



- OS 4.3 Ensure that adequate aquifer water recharge areas are preserved and protected. (AI 3, 56, 57)
- OS 4.4 Incorporate natural drainage systems into developments where appropriate and feasible. (AI 3)
- OS 4.5 Retain storm water at or near the site of generation for percolation into the groundwater to conserve it for future uses and to mitigate adjacent flooding. (AI 57)
- OS 4.6 Use natural approaches to managing streams, to the maximum extent possible, where groundwater recharge is likely to occur. (AI 57)
- OS 4.7 Offer incentives to landowners whose property is prohibited from development due to its retention as a natural ground water recharge area. These incentives shall be provided to encourage the preservation of natural water courses without creating undue hardship on the owner of properties, and might include density transfer mechanisms. (AI 9)



Floodplains are comprised of the floodway and the floodway fringe. They are the low, flat, periodically flooded lands adjacent to rivers, lakes and oceans inundated by 100-year flood.

The **floodway** is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface elevation more than one foot.

The **floodway fringe** is that portion of the floodplain between the floodway and the limits of the existing 100-year floodplain.



The County of Riverside has adopted the USGS “blue line stream” overlay as its major form of mapping the watercourses in Riverside County (see figure OS-1, the Land Use Element, and Area Plan Maps). Though this overlay is not necessarily the most accurate description of a water course or of the actual running water within the County, it is a general indicator of existing or potential moving water resources, floodways and floodplains.

Floodplain and Riparian Area Management

Floodplains are subject to geomorphic (land-shaping) and hydrologic (water flow) processes. The watercourse and its floodway are usually the focus of construction and control; while fertile, flat and “reclaimed” floodplain lands are usually the focal points for other activities such as agriculture, commerce, and residential development. These areas form a complex physical and biological system that not only supports a variety of natural resources, but also provides natural flood and erosion control. In addition, the floodplain represents a natural filtering system, with water percolating back into the ground and replenishing groundwater. When a watercourse is divorced from its floodplain with levees and other flood control facilities, then natural, built-in benefits are either lost, altered, or significantly reduced.

The conventional assumption that flooding can be completely eliminated has meant not only an unrealistic reliance on manufactured flood protection, but also the development of a flood control system that squeezes rivers into artificially narrow channels, adds steeply sloped levees (devoid of riparian vegetation), and eliminates historic floodplains, all in the name of reclamation, flood protection and urban growth. Unfortunately, this highlights the fact that floods have been viewed for far too long as everything except part of the natural life cycle of rivers and floodplains. Flooding is part of the dynamic nature of healthy rivers and ecosystems. High flows and flood waters are needed to cleanse the channels of accumulated debris, build stream banks, import gravels for aquatic life, thin riparian forests and create riparian habitat. The open space of floodplains adjacent to rivers and streams helps store and slowly release floodwaters, thus reducing flood flow and peaks and their subsequent impacts during small and frequent flood events.

Further, riparian habitat within floodplains is of great value to resident and migratory animal species, as it provides corridors and linkages to and from the biotic regions of the County. The numerous essential habitat elements provided by the remaining riparian corridors of Riverside County make them a significant



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contributor to wildlife habitat throughout the County. The intent of the County is to sustain “living” riparian habitats to the maximum extent possible.

The following set of policies address floodways, the floodplain fringe, and riparian areas in the County.



Also see the Flood and Inundation Hazard Abatement section of the Safety Element.

