



WATER RESOURCES

Introduction

The primary purpose of the Water Resources Element is to ensure that Lake County's surface and groundwater resources are protected and sustained. This element contains goals, policies, and programs designed to address water resources.

Due to its critical importance, water is legally considered a public resource. An adequate and high-quality water supply is considered a basic human right, and government regulates the use and quality of water. Since water moves easily across city and county boundaries, much of the regulation is at the regional, state and federal levels. However, since cities and counties have legal authority over development and land use, they are involved in considering the adequacy of water supplies and how development affects the quantity and quality of water available for other beneficial uses.

As development continues, the long-term adequacy of groundwater and surface water resources has become a major public concern. Water-related issues include lowered groundwater levels, increased storm water runoff, sediment and pollutants in runoff, the water needs of fish and wildlife, the rates of water usage, conservation methods, water storage limitations, re-use of water and continuing changes in state and federal regulations.

In order to address these issues, more information is required regarding the various aspects of the water environment in the different areas of the County. As a result, an organized data collection and problem identification effort is a necessary step to formulate a prudent management strategy.

An example of a local community working towards the goal of water resources management is the Hidden Valley Lake Community Services District (HVLCSO), located within the Putah Creek Watershed. The District manages, monitors and reports on many of the foregoing water related items within the Coyote Valley Groundwater Basin in order to protect the quality and reliability of supply for the Hidden Valley Lake community. Since the mid 1990's HVLCSO has made monthly water level measurements of its twelve monitoring wells located throughout Coyote Valley and has contributed to the reestablishment and maintenance of the U.S.G.S. Gaging Station, (Putah Creek near Guenoc) which provides real-time streamflow data. HVLCSO has developed a groundwater model of the Coyote Valley Basin and releases supplemental water into Putah Creek for the purpose of maintaining minimum flows in the summer months to benefit downstream fishery resources. The monitoring information collected by HVLCSO is contained in its annual summary report to the State Water Resources Control Board.

Lake County encompasses roughly 1,261 square miles (807,000 acres) of varied topography. Clear Lake is the largest fresh water body of water wholly within the state of California. The County contains portions of the watersheds of the Eel River, Cache Creek and Putah creek, which are three major water courses.

Like much of California, Lake County is facing water resources and supply challenges. County residents use water for multiple purposes including urban, agricultural, environmental, and recreational needs. The General Plan accommodates reasonable new growth of all of these sectors and that in turn places increasing pressure on the water resources of the County.

Key to the viability and sustainability of those supplies is the proper management of the watersheds of the County's major water courses and their tributaries. The County incorporates water resources subject matter throughout its General Plan reflecting both the interconnectivity of the landscape to the water resources, and an objective of the County to manage its water resources in a complimentary, integrated and sustainable manner. Therefore, the reader will find goals and policies relating to watersheds and water resources integrated to various appropriate elements of the General Plan.

The Water Resources Element addresses a range of water related issues in Lake County. 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 and other biotic resources, soil erosion, forestry, and mineral resources. The Public Facilities Element addresses connections to public

water systems. The Health and Safety Element addresses flood hazards, fire suppression, and hazardous materials.

The Water Resources Element is broken into the following sections:

- Groundwater Protection (Section 11.1),
- Water Quality (Section 11.2),
- Water Resource Sustainability, (Section 11.3)
- Watershed Management (Section 11.4),
- Conservation and Reuse (Section 11.5), and
- Implementation Measures (Section 11.6).



Significant surface water resources are illustrated on Figure 11-1.

Key Terms

Aquifer. One or more geologic formations containing sufficient saturated porous and permeable material to transmit water at a rate sufficient to feed a spring or for economic extraction by a well.

Beneficial Use. The use of water for the following purposes, including but not limited to: domestic uses, irrigation use, power use, frost protection use, municipal use, mining use, industrial use, fish and wildlife preservation and enhancement use, aquaculture, recreational use, water quality use, stock watering use, or heat control use (Title 23, California Code of Regulations).

Groundwater. That portion of the water beneath the surface of the earth that can be collected with wells, or that flows naturally to the earth's surface via seeps or springs.

