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Water Resources Element

I INTRODUCTION

I.1 PURPOSE

The primary purpose of this element is to ensure that coastal water resources are protected. Water resource management should consider the amount of quality water that can be used over the long-term without exceeding the replenishment rates over time or causing long-term declines or degradation in available surface water or groundwater resources. Water Resources is an optional element to the Sonoma County Local Coastal Plan. The Water Resources Element establishes goals, objectives, and policies to protect and sustainably manage coastal water resources. Programs needed to implement proposed policies are also identified. In addition, the Element calls out Other Initiatives—ongoing or potential future County initiatives that support public safety and promote inter-agency and community collaboration. Nothing in this Element should be construed to encourage or condone illegal use of water.

2 REGULATORY FRAMEWORK

Development and land use in the Coastal Zone has the potential to create erosion, sedimentation, and degrade surface water quality in coastal waterways, estuaries, and coastal waters. Surface water quality concerns include low levels of dissolved oxygen; elevated water temperatures; pesticide runoff, and high levels of pollutants such as coliform bacteria, ammonia, toxic metals, and residual pharmaceuticals. These watershed conditions will impact coastal waters, especially in sensitive areas such as bays, lagoons, and coastal estuaries.

Watersheds in the Coastal Zone are regulated by the North Coast Regional Water Quality Control Board (Regional Water Board). Waste discharge requirements are set by the Regional Water Board

for point sources of pollution, including industrial and commercial uses, community wastewater and storm water management systems, and individual septic systems.

California's Non-point Source Pollution Control Program (CA NPS Program) addresses federal requirements under both the Clean Water Act and the Coastal Zone Management Act (Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990), by implementing California's Coastal Nonpoint Pollution Control Program on a statewide basis. The lead State agencies responsible for implementing the CA NPS Program are the State Water Resources Control Board (designated as the lead water quality agency) and the California Coastal Commission (designated as the lead coastal zone management agency), along with the nine Regional Water Boards. The California Coastal Act also mandates protection and restoration of water resources in the Coastal Zone.

The Local Coastal Program provides water quality protection measures in accordance with Coastal Act requirements for development in the Coastal Zone, which supplement the State Board's regulations. The Local Coastal Program is the standard of review for the Coastal Act Development Permits, issued by Sonoma County, including appeals to the Coastal Commission of Coastal Development Permits issued by Sonoma County.

2.1 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

The focus of regulatory efforts has expanded in recent years to address surface runoff and pollutants entering into drainage channels, streams, and groundwater. The National Pollutant Discharge Elimination System (NPDES) program requires individual permits for construction sites that disturb more than one acre of land, and for certain industrial and commercial activities such as fish processing and boat repair yards.

2.2 TOTAL MAXIMUM DAILY LOAD PROGRAM

The other major Clean Water Act program affecting the County in the future is the Total Maximum Daily Load (TMDL) program. The Regional Water Board is required to determine which surface water bodies are impaired, assess pollutant sources, determine acceptable levels, allocate allowable pollutant loads to various sources, and establish implementation programs. Impaired water bodies are those where beneficial uses of water are limited due to certain pollutants. Water bodies in the Sonoma County Coastal Zone that have been identified as impaired are the Russian River, Gualala River and Estero Americano. Pollutants of concern typically in Sonoma County are sediment/siltation, nutrients, pathogens, and temperature but also include low dissolved oxygen, mercury, other metals, herbicides and exotic species. The listing of impaired water bodies is periodically re-evaluated by the Regional Water Board, and TMDLs are being developed by the Regional Water Board for surface waters in the Coastal Zone.

3 WATER RESOURCES AND REGULATION

3.1 WATER CYCLE

Sonoma County has a Mediterranean climate where most precipitation falls as rain during the winter; there is very little measurable precipitation during the summer. Most rainfall arrives with storms characterized as atmospheric rivers, relatively narrow atmosphere currents of air with high water vapor content. Precipitation across Sonoma County is highly variable—flatter areas near Petaluma receive an average of roughly 25 inches annually while mountainous areas in the northern Coastal Zone receive over 70 inches.

Rain may either be absorbed into soil or runoff directly into surface water (streams, rivers, lakes, etc.) that drain back to the sea. Rain that is absorbed into the soil may be retained in the soil, flow along shallow subsurface flow paths to surface waters, or infiltrate into groundwater. Groundwater moves slowly through subsurface layers to streams, lakes, and the ocean, or may be extracted through wells for irrigation or human uses. Soil water is absorbed by plants and evapotranspired.

3.2 WATERSHEDS

The term “watershed” refers to the area of land that includes a particular river or lake and all the rivers, streams, and creeks that flow into it. Most land in Sonoma County falls within the three main watersheds: Russian River, Gualala River, and San Pablo Bay. **Table C-WR-1** and **Figures C-WR-1a-c** show the areas and locations, respectively, of the watersheds and sub-watersheds of the Sonoma County Coastal Zone, which lay both inside and outside Sonoma County.

