Water Resources Element: Table of Contents

Water Resources Element

INTRODUCTION

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. The Water Resources Element establishes goals, objectives, and policies to protect and sustainably manage coastal water resources for all beneficial uses. Programs needed to implement proposed policies are also identified. In addition, the element calls out ~~Other~~ other ~~Initiatives~~initiatives—ongoing or potential future County initiatives that support water quality efforts and promote inter-agency and community collaboration. Nothing in this element should be construed to encourage or condone illegal use of water.

RELATIONSHIP TO OTHER ELEMENTS

The Water Resources Element addresses a range of water related issues in the Sonoma County Coastal Zone. Some other water-related topics are also addressed in other Elements. Water availability as a factor in Land Use Map densities is addressed in the Land Use Element. The Open Space and Resource Conservation Element addresses riparian corridors, wetlands, wildlife protection, tree protection, fishery resources and other biotic resources, soil erosion, forestry, and mineral resources. The Public Access Element addresses ~~water oriented~~water-oriented recreation. The Public Facilities and Services Element addresses connections to public water systems. The Public Safety Element addresses flood hazards, fire suppression, and hazardous materials. The Agricultural Resources Element addresses aquaculture. ~~(CCC REVISED)~~

RELATIONSHIP TO CALIFORNIA COASTAL ACT

Section 30230 Marine resources; maintenance

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 Biological productivity; water quality

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing

adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30236 Water supply and flood control

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

Section 30411 Department of Fish & Wildlife; Fish & Game Commission; management programs; wetlands; aquaculture; coastal sites

(a) The Department of Fish and Wildlife and the Fish and Game Commission are the principal state agencies responsible for the establishment and control of wildlife and fishery management programs and the commission shall not establish or impose any controls with respect thereto that duplicate or exceed regulatory controls established by these agencies pursuant to specific statutory requirements or authorization.

(b) The Department of Fish and Wildlife, in consultation with the commission and the Department of Boating and Waterways within the Department of Parks and Recreation, may study degraded wetlands and identify those which can most feasibly be restored in conjunction with development of a boating facility as provided in subdivision (a) of Section 30233. Any such study shall include consideration of all of the following:

> (1) Whether the wetland is so severely degraded and its natural processes so substantially impaired that it is not capable of recovering and maintaining a high level of biological productivity without major restoration activities.
>
> (2) Whether a substantial portion of the degraded wetland, but in no event less than 75 percent, can be restored and maintained as a highly productive wetland in conjunction with a boating facilities project.
>
> (3) Whether restoration of the wetland's natural values, including its biological productivity and wildlife habitat features, can most feasibly be achieved and maintained in conjunction with a boating facility or whether there are other feasible ways to achieve these values.

(c) The Legislature finds and declares that salt water or brackish water aquaculture is a coastal-dependent use which should be encouraged to augment food supplies and to further the policies set forth in Chapter 4 (commencing with Section 825) of Division 1. The Department of Fish and Wildlife may identify coastal sites it determines to be appropriate for aquaculture facilities. If the department identifies these sites, it shall transmit information identifying the sites to the commission and the relevant local government agency. The commission and, where appropriate, local governments shall, consistent with the coastal planning requirements of this division, provide for as

many coastal sites identified by the Department of Fish and Wildlife for any uses that are consistent with the policies of Chapter 3 (commencing with Section 30200).

(d) Any agency of the state owning or managing land in the coastal zone for public purposes shall be an active participant in the selection of suitable sites for aquaculture facilities and shall make the land available for use in aquaculture when feasible and consistent with other policies of this division and other law.

Section 30412 State Water Resources Control Board & Regional Water Quality Control Boards

(a) In addition to Section 13142.5 of the Water Code, this section shall apply to the commission and the State Water Resources Control Board and the California regional water quality control boards.