Groundwater Basin. A hydrologic unit of groundwater storage defined as an area more or less separate from neighboring groundwater storage areas.

Groundwater Recharge Area. The area that supplies water to an aquifer in a groundwater basin and includes multiple well head protection areas. (Water Code §10752(f))

Groundwater Transfer. The mechanical or artificial physical relocation of groundwater resources to a location outside the source groundwater basin.”

Recharge. The water added to an aquifer. Recharge can be naturally, artificially, or incidentally added to an aquifer.

Sustainable Yield. The amount of water that can be used over the long term without exceeding the replenishment rates over time or causing long term declines in available surface or groundwater resources.

Watershed. The total area above a given point on a watercourse that contributes water to the flow of the watercourse; the entire region drained by a watercourse.

Water Reuse (Recycling). Instead of discharge into a man made conveyance or natural system, the capture and reuse of water for the same use or other application. This may involve some level of treatment prior to reuse.

Water User. A person or entity whose diversion, appropriation, extraction, acquisition, storage or use of water meets all applicable legal requirements.

Water Resources Background

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 policy, and a state agency, the State Water Resources Control Board (SWRCB), is authorized to take action to prevent unreasonable uses of water.

There are two principal types of surface water rights in California, riparian rights and appropriate rights.

Riparian Water Rights

A riparian water right allows a landowner bordering a watercourse to share the water flowing past his property with other riparian landowners. Riparian rights are not defined by California statutes but have been established by common law and court decisions. Permits or other government approvals are not required to exercise riparian rights. However, a permit from the Army Corps of Engineers or some other regulatory agency, or an agreement with the California Department of Fish and Game, may be necessary to construct diversion facilities needed to exercise riparian or appropriative rights.

Riparian rights extend only to natural flow and do not apply to water imported into a stream system or water released from storage in an upstream reservoir. Riparian rights do not allow a water user to store water in a reservoir during the wet season for use during the dry season. In times of shortage, riparian rights are entitled to share the supply before any appropriators may divert water. The water from riparian rights can only be used on the riparian lands and cannot be transferred or exported for use on other properties or outside the watershed.

Figure 11-1. Water Resources

Figure 11-1, BACK

Riparian rights ordinarily cannot be lost through nonuse and generally remain with property when it changes hands. However, a riparian right may be impaired or lost if a parcel is subdivided or the land otherwise severed from its water source, if SWRCB approves a prescriptive appropriative right, or if a court approves allocation of a stream's water among users.

Appropriative Water Rights

Since 1914, all new appropriations of surface water have required a permit from the state. The permits are issued by the SWRCB and specify the amount of water that may be diverted, purposes for the water use, seasons of diversion, and the locations of diversion, storage (including underground storage) and use. An appropriative water right permit may allow the use of water at locations outside the watershed. When the State Board considers an application for a permit, it evaluates whether water is available during the requested season. The State Board also evaluates potential environmental impacts, including any impacts on the rights of the public to use the waterway for navigation, commerce, fishery, recreation, aesthetic enjoyment and the preservation of open space, ecological study areas and wildlife habitat. Based on this evaluation, the State Board decides whether or not to issue a permit and, if it issues a permit, what conditions to include in the permit.

Between 1872 and 1914, appropriators' notices could be filed voluntarily with the County Recorder in the area of the diversion. If no notice was filed, the appropriative right dated from the time the first substantial steps were taken to put water to beneficial use. According to the rules of appropriation, the right to the full future volume of water would "relate back" or have a priority date as of the time of the first substantial act toward putting the water to beneficial use, such as building a flume. If a notice was recorded, the priority of the right was the date the notice was first filed, assuming work had proceeded diligently since that time. The water rights to Clear Lake fall within this category.

Appropriative rights are limited to the amount of water that may be put to beneficial use, and a right may be lost after a period of nonuse. Appropriative water rights are based on a "first come, first served" principle; the first to take water has a superior right over later appropriators.

In times of shortage, all appropriators must stop diverting water, if necessary to satisfy riparian rights. There is no sharing of a shortage among appropriators; instead, senior appropriators are entitled to exercise their rights to satisfy all of their reasonable needs before junior appropriators may divert any water.