Table C-WR-1. Area of Watersheds and Sub-Watersheds of the Sonoma County Coastal Zone

<i>Watershed</i>	<i>Sub-Watershed</i>	<i>Total Area (square miles)</i>	<i>Area Within Coastal Zone (square miles)</i>
Abbotts Lagoon-Frontal Pacific Ocean	n/a	107	<1
Gualala River	n/a	299	2
Gualala River	South Fork Gualala River	44	2
Lower Russian River	n/a	148	15
Lower Russian River	Dutch Bill Creek-Russian River	55	<1
Lower Russian River	Willow Creek-Russian River	24	15
Salmon Creek-Frontal Pacific Ocean	n/a	256	52
Salmon Creek-Frontal Pacific Ocean	Bodega Harbor-Frontal Pacific Ocean	55	11
Salmon Creek-Frontal Pacific Ocean	Russian Gulch-Frontal Pacific Ocean	166	36
Salmon Creek-Frontal Pacific Ocean	Salmon Creek	35	4
Tomaes Bay-Bodega Bay	n/a	160	17
Tomaes Bay-Bodega Bay	Bodega Bay	16	1
Tomaes Bay-Bodega Bay	Bodega Harbor	9	7
Tomaes Bay-Bodega Bay	Estero Americano	38	9

Russian River Watershed

Most of central Sonoma County is part of the Russian River watershed and ultimately drains west to the Pacific Ocean. This area has moderate topography and lies in the ancient alluvial floodplain of the Russian River. Much of the suburban and urban development of Sonoma County is located inland within sub-watersheds, including Healdsburg, Windsor, Santa Rosa, Sebastopol, Rohnert Park, and Cotati. These inland sub-watersheds drain to, and have the potential to impact, coastal surface waters and groundwater.

Frontal Pacific Ocean Watershed

The Coastal Zone includes many small watersheds which are drained by stream segments that flow a short distance from the first coastal ridgeline directly to the Pacific Ocean. These individual small coastal drainage basins are collectively referred to as the Frontal Pacific Ocean watershed. Streams in these watersheds flow through areas of steep terrain and marine terraces. Coastal streams typically enter the ocean at small sandy beach inlets along steep rocky coastal bluffs.

Goals, Objectives, and Policies

GOAL C-WR-1: Protect, restore, and enhance the quality of surface and groundwater resources to meet the needs of all reasonable beneficial uses.

Objective C-WR-1.1: Protect and, where feasible, restore the quality of coastal waters (including ocean, rivers, streams, wetlands, estuaries, lakes, and groundwater).

Objective C-WR-1.2: Protect and improve water quality of impaired surface waters, prioritizing watersheds which contain surface waters that are the most impaired, have the highest value for fish and wildlife, or are at most risk from future development.

Objective C-WR-1.3: Plan, site, and design development to minimize the transport of pollutants in runoff from the development, to avoid pollution of coastal waters.

Objective C-WR-1.4: Plan, site, and design development to minimize post-development changes in the site's runoff volume, flow rate, timing, and duration, to prevent adverse changes in the hydrology of coastal waters.

Objective C-WR-1.5: Reduce the degradation of surface water quality from the failure of septic and other wastewater treatment systems.

Objective C-WR-1.6: Educate the public about practices and programs to minimize water pollution, and provide educational and technical assistance to agriculture in order to reduce sedimentation and increase on-site retention and recharge of storm water.

Objective C-WR-1.7: Secure funding sources for development of Sonoma County Coastal Zone groundwater quality assessment, monitoring, remedial and corrective action, and awareness/education programs.

Policy C-WR-1a: The approval for any project proposed within 200 feet of an impaired surface water shall include as conditions of approval design features and mitigation measures to prevent impacts to the quality of such waters. **(New)**

Policy C-WR-1b: New development and redevelopment shall include measures to minimize post-development changes in the runoff flow regime, control pollutant sources, and, where necessary, remove pollutants. Such measures shall take into account existing site characteristics that affect runoff (such as topography, drainage, vegetation, soil conditions, natural hydrologic features, and infiltration conditions). In addition, these measures should be considered early in site design planning and through alternative analysis. Such measures include, but may not be limited to the following:

- (1) Incorporate storm water management measures.
- (2) Use pollutant Source Control Best Management Practices (BMPs), which can be operational actions (during construction) or structural features (post construction) in all development to minimize the transport of pollutants in runoff from the development.
- (3) Incorporate Treatment Control BMPs to remove pollutants of concern when the combination of site design and source control BMPs are not sufficient to protect water quality, or to meet State and Federal water quality objectives.
- (4) Plan, site, and design development to maintain or enhance on-site infiltration of runoff, where appropriate and feasible. Minimize the installation of impervious surfaces, especially directly-connected impervious areas, and, where feasible, increase the area of pervious surfaces in re-development, to reduce runoff.
- (5) Plan, site, and design development to protect and, where feasible, restore natural hydrologic features such as groundwater recharge areas, natural stream corridors, floodplains, and wetlands.
- (6) Plan, site, and design development to preserve or enhance non-invasive vegetation to achieve water quality benefits such as transpiration, interception of rainfall, pollutant uptake, shading of waterways to maintain water temperature, and erosion control.
- (7) In areas adjacent to an Environmentally Sensitive Habitat Area (ESHA), plan, site, and design development to protect the ESHA from any significant disruption of habitat values resulting from the discharge of storm water or dry weather flows. **(NEW)**
(MODEL LCP)

Policy C-WR-1c: Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate. **(NEW)**

Policy C-WR-1d: Avoid construction of new storm water outfalls and direct storm water to existing facilities with appropriate treatment and filtration, where feasible. Where new outfalls cannot be avoided, plan, site, and design outfalls to minimize adverse impacts to

coastal resources from outfall discharges, including consolidation of existing and new outfalls where appropriate. (NEW) (MODEL LCP)

Policy C-WR-1e: Some developments have a greater potential for adverse impacts to water quality and hydrology due to the extent of impervious surface area, type of land use, or proximity to coastal waters or tributaries. As determined by Permit Sonoma, on a case-by-case basis, such developments may require Treatment Control Best Management Practices (BMPs) for post-construction treatment of storm water runoff. Applicants for these types of developments shall do the following:

- (1) Conduct a polluted runoff and hydrologic site characterization by a qualified licensed professional, early in the development planning and design stage, and document the expected effectiveness of the proposed BMPs.
- (2) Conduct an alternatives analysis to demonstrate that there are no appropriate and feasible alternative project designs that would substantially improve on-site runoff retention, if a proposed development will not retain on-site the runoff volume from the appropriate design storm using a Low Impact Development (LID) approach.
- (3) Use treatment control BMPs or suites of BMPs designed to treat, infiltrate, or filter the amount of storm water runoff produced by all storm events up to and including the 1st inch of a 24 hour storm event, and/or the 85th percentile, 1-hour storm event (with an appropriate safety factor of 2 or greater) for flow-based BMPs.
- (4) Use treatment control BMPs or suites of BMPs to remove pollutants from any portion of the design storm runoff volume that will not be retained on-site, or if additional pollutant removal is necessary to protect coastal waters.
- (5) Use a runoff control BMP or suites of BMPs including LID and minimization of impervious surfaces for the design storm, consistent with Regional Water Quality Control Board storm water permits or applicable State Water Resources Control Board requirements, to minimize adverse post-development changes in the runoff flow regime. (NEW) (MODEL LCP)

Policy C-WR-1f: Permits for new development shall be conditioned to require a mechanism for verification of inspection, monitoring, repair, and maintenance of Source Control and Treatment Control Best Management Practices (BMPs) as necessary so that they function properly for the economic life of the development. The condition shall specify that this requirement runs with the land, such that the burden for implementing this requirement becomes the responsibility of the new owner upon transfer of the property. (NEW) (MODEL LCP)

Policy C-WR-1g: Approvals for new development and redevelopment shall ensure water quality impacts from construction are minimized by:

- (1) Limiting the project footprint, phasing grading activities, implementing soil stabilization and pollution prevention measures, and preventing unnecessary soil compaction;
- (2) Limiting land disturbance from construction (e.g., clearing, grading, and cut-and-fill), especially in erosive areas (including steep slopes, unstable areas, and erosive soils);
- (3) Requiring soil stabilization Best Management Practices be implemented over disturbed areas as soon as feasible;
- (4) Requiring that grading plans include measures to avoid soil erosion and sedimentation of storm water to the maximum extent feasible;
- (5) Requiring as a condition of grading permit approval for all new development, regardless of the area of land to be disturbed, that soil stabilization and erosion control measures be installed in erosive areas of construction sites (e.g., steep slopes, unstable areas, and erosive soils);
- (6) Requiring treatment control BMP's adequate to avoid adverse impacts to habitat and water quality be identified and implemented for new development in or adjacent to Environmentally Sensitive Habitat Areas on sites that drain directly to surface waters, regardless of the area of land to be disturbed;
- (7) Requiring inspection of construction sites to verify implementation of approved erosion control plans and Storm Water Pollution Prevention Plans; and
- (8) Requiring BMPs be implemented for constructing, maintaining, and repairing roads and trails in County parks, including stabilizing erosion, clearing vegetation, resurfacing, and removing slide debris. (NEW) (MODEL LCP)

Policy C-WR-1h: All projects which involve construction of new storm drain inlets or maintenance of existing inlets shall be required to add a sign or stencil to each inlet with the equivalent of this language: "No dumping, drains into creek/ocean." (NEW)

Policy C-WR-1i: For new development and redevelopment projects that could affect water resources of Sonoma County's Coastal Zone, as a condition of permit approval and prior to permit issuance, require the applicant to:

- (1) Provide proof that all applicable local, state, and federal approvals related to water resources protection have been obtained. Such permits may include, but are not necessarily limited to the following:
 - a. National Pollutant Discharge Elimination System Permits (State and Regional Water Quality Control Boards)

- b. Lake and Streambed Alteration Agreement (California Department of Fish and Wildlife)
- c. Clean Water Act Section 404 Permit (U.S. Army Corps of Engineers)

(2) Submit final project designs that demonstrate incorporation of applicable regulatory requirements, resource agency conditions of permit approval, and associated best management practices related to water resources protection. (NEW)

Policy C-WR-1j: The abatement of failing septic systems that pose a risk to public health or the environment shall be actively pursued. (GP2020)

Policy C-WR-1k: Initiate a review of any sewer system when it persistently fails to meet applicable standards. If necessary to assure that such standards are met, the County may deny new development proposals or impose moratoria on building and other permits that would result in a substantial increase in demand, and may impose strict treatment and monitoring requirements. (GP2020)

Policy C-WR-1l: Ensure that agricultural operations reduce non-point source pollution through the development and implementation of California Water Resource Control Board-approved ranch plans and farm plans that demonstrate how the applicant intends to avoid, minimize, or mitigate the impact to water quality from agriculture. (GP2020)

Policy C-WR-1m: Design, construct, and maintain County buildings, roads, bridges, drainage, and other facilities to avoid or minimize sediment and other pollutants in storm water runoff. Implement Best Management Practices for their ongoing maintenance and operation. (GP2020)

3.3 GROUNDWATER RESOURCES

Groundwater Availability

The amount of groundwater in an area varies by the recharge from rainfall, the surface runoff in streams and drainage channels, and the local underground geology. The alluvial soils, sand, and gravel found in valleys generally can hold large amounts of water and thus constitute the largest aquifers in the County. Sandstone and some other sedimentary rocks can still absorb some water.

The climate of coastal Sonoma County provides abundant rainfall during the winter months, and potentially abundant groundwater recharge on an annual basis. Most of the County’s groundwater basins are centered along major creek and river valleys. However, many upland areas and the Coastal Zone are comprised of harder Franciscan rock formations that lack water storage capacity that underlie the area. The Franciscan Formation is a large area of mixed sedimentary, metamorphic, and igneous rocks. Groundwater is stored in the fractures, joints, cavities, and bedding planes of the rocks. The Franciscan Complex is generally considered to be non-water bearing; water availability largely depends on the nature of the fractures and their interconnection. Rainfall that would otherwise percolate into the aquifer simply runs off into creeks and streams and then to the ocean for lack of storage space in most of the rocks.