(b) The State Water Resources Control Board and the California regional water quality control boards are the state agencies with primary responsibility for the coordination and control of water quality. The State Water Resources Control Board has primary responsibility for the administration of water rights pursuant to applicable law. The commission shall assure that proposed development and local coastal programs shall not frustrate this section. The commission shall not, except as provided in subdivision (c), modify, adopt conditions, or take any action in conflict with any determination by the State Water Resources Control Board or any California regional water quality control board in matters relating to water quality or the administration of water rights.

Except as provided in this section, nothing herein shall be interpreted in any way either as prohibiting or limiting the commission, local government, or port governing body from exercising the regulatory controls over development pursuant to this division in a manner necessary to carry out this division.

(c) Any development within the coastal zone or outside the coastal zone which provides service to any area within the coastal zone that constitutes a treatment work shall be reviewed by the commission and any permit it issues, if any, shall be determinative only with respect to the following aspects of the development:

(1) The siting and visual appearance of treatment works within the coastal zone.

(2) The geographic limits of service areas within the coastal zone which are to be served by particular treatment works and the timing of the use of capacity of treatment works for those service areas to allow for phasing of development and use of facilities consistent with this division.

(3) Development projections which determine the sizing of treatment works for providing service within the coastal zone.

The commission shall make these determinations in accordance with the policies of this division and shall make its final determination on a permit application for a treatment work prior to the final approval by the State Water Resources Control Board for the funding of such treatment works. Except as specifically provided in this subdivision, the decisions of the State Water Resources Control Board relative to the construction of treatment works shall be final and binding upon the commission.

(d) The commission shall provide or require reservations of sites for the construction of treatment works and points of discharge within the coastal zone adequate for the protection of coastal resources consistent with the provisions of this division.

(e) Nothing in this section shall require the State Water Resources Control Board to fund or certify for funding, any specific treatment works within the coastal zone or to prohibit the State Water Resources Control Board or any California regional water quality control board from requiring a higher degree of treatment at any existing treatment works.

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, wetlands, 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, agricultural runoff, 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. Sonoma County's Coastal Zone is primarily designated as a Class 4 Groundwater Availability Area; therefore, groundwater quantity and quality shall be protected. ~~(PC REVISED)~~

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.

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.

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.

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.

WATER RIGHTS

Reasonable and Beneficial Use

The Reasonable and Beneficial Use Doctrine in 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. What is reasonable water use depends on the circumstances. For example, it could be unreasonable for some water usages during a 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. ~~(CCC REVISED)~~

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~~ their 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.

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.

1. WATER RESOURCES

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.

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

Watershed	*Sub-Watershed*	*Total Area (square miles)*	*Area Within Coastal Zone (square miles)*
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

Watershed	*Sub-Watershed*	*Total Area (square miles)*	*Area Within Coastal Zone (square miles)*
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
Tomales Bay-Bodega Bay	n/a	160	17
Tomales Bay-Bodega Bay	Bodega Bay	16	1
Tomales Bay-Bodega Bay	Bodega Harbor	9	7
Tomales 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.

Gualala River Watershed

The watershed is elongated, running over 32 miles long north-south, with an average width of 14 miles east-west. A continuous history of movement along the San Andreas and Tombs Creek faults has been a dominant force in shaping the basin. In 1993, the USEPA listed the Gualala River on its federal Clean Water Act §303(d) list of impaired water bodies due to declines in anadromous salmonids from excessive sedimentation. The §303(d) listing was updated in 2003, and water temperatures in the basin are now considered impaired as well. The ~~Gualala River~~ North Coast Regional Water Quality Control Board estimates that 85% of the anthropogenic sediment sources impacting the river today are derived from poorly constructed timber and ranch roads. ~~(NEW)~~

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.

1.1 Goal, 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 to implement Coastal Act policy (in particular Sections 30230 and 30231). Coastal waters include ocean, rivers, streams, wetlands, estuaries, lakes, and groundwater.

