management where vegetation removal is limited to the minimum required for fire safety.

Habitat Alteration. Filling, grading, or dredging necessary for continued viability of the riparian habitat.

Public Recreation Facilities. Parks, public access, trails, bikeways, and other public recreational facilities dependent on the riparian resources where it can be shown there would be no long-term impacts on the viability of the riparian habitat from construction, maintenance, and public use of the facilities.

Stream and River Alteration. Limited alterations of rivers and streams, as provided in **Policy C-OSRC-5c(8)**.

Agricultural Activities. 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.

- (a) Grazing and similar agricultural activities not involving structures or agricultural cultivation, except as defined by (9) below, and conducted in accordance with water quality protection guidelines of the Sonoma County Agricultural

Commissioner, Resource Conservation Districts, or Regional Water Quality Control Boards.

- (b) Agricultural cultivation and related planting, seeding, fertilizing, weeding, irrigation, and harvesting, not including application of pesticides and herbicides, located less than 100 feet from the edge of the riparian canopy.

Development. Grading, road crossings, and utility line crossings only under one or both of the following conditions:

- (a) It can be clearly demonstrated to Permit Sonoma Planning staff through having substantial functions or values as riparian habitat; and the proposed development would not have a significant, adverse impact on the functions and values of adjacent riparian habitat.
- (b) A conservation plan is approved by County Permit Sonoma Planning staff that provides for the appropriate protection of biotic resources, water quality, flood management, bank stability, groundwater recharge, and other functions of riparian habitat.

Until the County adopts mitigation standards and procedures for specific land uses and riparian functions, prior to approval of the conservation plan, the Permit Sonoma staff shall consult with the California Department of Fish and Wildlife, appropriate Resource Conservation District, Sonoma County Agricultural Commissioner, and other pertinent resource agencies regarding adequacy of the conservation plan.

5.2 Diking, Filling, Draining, and Dredging of Coastal Waters, Wetlands, and Estuaries

Diking, filling, draining, and dredging of coastal waters, wetlands, and estuaries shall be permitted only in accordance with other applicable provisions of this Local Coastal Program, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to uses and methods described below consistent with **Policies C-OSRC-5d(5) and C-OSRC-5e(4)**.

- (a) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
- (b) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.
- (c) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings

for public recreational piers that provide public access and recreational opportunities.

- (d) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
- (e) Mineral extraction, including sand for restoring beaches, except in ESHA.
- (f) Maintenance, restoration, and enhancement of wetland function.
- (g) Nature study, aquaculture, or similar resource dependent activities.

Allowable diking, filling, draining, and dredging activities shall meet the following conditions:

- (a) Located outside of wildlife breeding habitat;
- (b) Limited to the smallest area feasible;
- (c) Utilize measures to protect water quality and remove them as soon as possible after they have served their purpose;
- (d) Result in no net loss in area and value of wetlands.

5.3 Mitigations Criteria

Where wetlands fill or development impacts are permitted in conformity with the Coastal Act and any applicable Local Coastal Plan policies, require mitigation measures to compensate for the temporal and functional loss of affected wetlands and associated habitat and shall be limited to uses and methods described below consistent with **Policy C-OSRC-5d(8)**.

Net Loss in Wetlands. No net losses shall occur in wetland acreage, functions, or values. This includes both direct impacts on wetlands and essential buffers, and consideration of potential indirect effects of development due to changes in available surface water and nonpoint source water quality degradation. Detailed review of the adequacy of a proposed mitigation plan shall be performed as part of any environmental and permit review of the proposed development project to allow for a thorough evaluation of the anticipated loss, as well as the replacement acreage, functions, and values.

Restoration in Wetlands. Restoration of degraded wetlands is generally preferred to creation of new replacement wetlands, due to the greater likelihood of success in terms of ecological function.

Mitigation Implementation. Mitigation shall be implemented prior to and/or concurrently with the project activity causing the potential adverse impact to minimize any short-term loss and modification to wetlands.