Chert, greenstone, and sandstone members of the Franciscan may possess water-bearing fractures that yield sufficient and occasionally abundant water in some locations. The location of water-bearing bedrock is difficult to predict, so water availability is uncertain.

Water Availability Classification

Using information on geology and water yields, the County uses a four-tier classification system to indicate general areas of groundwater availability.

Class 1	Major Groundwater Basins
Class 2	Major Natural Recharge Areas
Class 3	Marginal Groundwater Availability Areas
Class 4	Areas with Low or Highly Variable Water Yield

Sonoma County’s Coastal Zone is within the Class 4 Groundwater Availability Area, with some exceptions shown below.

Groundwater Quality

Poor groundwater quality can be the result of geologic conditions, such as the highly mineralized water extracted from the Sonoma Volcanics or brackish water from the Petaluma Formation. Some groundwater naturally contains dissolved substances that can cause health problems, depending on the concentrations and combinations of the substances present, such as arsenic, boron, selenium, mercury or radon (a gas formed by the natural breakdown of uranium in the soil).

According to the State Water Resources Control Board, groundwater is also often polluted by human activities that generate contaminants such as microorganisms, gasoline and diesel fuels, solvents, nitrates, pesticides, pharmaceuticals, and metals. The underground flow and concentration of these contaminants, as well as the intrusion of ocean saltwater into groundwater, can be influenced by the extraction of groundwater and changes in levels of groundwater and surface water.

The California Department of Water Resources (DWR) has identified the groundwater basins and subbasins in the Sonoma County Coastal Zone as follows:

Name and DWR Identifier	Size	Classification
Bodega Bay Area (DWR I-57)	2,680 acres	Class 4
Wilson Grove Formation Highlands (DWR I-59)	size unavailable	Class 2
Lower Russian River Valley (DWR I-60)	10 square miles	Class 1
Fort Ross Terrace Deposits (DWR I-61)	3.5 square miles	Class 3

Source: Department of Water Resources Bulletin 118

In addition to County mapping, the State regularly updates the maps of groundwater basins and prioritizes groundwater basins for sustainable management in the County.

Figures C-WR-2a-c shows the locations of the groundwater basins in the Coastal Zone. None of these groundwater basins are currently designated by DWR as medium- or high-priority groundwater basins.

Groundwater Depletion

Public concerns over depletion of groundwater supplies have increased as development that relies on groundwater supply has increased. The County fully participates in the California Statewide Groundwater Elevation Monitoring (CASGEM) and continues to collect data about existing groundwater levels, water quality, and water use to best inform planning decisions.

In response to reports that groundwater levels have declined in some areas, the County has initiated a long-term program to increase the available data on groundwater resources and to systematically organize and use it as development is planned and new well permits are sought. Programs are underway to assess the available groundwater in the County’s three major basins, Santa Rosa Plain, Sonoma Valley, and Petaluma Valley. In the fractured rock areas of the Coastal Zone, data from monitoring will improve our understanding of available groundwater resources. This growing body of data will produce better information for County decision makers to determine what further measures may be appropriate in order to properly manage groundwater resources.

Goals, Objectives, and Policies

GOAL C-WR-2: Manage groundwater as a valuable and limited shared resource.

Objective C-WR-2.1: Conserve, enhance, and manage groundwater resources on a sustainable basis that assures sufficient amounts of clean water required for future generations, the uses allowed by the Local Coastal Plan, and the natural environment.

Objective C-WR-2.2: Develop a scientifically based program to collect the data needed to assess and understand groundwater conditions.

Objective C-WR-2.3: Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.

Objective C-WR-2.4: Increase institutional capacity and expertise within the County to competently review hydrogeologic reports and data for critical indicators and criteria.

Policy C-WR-2a: Ensure sufficient groundwater quantity and quality for existing and proposed uses reliant upon groundwater wells through application of County standards for pump tests, well yields, pollutant levels, and water storage, particularly for higher capacity wells. (GP2020)

Policy C-WR-2b: Continue the County program to require groundwater monitoring for new or expanded commercial and industrial operations using wells. Where justified by the monitoring program, establish additional monitoring requirements for other new wells. (GP2020)

Policy C-WR-2c: Proof of groundwater with a sufficient yield and quality to support proposed uses in Class 3 and 4 Groundwater Availability Areas shall be required for discretionary permits. Test wells may be required in Class 3 Groundwater Availability Areas. Test wells or the establishment of community water systems to support new development in Class 4 Groundwater Availability Areas shall be required.

Policy C-WR-2d: Permit applications for new development that result in a net increase in groundwater use in a Class 3 and 4 Groundwater Availability Areas, or within a watershed that is designated as critical habitat for Steelhead or Coho Salmon shall be denied unless the applicant can demonstrate through a hydrogeologic report that the proposed use will not cause an adverse effect on groundwater resources of the groundwater basin, subbasin, or fractured rock aquifer. The hydrogeologic reports shall consider the following when evaluating impacts to groundwater resources: lowering of groundwater levels, reduction in groundwater storage, seawater intrusion, degradation of water quality, land subsidence, and depletion of interconnected surface water. The hydrogeologic report shall discuss if the development is consistent with an adopted groundwater sustainability plan or groundwater management plan, as applicable to the project site. The expense of such study in relation to groundwater demand of the project shall be considered in defining the scope of the study (GP2020 REVISED TO FOR CONSISTENCY WITH SGMA CRITERIA)

Policy C-WR-2e: Encourage public water suppliers to monitor and report groundwater levels, yields, and other information on groundwater conditions. (GP2020 REVISED)

3.4 WATER RIGHTS

Reasonable and Beneficial

The California Constitution requires that water be used in a reasonable and beneficial manner and prohibits misuse and waste of water. Water is used beneficially when, for example, it is used to drink, grow crops, or wash cars. What is reasonable water use depends on the circumstances. For example, it could be unreasonable to wash cars during a severe drought. All types of water rights are subject to this constitutional provision, and the State Water Resources Control Board is authorized to take action to prevent unreasonable uses of water.