Objective C-WR-1.2: Protect unimpaired waters 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: Prevent the degradation of surface and ground water quality from the failure of septic and other wastewater treatment systems. ~~(PC REVISED)~~

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 to increase on-site retention and recharge of storm water, to the maximum extent feasible. ~~(PC REVISED – CCC REVISED)~~

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. ~~(CCC REVISED)~~

Objective C-WR-1.8: Require treated water to conform with beneficial water use standards to the maximum extent feasible. ~~(CCC REVISED)~~

Objective C-WR-1.9: Minimize the pollution of stormwater runoff and the degradation of surface water quality from roads and other paved surfaces, commercial development, waterfront development, and agricultural facilities**.** ~~(CCC REVISED)~~

Objective C-WR-1.~~11~~10: Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas. ~~(CCC REVISED)~~

Objective C-WR-1.~~12~~11: Require consideration of naturally occurring and human caused contaminants in groundwater in development projects. Educate the public on evaluating groundwater quality. ~~(CCC REVISED)~~

Objective C-WR-1.~~14~~12: Protect groundwater from saltwater intrusion. ~~(CCC REVISED)~~

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: Require that permits and approvals for new development include evaluation and consideration of ~~naturally occurring~~naturally occurring and human caused contaminants in groundwater.

Policy C-WR-1c: 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: ~~(PC REVISED – CCC REVISED)~~

(1) Give precedence to a Low Impact Development (LID) approach to stormwater management in all development. LID integrates Site Design strategies with small-scale, distributed BMPs to replicate the site's natural hydrologic balance through infiltration, evapotranspiration, harvesting, detention, or retention of stormwater close to its source. 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.

(2) 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, and to meet State and Federal water quality objectives.

(3) 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~~directly connected impervious areas, and, where feasible, increase the area of pervious surfaces in re-development, to reduce runoff and increase recharge capacity.

(4) 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.

(5) Plan, site, and design development to preserve or enhance native vegetation. When feasible, native species should be selected to achieve water quality benefits such as transpiration, interception of rainfall, pollutant uptake, shading of waterways to maintain water temperature, and erosion control.

(6) 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-1d: Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate. ~~(NEW)~~

Policy C-WR-1e: 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 to minimize increased flow. ~~(PC REVISED – NEW)~~

Policy C-WR-1f: Developments within 200 feet of the ocean, coastal wetlands or streams, or ESHA, or discharge runoff directly to the ocean, coastal waters, or to a stream or wetland buffer as defined by the Biological Resource policies of the LCP a high potential for adverse impacts to water quality and hydrology due to proximity of the discharge relative to protected coastal resources. "Discharge runoff directly" is defined as runoff that flows from the development to the ocean, coastal waters, or to a stream or wetland buffer that is not first combined with flows from any other adjacent areas. Uses including, but not limited to, motor vehicle fuel outlets, boat yards, agricultural processing, and food service establishments, may be considered to have a high potential for adverse impacts regardless of location. ~~(CCC REVISED)~~

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, including reduction of project scope, which would substantially improve on-site runoff retention. Coastal Development Permits may be denied for projects that are inconsistent with the lowest impact alternative. ~~(PC REVISED)~~

(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 (Policy C-WR-1e (3) above), 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)~~

Policy C-WR-1g: Permits for new development shall require an inspection, monitoring, repair, and maintenance of Source Control and Treatment Control Best Management Practices (BMPs) by Permit Sonoma 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-1h: Approvals for new development and redevelopment shall ensure water quality impacts from construction are minimized through the following siting and design requirements: ~~(CCC REVISED)~~

(1) Preserve the existing hydrologic conditions, drainage system, stormwater runoff infiltration, filtration, and retention functions to the maximum extent feasible including maintaining volume and velocity of stormwater and dry weather runoff as close to existing levels as feasible.

(2) Limit the project footprint, phase grading activities, implement soil stabilization and pollution prevention measures, and avoid soil compaction~~;~~.