Wetland Buffer. An area of adjacent upland habitat shall be protected to provide an adequate buffer for wetland functions and values. Development shall be set back the minimum distance required under **Policy C-OSRC-5e(4)** to create this buffer.

Mitigation Sites. Mitigation sites shall be permanently protected and managed for open space and wildlife habitat purposes.

Mitigation Projects. Mitigation projects must to the extent feasible minimize the need for ongoing maintenance and operational manipulation (e.g., dredging, artificial water-level controls, etc.) to ensure long-term success. Self-sustaining projects with minimal maintenance requirements constitute the primary objective and are encouraged.

Adverse Impacts on Wetlands. All plans to minimize or mitigate adverse impacts to wetland habitats shall include provisions to monitor the success of the restoration project for at least 5 years. The measures taken to avoid adverse impacts may be modified, but not weakened, if the original plans prove unsuccessful. Performance bonds or other evidence of financial responsibility shall be required for all mitigation plans involving habitat creation or enhancement, including the cost of monitoring for at least five years post-completion, or as long as necessary to ensure success criteria are achieved.

Restored Wetland Target. Mitigation shall be commensurate with adverse impacts of the wetland alteration and consist of providing similar values and greater wetland acreage than those of the wetland area adversely affected. All restored or created wetlands shall have the same or increased habitat values as the wetland proposed to be impacted.

Such mitigation measures may not be required for temporary or short-term fill or diking; provided that a bond or other evidence of financial responsibility is provided to assure that restoration will be accomplished in the shortest period of time, not to exceed 12 months.

6. ADMINISTRATIVE WAIVER OF WETLAND (100 FOOT SETBACKS) REQUIREMENTS IN THE LOCAL COASTAL PLAN IN "RURAL COMMUNITIES" AND "URBAN SERVICE AREAS" ONLY, WHERE ROADS, TOPOGRAPHY, OTHER DEVELOPMENT EXISTS BETWEEN PROPERTY DEVELOPMENT AREA AND WETLAND

In enforcing the 100 foot setbacks from wetlands and 300-foot environmental requirement near wetlands in urban areas, the Director of the Permit and Resource Management Department may, through aerial photos, topographical maps, or other means make a determination, subject to review and approval by the Executive Director of the Coastal Commission, that development will not affect the riparian area or wetland because:

- a. Other developed lots or roads exist between the proposed development and the wetland. This standard shall be used cautiously - at the outer edge of the 300-foot limit. If there is any reasonable doubt the proposal would affect the wetlands or riparian area, an environment assessment shall be undertaken and include appropriate mitigation measures.
- b. Topography is such that it is highly unlikely that development could affect the wetland.

The policies shall not be waived outside designated "rural community" and "urban service areas" on the Coastal Plan Land Use Map.

7. REVISION OF MAPPED ENVIRONMENTALLY SENSITIVE HABITAT AREAS

If there is no obvious mapping error which can be determined from review of aerial photos, the burden of proof is on the applicant to redefine the boundaries of a mapped environmentally sensitive habitat area.

To define wetlands, the applicant shall use the California Coastal Commission Criteria for identifying and mapping wetlands and other wet environmentally sensitive habitat areas. (See Appendix E, Section 4) The California Coastal Act defines wetlands as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

Riparian areas refer only to riparian vegetation. The geographical extent of a riparian habitat would be where riparian vegetation comprises at least 50% of the ground (shade) cover. Other habitats may be defined from Coastal Plan definitions.

Small drainage ways, usually less than five feet wide, with no evidence of riparian vegetation, are not to be considered riparian corridors. Unless there is a pooled or marshy area, they are probably also not wetlands as defined by the guidelines.

Where, during the course of review of a project, Coastal staff discovers an unmapped environmentally sensitive habitat area, staff shall utilize Coastal Plan habitat definitions and coastal Commission guidelines (for wet environmentally sensitive habitat areas), to define such area. Applicable Coastal Program restrictions would then apply.

Official changes in Open Space Maps may occur when Local Coastal Plan amendments are considered.

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