Types of Water Rights

There are two principal types of surface water rights in California: riparian rights and appropriative rights. A riparian water right allows a landowner bordering a watercourse to share the water flowing past his property with other riparian landowners. An appropriative right is a use-based right dependent upon physical control and beneficial use of the water, rather than any special relationship between land and water. Since 1914, all new appropriations of surface water require a permit from the State.

Sustainable Groundwater Management Act (SGMA)

The Sustainable Groundwater Management Act of 2014 (SGMA) provides for establishment of Groundwater Sustainability Agencies in designated groundwater basins and grants these agencies new authorities to manage groundwater use, recharge, and environmental impacts. The Act requires development of sustainable groundwater management plans for groundwater basins designated by Department of Water Resources as medium- or high-priority groundwater basins. There are no medium- or high-priority basins in the Coastal Zone, but as of 2020, Sonoma County is in the process of complying with SGMA.

3.5 BIOTIC RESOURCES AND WATER

Biotic resources include vegetation, trees and other natural vegetation that depend on water, but their presence also affects the long-term quality and quantity of water resources in several ways. The natural vegetation found around wetlands, streams, and lakes benefits water quality by filtering out sediment and pollutants from stormwater runoff before it enters surface water bodies. Vegetation can also block stream flows and increase the retention of stormwater, thereby recharging groundwater, absorbing pollutants, and modifying peak flood levels. Vegetation on stream banks reduces bank erosion as a source of sediment. Trees and shrubs provide shade which can lower the temperature of the water and increase its value as fishery habitat in a warm climate. Streamside trees that fall into stream channels may aid fishery habitat by providing shelter, diverting flood flows, and scouring deep holes.

The policies in the Water Resources Element recognize the importance of natural vegetation and wildlife habitat, both as beneficial water uses whose needs must be considered but also as factors in maintaining adequate water quality and quantity. The supporting biotic resource goals, objectives, and policies are contained in the Open Space and Resource Conservation Element.

3.6 PUBLIC WATER SYSTEMS

An adequate and sustainable water supply is essential if Sonoma County is to serve projected increases in population, housing, employment, business, and agriculture. The main purpose of this section is to address what the County can do to help maintain the long-term adequacy of water supply services provided by public and private entities, given the legal limitations on the County's authority over such services.

The Sonoma Coast has about 16 water systems which fall under the regulatory authority of the SWRCB as a public water system.

The large public water systems on the coast are The Sea Ranch Water Company with 1,857 connections and the Bodega Bay Public Utilities District with 1,058 connections. The small public water systems range from the Sereno del Mar Mutual Water Company with 168 connections to the Blue Heron Restaurant with a single connection. The small public water systems supply water to a wide variety of uses such as businesses, residences, schools, and small unincorporated communities. Most are owned by mutual companies or other private entities, and a few are operated by special districts. These systems have small revenue bases and relatively high per capita costs and often have difficulty financing major capital investments needed to replace aging facilities or accommodate growth. Additional information about public water systems on the coast is provided in Public Facilities and Services Element Section 3.1 (Water Services) and **Table C-PF-1**.

All public water systems must meet and maintain water quality standards established by the Sonoma County Department of Health Services and the Regional Water Quality Control Boards. The suppliers are required to prepare and adopt wellhead protection plans that will avoid future contamination, and policies should avoid unnecessary restrictions on development associated with protecting public water wells.

In light of concerns over the future availability of water from surface and groundwater sources, water conservation, re-use, and alternative resources are increasingly important to providing adequate water supplies in the future.

Goals, Objectives, and Policies

GOAL C-WR-3: Encourage public water suppliers to provide an adequate water supply that meets long-term needs, is consistent with the adopted Local Coastal Plan and community water management plans, and maintains water resources for other water users while protecting the natural environment.

Objective C-WR-3.1: Assist public water suppliers in collecting and disseminating surface and groundwater data, assessing available water supplies, and protecting water quality.

Objective C-WR-3.2: Work with public water suppliers in developing and implementing long-term plans for water supply, storage, and delivery necessary to first meet existing water demands; and secondly to meet planned growth within the designated service areas, consistent with the sustainable yield of water resources.

Objective C-WR-3.3: Work with public water suppliers to balance reliance on groundwater and surface water to assure the sustainability of both resources.

Policy C-WR-3a: Assist public water suppliers in complying with Federal and State water quality standards by assuring that water sources used for public water systems are not contaminated by land uses or pollutants in the watershed, by supporting continued study and monitoring of water quality, and by encouraging acquisition of critical watershed areas by the water suppliers or the Sonoma County Agricultural Preservation and Open Space District. In furtherance of this initiative, work with public water suppliers in developing and implementing wellhead protection plans. (GP2020)

Policy C-WR-3b: Encourage local public agencies that are public water suppliers, including county-dependent districts, special districts, and other local public agencies, to consult with the County prior to acquiring a site or developing any well or facility for public water supplies in the unincorporated area; and require a determination of consistency with the Local Coastal Plan and supporting technical documentation for development of any such well or facility. (GP2020)

Policy C-WR-3c: Encourage the preparation of master facilities plans and urban water management plans for all public water suppliers to design and construct all facilities in accordance with sustainable yields. A master facilities plan should contain, but not be limited to the following:

- (1) Maps showing future service area boundaries;
- (2) Forecasted growth and relationship to Local Coastal Plan projections and limits;
- (3) Projected service and facility needs;
- (4) Estimated costs and revenues for needed improvements;
- (5) System design parameters and assumptions;
- (6) Monitoring and mitigation measures to assure long-term adequacy of sources, including during possible drought conditions; and
- (7) Water conservation measures.