(3) Maximize percent cover by pervious surfaces, and minimize percent cover by impervious surfaces, especially those that are directly connected~~;~~.

(4) Maximize the use of vegetated strips of land or other techniques of increasing stormwater infiltration and filtration before reaching storm drain inlets.

(5) Limit land disturbance from construction (e.g., clearing, grading, and cut-and-fill), especially in erosive areas (including steep slopes exceeding 35 percent), unstable areas, and erosive soils);

(6) Requiring soil stabilization Best Management Practices (BMPs) be implemented over disturbed areas as soon as possible during construction.

(7) Requiring that grading plans include measures to avoid soil erosion and sedimentation of storm water to the maximum extent feasible;

(8) 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 exceeding 35 percent), unstable areas, and erosive soils);

(9) Requiring treatment control BMP's adequate 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 and 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;

(10) Requiring inspection of construction sites to verify implementation of approved erosion control plans and Storm Water Pollution Prevention Plans; and

(11) 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. Where feasible use pervious surfaces to reduce stormwater runoff. ~~(PC REVISED CCC REVISED NEW)~~

Policy C-WR-1i: 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-1j: 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-1k: Remove, repair, and/or replace failing septic systems that pose a risk to public health or have potential to pollute groundwater. ~~(GP2020)~~

Policy C-WR-1l: Prohibit new development proposals or impose moratoria on building and other permits that would result in a substantial increase in demand in areas within Bodega Bay and The Sea Ranch that are served by municipal wastewater service if the wastewater plant fails to meet standards set by the North Coast Regional Water Quality Control Board. ~~(CCC REVISED GP2020)~~

Policy C-WR-1m: 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 will avoid, minimize, or mitigate the impact to water quality from agriculture to the maximum extent feasible. ~~(GP2020)~~

Policy C-WR-1n: Design, construct, and maintain County buildings, roads, bridges, drainage, parks, marinas, parking lots, and trails to avoid or minimize sediment and other pollutants in storm water runoff. Implement Best Management Practices for their ongoing maintenance and operation. ~~(CCC REVISED GP2020)~~

1.2 Programs

Program C-WR-1-P1: 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 exceeding 35 percent; and for protection of streams and other surface waters from the effects of livestock grazing and other agricultural uses or timber operations. ~~(PC REVISED CCC REVISED NEW)~~

Program C-WR-1-P2: 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 designed to capture hydrocarbon runoff and other pollutants from roadways and parking lots. ~~(CCC REVISED NEW)~~

Program C-WR-1-P3: Create guidelines for development that would provide for retention of the site's pre-development rate of groundwater recharge. ~~(GP2020 REVISED)~~

Program C-WR-1-P4: Develop a program to facilitate tracking and maintaining 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, public water suppliers, the North Coast Regional Water Quality Control Board and the California Coastal Commission to develop the tracking plan. As part of plan development, Permit Sonoma will review all proposed master facilities plans, and develop Local Coastal Plan amendments necessary to implement both the master facilities plans and the water resource tracking plan. ~~(PC REVISED GP2020)~~

1.3 Initiatives

Initiative C-WR-1-I1: 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)~~

Initiative C-WR-1-I2: Coordinate with the North Coast Regional Water Quality Control Board and California Department of Water Resources to promote stormwater impoundments for agricultural uses. ~~(GP2020)~~

Initiative C-WR-1-I3: Seek funding for comprehensive studies of long-term changes in climate and precipitation patterns in the County and region. ~~(GP2020)~~

Initiative C-WR-1-I4: 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)~~

Initiative C-WR-1-I5: 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)~~

Initiative C-WR-1-I6: Work with the Regional Board in development of TMDL's, 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)~~

Initiative C-WR-1-I7: 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)~~

Initiative C-WR-1-I8: 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)~~

2. GROUNDWATER

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. This pattern of reliable groundwater recharge will be influenced by climate change and groundwater resources will likely be less predictable and more limited in the future.