Policies:

- OS 5.1 Substantially alter floodways or implement other channelization only as a “last resort,” and limit the alteration to:
- that necessary for the protection of public health and safety only after all other options are exhausted;
 - essential public service projects where no other feasible construction method or alternative project location exists; or
 - projects where the primary function is improvement of fish and wildlife habitat. (AI 25, 59, 60)
- OS 5.2 If substantial modification to a floodway is proposed, design it to reduce adverse environmental effects to the maximum extent feasible, considering the following factors:
- stream scour;
 - erosion protection and sedimentation;
 - wildlife habitat and linkages;
 - groundwater recharge capability;
 - adjacent property; and
 - design (a natural effect, examples could include soft riparian bottoms and gentle bank slopes, wide and shallow floodways, minimization of visible use of concrete, and landscaping with native plants to the maximum extent possible).
- A site specific hydrologic study may be required. (AI 25, 59, 60)
- OS 5.3 Set back all developed uses, except for non-motorized trails and existing agriculture, from the floodway boundary a distance equal to 15% of the floodway width unless modified by a site-specific study that determines a more appropriate setback width due to:
- public safety;
 - erosion;
 - riparian or wetland buffer;
 - wildlife movement or MSHCP corridor or linkage; and
 - slopes. (AI 59, 60)
- OS 5.4 Consider designating floodway setbacks for greenways, trails, and recreation opportunities on a case-by-case basis. (AI 25, 59, 60)
- OS 5.5 Require new private or public developments to preserve and enhance existing native riparian habitat and prevent obstruction of natural watercourses. (AI 25, 60)
- OS 5.6 Identify and conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas. (AI 60, 61)



The term “riparian area” is defined as a wetland which occurs along a watercourse. “Upland habitat” is elevated above lowlands occurring along or within a river, stream, lake etc. Upland habitat is that which does not meet the criteria of federal-and-state jurisdictional wetlands.



- OS 5.7 Where land is prohibited from development due to its retention as natural floodways, floodplains and water courses, incentives should be available to the owner of such land including density transfer and other mechanisms as may be adopted. These incentives will be provided for the purpose of encouraging the preservation of natural water courses without creating undue hardship on property owners. (AI 60)



Wetlands are the link between water and land, or the collective term for areas between dry land and bodies of water. In wetlands, the surface of the water, called the water table, is usually at, above, or just below the land surface for enough time to restrict the growth of plants to those that are adapted to wet conditions and promote the development of soils characteristic of a wet environment. Wetlands also act as natural filters, thereby enhancing overall water quality and protecting sources of drinking water.

A **wetland buffer** is land that provides a buffer area of an appropriate size to protect the environmental and functional habitat values of the wetland, which are integrally important in supporting the full range of the wetland and adjacent biological community. In wetland buffer areas, permitted uses can include access paths, improvements necessary to protect adjacent wetlands, and all uses permitted in wetland areas.

Wetlands

Wetlands in Riverside County might typically occur in low-lying areas that receive fresh water at the edges of lakes, ponds, streams, and rivers. Wetlands provide habitat for a wide variety of plants, invertebrates, fish, and larger animals, including many rare, threatened, or endangered species. The plants and animals found in wetlands include both those that are able to live on dry land or in the water and those that can live only in a wet environment. Wetlands in Riverside County may include vernal pools, palm oases or desert washes.

Policies:

- OS 6.1 During the development review process, ensure compliance with the Clean Water Act's Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands. (AI 3)
- OS 6.2 Preserve buffer zones around wetlands where feasible. (AI 61)
- OS 6.3 Consider wetlands for use as natural water treatment areas that will result in improvement of water quality. (AI 56)

Agricultural Resources

Agriculture is given special recognition as a Foundation Component of the General Plan because of its high socioeconomic value to Riverside County. The two major conservation rationales are to maintain the viability of the agricultural industry, a critical component of the County's economy, and to preserve the resource represented by farmland—its productive soils and its secondary role as an open space amenity. Soil classifications and the Williamson Act are described below because of their importance in defining agricultural resources.

Soil Classifications

The Countywide Agricultural Resources Map (see Figure OS-2) identifies several classifications of important agricultural lands, as established by state and federal agencies. The four mapped classifications of important farmland are based on criteria for soil characteristics, climatic conditions, and water supply. The criteria include soil type, moisture content, water supply, soil temperature, acidity, salinity, depth, drainage, water table, flooding, slope, erodibility, permeability, rock content, rooting depth, growing season, crop type and value, and other economic factors. The four classifications of important farmlands shown on the Agricultural Resources Map are described as follows.