In the event that a master plan or monitoring fails to show adequate public water facilities or supplies for planned growth, consider moratoria on plan amendments, zoning changes, building permits, or other entitlements in order to protect services to existing residents. (GP2020)

Policy C-WR-3d: Support the actions and facilities needed by public water suppliers to meet the demands estimated in adopted master facilities plans, consistent with the adopted Local Coastal Plan, community water management plans, and in a manner that protects the natural environment. (GP2020)

Policy C-WR-3e: Encourage public water suppliers to avoid or minimize significant adverse impacts on the environment resulting from water supply, storage, and transmission facilities, including impacts on other water users. (GP2020)

Policy C-WR-3f: Support cooperative inter-regional planning efforts by the public water suppliers, their contractors, and other existing water users, to consider future demand projections concurrently with the availability of sustainable water supplies. (GP2020 REVISED)

3.7 WATER CONSERVATION AND RE-USE

Water conservation has long been a practice in Sonoma County households, businesses, and agriculture. The rise of environmental consciousness in the 1970s and a prolonged drought in 1976 and 1977 led to the early efforts by some water suppliers to reduce demand. Planned re-use of treated water in the Santa Rosa Plain was initiated by the City of Santa Rosa during this same period as part of its regional wastewater system. Most of these earlier conservation efforts were not well publicized and, due to the relative abundance of fresh water sources (outside the Coastal Zone), were not thought to be significant as a water supply strategy.

In recent years, both water conservation and re-use programs have expanded considerably. As advanced treatment has become an increasingly standard practice, re-use programs are becoming even more viable. Meeting peak water demands in the future may require increased water conservation efforts and water recycling by water users in both urban and rural areas.

The Sonoma Coast has always been a water-scarce area. As described above in Section 3.2 (Groundwater), most of the County's Coastal Zone is in a Class 4 Groundwater Availability Area. Therefore, there is an even greater need in the Coastal Zone to increase the efficiency of water use and reduce demand for water by applying new water conservation and re-use technology and implementing water conservation programs.

Goals, Objectives, and Policies

GOAL C-WR-4: Increase the role of water conservation and safe, beneficial water re-use in meeting water supply needs of both urban and rural users.

Objective C-WR-4.1: Increase the use of recycled water where it meets appropriate standards of quality and quantity for the intended use.

Objective C-WR-4.2: Promote and encourage the efficient use of water by all water users.

Objective C-WR-4.3: Conserve and recognize stormwater as a valuable resource.

Policy C-WR-4a: Require stormwater and wastewater disposal methods in accordance with all applicable Federal, State, and local regulations to avoid or minimize reliance on discharges into natural waterways. Where applicable, comment on projects and environmental documents to ensure that low impact development practices and reclamation, conservation, and reuse programs are protective of surface and groundwater resources. (GP2020)

Policy C-WR-4b: Water conserving plumbing and water conserving landscaping shall be required in all new development projects. Prior to building permit issuance, the applicant shall submit to Permit Sonoma for review and approval a Water Conservation Plan for all buildings and landscaping. The Water Conservation Plan shall include all reasonably feasible measures to reduce water demand to the maximum extent feasible and enhance water resource recovery to maintain sustainable water supplies. Measures that must be evaluated include: installation of low-flow fixtures, best available conservation technologies for all

water uses, rainwater and stormwater collection systems and graywater reuse. Landscaping plans must comply with the County Water Efficient Landscape Ordinance. Verification from a qualified irrigation specialist that landscaping plan complies with the County Ordinance shall be provided. The measures in the plan shall be implemented by the applicant and verified by Permit Sonoma staff prior to Certificate of Occupancy or operation of the use.

(GP2020 REVISED)

Policy C-WR-4c: County operated water systems shall be required to minimize water loss and waste and promote programs to minimize water loss and waste by public water suppliers and their customers. (GP2020 REVISED)

Policy C-WR-4d: Encourage and support conservation for agricultural activities that increase the efficiency of water use for crop irrigation, frost protection, and livestock. (GP2020)

Policy C-WR-4e: Ensure that public wastewater disposal systems are designed to reclaim and reuse recycled water for agriculture, geothermal facilities, landscaping, parks, public facilities, wildlife enhancement, and other uses to the extent practicable, provided that the water meets the applicable water quality standards and is supplied in appropriate quantities for the intended uses. (GP2020)

Policy C-WR-4f: Encourage graywater systems, roof catchment of rainwater, and other methods of re-using water; and minimizing the need to use potable surface water or groundwater. (GP2020)

Policy CWR-4g: Encourage property owners to incorporate only native, drought-tolerant, and low water use plants to conserve water and reduce the potential for runoff and erosion. (NEW)

Policy C-WR-4h: Support programs to monitor and determine per capita or per unit water use in each community and area, and use these data in groundwater management plans, master facilities plans, and wastewater treatment plans. (GP2020)

Policy C-WR-4i: Encourage monitoring for all water use and water metering for public water suppliers that require water users to pay for costs of the amount of water used. Encourage tiering and other pricing mechanisms for public water suppliers that provide incentives for water users to employ conservation and reuse programs. Actively encourage public water suppliers to maximize water re-use and conservation prior to increasing net water use for new development. (GP2020)

Policy C-WR-4j: Promote programs for retrofitting plumbing, providing cost rebates, identifying leaks, changing landscaping, irrigating efficiently, and other methods of reducing water consumption by existing users. (GP2020)

3.8 WATER IMPORTING AND EXPORTING

For many years, Sonoma County has relied to some degree upon importation of water from sources outside of the County borders. Since 1908, water has been diverted from the Eel River watershed in Mendocino County through a hydroelectric power plant into the Russian River watershed. This water has increased dry season flows in the Russian River and supplemented water supplies for downstream users.