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

Groundwater Quality

Poor groundwater quality can be the result of geologic conditions, such as the highly mineralized water extracted from Franciscan Complex Formation that underlies most of the Sonoma Coast. Some groundwater naturally contains dissolved substances that can cause health problems, depending on the concentrations and combinations of the substances present, such as arsenic, asbestos, boron, selenium, or mercury.

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, changes in levels of groundwater and sea level rise.

interconnection. The location of water-bearing bedrock is difficult to predict, so water availability is uncertain. 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. Groundwater in these areas will become increasingly brackish as ~~salt water~~saltwater intrusion increases with sea level rise. This increase will be exacerbated by increased groundwater extraction, creating exceptional challenges to sustainably increasing the capacity of existing water systems.

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. ~~(CCC REVISED)~~

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

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 1-57)	2,680 acres	Class 4
Wilson Grove Formation Highlands (DWR 1-59)	size unavailable	Class 2
Lower Russian River Valley (DWR 1-60)	10 square miles	Class 1
Fort Ross Terrace Deposits (DWR 1-61)	3.5 square miles	Class 3

Source: Department of Water Resources Bulletin 118

Except for relatively small area near Fort Ross, the Russian River, and Bodega Bay, most of the Sonoma Coast is within the Class 4 Groundwater Availability Area.

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.

2.1 Goal, 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.

Objective C-WR-2.5: Avoid additional land subsidence caused by groundwater extraction

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. Require that streamflow depletion that affect surface water quality or quantity is avoided or fully mitigated and require streamflow depletion impact analysis for projects with potential to deplete surface waters. ~~(PC REVISED – 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: 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, and associated stream levels. . 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. ~~(CCC REVISED – GP2020 REVISED TO FOR CONSISTENCY WITH SGMA CRITERIA)~~

Policy C-WR-2d: Require new or expanded public water suppliers to monitor and report groundwater levels, yields, and other information on groundwater conditions. ~~(PC REVISED – GP2020 REVISED)~~

2.~~1~~ 2 Programs

Program C-WR-2-P1: 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 or foreseeable groundwater problems, a groundwater management plan shall

be prepared. The groundwater management plan shall define groundwater sustainably for the special study area, 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 REVISED)~~

Program C-WR-2-P2: 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-2-P3: 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)~~

2. ~~1~~ 3 Initiatives

Initiative C-WR-2-~~1~~1I1: 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)~~

Initiative C-WR-2-I2: 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)~~

3. 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 State Water Resources Control Board Division of Drinking Water as a public water system.

The large public water systems on the coast are The Sea Ranch Water Company with approximately 1,900 connections and the Bodega Bay Public Utilities District with approximately 1,100 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 shall avoid unnecessary restrictions on development associated with protecting public water wells.

All public water systems in the Sonoma Coast rely on groundwater supplies near the ocean that are at risk from salinization as a result of sea level rise and less predictable recharge during the winter rainy season due to climate change. In light of uncertain 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.

3.1 Goal, 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: Require 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. ~~(CCC REVISED – GP2020)~~

Policy C-WR-3c: Require public water systems to prepare master facilities plans that contain, but are not limited to, the following items and information: ~~(CCC REVISED)~~

(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) Evaluation of the impact a 7-foot increase in sea level will have on existing and future facilities. ~~(PC REVISED)~~

(5) Production from new and future wells is sustainable and will not have an impact to local groundwater quality or quantity.

(6) Estimated costs and revenues for needed improvements.

(7) System design parameters and assumptions.

(8) Monitoring and mitigation measures to assure long-term adequacy of sources, including during possible drought conditions.

(9) Identify and prevent cumulative impacts. ~~(PC REVISED)~~

(10) Water conservation measures.