Goals, Objectives, and Policies

GOAL C-WR-5: Ensure that new proposals for surface and groundwater imports and exports are consistent with Sonoma County’s ability to sustain an adequate supply of high quality water for all its water users and dependent natural resources.

Objective C-WR-5.1: Protect the interests of current and future water users of Sonoma County in the review of proposals to export water from Sonoma County.

Objective C-WR-5.2: Ensure consideration of the environmental impacts of all proposed water imports and exports.

Policy C-WR-5a: Assess the environmental impacts and the impacts on current and future Sonoma County water users of any proposals to physically export water outside of Sonoma County, or to substantially increase existing out-of-County exports. Consideration of any proposal to export additional water shall prioritize benefit of and need for the water in Sonoma County, and assure that water needed by Sonoma County’s urban, rural, and agricultural water users will not be exported outside the county. (GP2020)

Policy C-WR-5b: Full assessment of the environmental impacts shall be required for any proposals to import additional water into Sonoma County. (GP2020)

Policy C-WR-5c: Where allowed by State law, require that trucked water be tracked and reported to the County. (GP2020 REVISED)

Watershed Management

Watershed management is a holistic approach to managing water resources and other watershed functions such as fish and wildlife, riparian functions, and ecological services. Watershed management allows for an integrated approach to surface water, groundwater, and water supply management taking into account effects on stream flow, groundwater levels, water quality and habitat conditions.

GOAL C-WR-6: Improve the understanding, valuation, and sound management of the water resources in the diverse watersheds of the Sonoma County coast.

Objective C-WR-6.1: Seek and secure funding for addressing water resource issues on a watershed basis.

Objective C-WR-6.2: Ensure consideration of the environmental impacts of all proposed water imports and exports.

Policy C-WR-6a: Prioritize a watershed management approach to remediating identified water related problems. (GP2020)

Policy C-WR-6b: Utilize the North Coast Integrated Coastal Watershed Management Plans for the Salmon Creek and the Russian River Watersheds where appropriate and feasible. (NEW)

4 IMPLEMENTATION PROGRAMS

4.1 WATER RESOURCES IMPLEMENTATION PROGRAMS

Program C-WR-1: Develop and provide educational, outreach, or technical assistance programs focusing on water quality to owners and managers of agricultural operations and timberlands. Inform owners and managers of agricultural lands, including vineyards, orchards, row crops, grazing, ranches, and dairies, about the Agricultural Commissioner's Best Management Practices for erosion and sediment control, including on-site retention of storm water, maintenance of natural sheetflow and drainage patterns, and avoidance of concentrated runoff, particularly on steep slopes; and for protection of streams and other surface waters from the effects of livestock grazing. (NEW)

Program C-WR-2: Develop and require compliance with standards for the siting and design of harbors, marinas, and other waterfront development, regardless of the size of the area to be disturbed. Require stormwater source control Best Management Practices to minimize polluted runoff including installation of trash receptacles with lids, posting of No Littering signs; and installation and maintenance of filters in storm drains. (NEW)

Program C-WR-3: Consider developing guidelines for development in Rural Communities that would provide for retention of the site's pre-development rate of groundwater recharge. (GP2020 REVISED)

Program C-WR-4: Initiate and support educational programs to inform residents, business and agriculture owners and operators, and other groundwater users of best management practices in the areas of efficient water use, water conservation, and increasing groundwater recharge. (GP2020)

Program C-WR-5: In cooperation with the Sonoma County Water Agency, California Department of Water Resources, other public agencies, and well owners, establish and maintain a system of voluntary monitoring of wells throughout the County, using public water system wells and private wells where available. Encourage participation in voluntary monitoring programs and, if funds are available, consider funding of well monitoring where determined necessary in order to stimulate participation. (GP2020)

Program C-WR-6: In order to assess groundwater resources, review well permit data, monitoring data and identify special study areas where additional groundwater studies are needed. In each such special study area that is approved by the Board, develop a comprehensive groundwater assessment that includes the following:

- (1) Existing system of monitoring wells and stream gauges;
- (2) Locations of water wells;
- (3) Available data on groundwater and surface water levels and contamination;
- (4) Maps and graphs that show past and present data and changes in precipitation, imports, groundwater levels, groundwater quality, rates of extraction, and the relationship of groundwater to surface water;
- (5) Drillers' logs, geologic data and monitoring data needed to estimate water yields in the area;
- (6) A water budget for the area under existing and foreseeable conditions that estimates inputs, outputs, and the total amount of water gain or loss in the area;
- (7) Consideration of the following groundwater sustainability indicators: lowering of groundwater levels, reduction in groundwater storage, seawater intrusion, degradation of water quality, land subsidence, and depletion of interconnected surface water;
- (8) Recommendations for well monitoring, data collection and reporting; and
- (9) Provisions for applicant fees and other funding of County costs.

If an assessment, as defined above, demonstrates a need for additional management actions to address existing foreseeable groundwater problems, a groundwater management plan shall be prepared. The groundwater management plan shall define groundwater sustainably for the basin, include recommendations for sustainable yield and sustainable management criteria with minimum thresholds and measurable objectives, and include recommendation for groundwater management policy necessary to achieve groundwater sustainability, pursuant to the California Water Code or the County's land use or other legal authority. Include involvement by the affected water users, well drillers, local agencies, private water companies and landowners. (GP2020)

Program C-WR-7: Work with the State Water Resources Control Board, California Department of Water Resources, California Department of Health Services, California Environmental Protection Agency, public water suppliers, and applicable County agencies to secure funding sources for developing groundwater assessment, protection, enhancement, and management programs. (GP2020)

Program C-WR-8: Develop a program to facilitate the tracking and maintenance of consistency between the adopted Local Coastal Plan, adopted groundwater sustainability plans, urban water management plans, and the master facilities plans of public water suppliers. Such a program should include meetings between Permit Sonoma and public water suppliers, Permit Sonoma review of proposed master facilities plans, and referral of Local Coastal Plan changes to all public water suppliers. (GP2020)

Program C-WR-9: Use water effectively and reduce water demand by developing programs to:

- (1) Increase water conserving design and equipment in new construction, including the use of design and technologies based on green building principles;
- (2) Educate water users on water conserving landscaping and other conservation measures;
- (3) Encourage retrofitting with water conserving devices;
- (4) Design wastewater collection systems to minimize inflow and infiltration; and
- (5) Reduce impervious surfaces to minimize runoff and increase groundwater recharge. (GP2020)

Program C-WR-10: Assess water use by County buildings and facilities and reduce water consumption to the maximum extent feasible. (GP2020)

Program C-WR-11: Consider amending County codes to increase the use of recycled water for new commercial, residential, and agricultural development. (GP2020 REVISED)

Program C-WR-12: Where a problem related to water is identified, promote and seek funding for evaluating and remediating the problem through a watershed management approach. (GP2020)

4.2 OTHER INITIATIVES

Other Initiative C-WR-1: Work with the California Coastal Commission, Regional Water Board, Sonoma County Water Agency, public water suppliers, and other interested parties to minimize polluted runoff from development, and to continue to develop and implement effective water quality plans and measures. (GP2020)

Other Initiative C-WR-2: Work with the Regional Board in development of TMDLs, TMDL Implementation Plans, water quality monitoring, and programs and projects for water quality restoration and remediation for impaired water bodies to improve water quality. (GP2020)

Other Initiative C-WR-3: Continue to cooperate with Mendocino County, the Regional Water Board, and CalFire to reduce water quality impacts of timber harvest in the Gualala River watershed. (NEW)

Other Initiative C-WR-4: Coordinate with the North Coast Regional Water Quality Control Board, California Coastal Commission, watershed focus groups, and stakeholders in collecting, evaluating, and using coastal watershed-specific water resource information. (GP2020)

Other Initiative C-WR-5: Work with the Regional Water Board and coastal communities to evaluate and monitor impacts on surface and groundwater quality caused by the operation of septic systems in existing and suspected problem areas. (NEW)

Other Initiative C-WR-6: Coordinate with the U.S. Army Corps of Engineers, NOAA Greater Farallones National Marine Sanctuary, the Regional Water Quality Control Board and the Coastal Commission to continue maintenance dredging in Bodega Bay and other areas on the Sonoma Coast in accordance with the California Coastal Act. Dispose of dredge spoils in a manner that protects habitat and water quality and in accordance with all local, state, and federal permit requirements. (NEW)

Other Initiative C-WR-7: Support the Sonoma County Water Agency with development of flood control design criteria that considers stream geomorphic analysis, and the use of biotechnical bank stabilization methods for the purpose of preventing erosion and siltation in drainage swales and streams. (GP2020)

Other Initiative C-WR-8: Work with public water suppliers in assessments of the sustainable yield of surface water, groundwater, recycled water, and conserved water, including during possible drought periods. This work should include the exploration of potentially feasible alternative water supplies. Surface and groundwater supplies must remain sustainable and not exceed sustainable yield. (GP2020)

Other Initiative C-WR-9: Request technical assistance and water resource data from public water suppliers and share available water resource information with them and the public. (GP2020)

Other Initiative C-WR-10: Help public water suppliers disseminate information on the limits of available water supplies, how the supplies can be used efficiently, the possible effects of drought conditions, acceptable levels of risk of shortage for various water users, priorities for allocation of the available water supply, conditions for use of limited supplies, and limits of alternate sources that could be used or developed. Towards this end, support water conservation and education programs which provide measurable targets for public water suppliers. (GP2020)

Other Initiative C-WR-11: Cooperate with public water suppliers in planning, developing, and constructing storage and transmission facilities needed to supply water pursuant to adopted Local Coastal Plan policies, urban water management plans, water supply agreements, master facilities plans and, where applicable, programs to mitigate identified groundwater overdraft conditions. (GP2020)

Other Initiative C-WR-12: Coordinate with the North Coast Regional Water Quality Control Board and California Department of Water Resources to promote stormwater impoundments for agricultural uses. (GP2020)

Other Initiative C-WR-13: Encourage and support research on and monitoring of local groundwater conditions, aquifer recharge, watersheds, and streams where needed to assess groundwater quantity and quality. (GP2020)

Other Initiative C-WR-14: Encourage and support comprehensive studies of long-term changes in climate and precipitation patterns in the County and region. (GP2020)

Other Initiative C-WR-16: Policy C-WR-4d: Encourage and support conservation for agricultural activities that increase the efficiency of water use for crop irrigation, frost protection, and livestock, including developing off-stream storage to reduce use of groundwater wells or direct diversions from streams during the dry season. (NEW - WAS POLICY C-WR-4D)