Policy C-WR-3d: If a water system master plan required by **Policy C-WR-3c** or a monitoring program fails to show adequate water supply or facility capacity for planned growth within the water system service area, connections to new development is prohibited in order to protect services to existing residents, existing beneficial uses and implement Land Use Element **Policy C-LU-4t.** ~~(PC REVISED- CCC REVISED – GP2020)~~

Policy C-WR-3e: 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 coastal resources. ~~(CCC REVISED – GP2020)~~

Policy C-WR-3f: Require 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. ~~(CCC REVISED – GP2020)~~

Policy C-WR-3g: 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.~~1~~ 2 Program

Program C-WR-3-P1: Where a problem related to a public water supply is identified, promote and seek funding for evaluating and remediating the problem through a watershed management approach. ~~(GP2020)~~

3.~~1~~ 3 Initiatives

Initiative C-WR-3-I1: Cooperate with public water suppliers in planning, developing, and constructing storage and transmission facilities needed to supply water in compliance with adopted Local Coastal Plan policies, urban water management plans, water supply agreements, sustainability goals, master facilities plans and, where applicable, programs to mitigate identified groundwater overdraft conditions. ~~(PC REVISED – GP2020)~~

Initiative C-WR-3-I2: 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 within the watershed serving the water users. Surface and groundwater supplies must remain sustainable and not exceed sustainable yield. ~~(PC REVISED – GP2020)~~

Initiative C-WR-3-I3: Request technical assistance and water resource data from public water suppliers and share available water resource information with them and the public. ~~(GP2020)~~

4. 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 Santa Rosa Subregional Long-Term Wastewater Management Plan during this same period as part of developing a regional wastewater system. Given future forecasts in changes to local precipitation patterns due to climate change, and increasing salinization of groundwater created by sea level rise, and future increased in demand, water conservation strategy research should be continued.

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 1 Groundwater Resources, 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.

4.1 Goal, 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: 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-4b: 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-4c: Require conservation of water resources for agricultural through activities that increase the efficiency of water use for crop irrigation, frost protection, and livestock. ~~(CCC REVISED – GP2020)~~

Policy C-WR-4d: 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-4e: Allow graywater systems, roof catchment of rainwater, and other methods of re-using water; and minimizing the need to use potable surface water or groundwater. ~~(CCC REVISED – GP2020)~~

Policy CWR-4f: Require property owners to incorporate only native, drought-tolerant, and low water use plants to conserve water and reduce the potential for runoff and erosion. ~~(CCC REVISED – NEW)~~

Policy C-WR-4g: 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-4h: Encourage monitoring for all water use and require 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. ~~(PC REVISED – GP2020)~~

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

Policy C-WR-4j: Require new development in the Bodega Bay Urban Service Area to maintain the site's pre-development rate of groundwater recharge, both in quantity and quality, to the maximum extent feasible. ~~(PC REVISED – CCC REVISED)~~

4.~~1~~ 2 Programs

Program C-WR-4-P1: 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-4-P2: Assess water use by County buildings and facilities and reduce water consumption to the maximum extent feasible. ~~(GP2020)~~

Program C-WR-4-P3: Develop new standards for County codes that will permit increased the use of recycled water for new commercial, residential, and agricultural development. ~~(GP2020 REVISED)~~

Program C-WR-4-P4: 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)~~

4.~~1~~ 3 Initiative

Initiative C-WR-4-I1: 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)~~

5. 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.

5.1 Goal, Objective, and Policy

GOAL C-WR-5: Improve the understanding, valuation, and sound management of the water resources in the diverse watersheds of the Sonoma County coast.

Objective C-WR-5.1: Seek and secure funding for addressing water resource issues on a watershed basis and prioritize a watershed management approach to remediating identified water related problems. ~~(GP2020 REVISED)~~

Policy C-WR-5a: Utilize the North Coast Integrated Coastal Watershed Management Plans for the Salmon Creek and the Russian River Watersheds where appropriate and feasible. ~~(NEW)~~