Water flowing in subterranean streams through known and defined channels is subject to diversion, use and regulation under riparian and appropriative rights as described above. Water is considered to be flowing in a subterranean stream through a known and definite channel if it is in contact with surface water and moving in the same direction in a relatively defined channel.

Groundwater Rights

Except for groundwater flowing in subterranean streams through known and defined channels, there is no statewide statutory regulation of groundwater in California. Landowners overlying groundwater have rights to share the groundwater under their property with other overlying landowners without obtaining a permit from any state agency. Groundwater may also be used on lands, which are not overlying, but this right is subordinate to the prior use of any overlying landowners. Surface water can be diverted or pumped into aquifers for later extraction, with SWRCB approval.

The courts have held that cities and counties may regulate groundwater use under their police powers to protect the public's health, safety and welfare. In addition to those powers, the State Water Code provides other regulatory tools including the adoption and implementation of a groundwater management plan under the Groundwater Management Act (Water Code Section 10750-10755.4; AB 3030). Several California counties have adopted groundwater regulation programs. Litigation has also resulted in court decrees regulating groundwater use in some cases. As of 2006, Lake County has adopted two groundwater management plans under AB 3030.

National Pollutant Discharge Elimination System

The National Pollution Discharge Elimination System (NPDES) was created by the Clean Water Act in 1972. The initial focus of NPDES was to clean up point discharges, such as municipal and industrial wastewater treatment plants.

The focus of regulatory efforts has expanded in recent years to address surface runoff pollutants into drainage channels, streams and groundwater. The National Pollutant Discharge Elimination System (NPDES) program requires individual permits for construction sites and certain industrial and commercial activities and requires "municipal" area wide permits for urbanized areas. Beginning in 2003, Municipal NPDES permits are required for all local jurisdictions having a population greater than 10,000. The requirements for NPDES permits include the "California Toxics Rule" and State and Federal criteria for metals, pesticides and other pollutants, which could affect aquatic life and human health.

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 RWQCBs are required to determine which water bodies are "impaired" by certain pollutants limiting beneficial uses of water and then to initiate a public process to assess pollutant sources, determine acceptable levels, allocate allowable pollutant loads to various sources, and establish an implementation program.

The Clear Lake mercury TMDL was adopted by the State in 2002, and the Clear Lake nutrient TMDL was adopted by the State in 2007.

11.1 Groundwater Protection

Goal WR-1	To provide for the current and long-range water needs of the County and for the protection of the quality and quantity of groundwater resources. [New Goal]
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Policy WR-1.1 Continued Recharge of Groundwater Basin

In known groundwater recharge areas, the predominant land use and resource activities should allow for the continued recharge of the groundwater basin and protect groundwater quality. Clustered development should be encouraged to promote open space and maintain infiltration. Regulations may include, but are not limited to, the limitation of structural coverage and impervious surfaces and prohibition of uses with the potential to discharge harmful pollutants, increase erosion, or create other impacts degrading water quality. The County will, wherever feasible, incorporate groundwater recharge strategies into land use practices, project siting and design. The use of permeable surfacing materials shall be strongly encouraged in these areas. [New Policy]

Policy WR-1.2 Sustainable Groundwater Withdrawal

The County shall manage groundwater resources within its jurisdiction through ordinances, project approvals and agreements to ensure an adequate, safe, sustainable and economically viable groundwater supply for existing and future use within the County, in order to maintain and enhance the natural environment, protect existing groundwater users, the overall economy of the County, and groundwater and surface water quality and quantity in a manner consistent with existing law and with a doctrine of safe yield within the groundwater basins of the County. [New Policy]

Policy WR-1.3 Groundwater Monitoring

The County shall develop and maintain a program of groundwater monitoring which gathers data on the behavior of groundwater source areas and basins twice yearly, in September and May. Additionally, the County shall identify and monitor potential sources of groundwater pollution. The County shall encourage active participation by local stakeholders and develop groundwater monitoring partnerships with local groundwater users. Prior to developing groundwater monitoring programs, the County shall consult with public agency water providers that have established water management programs to incorporate any monitoring data collected by those providers. [New Policy]

Policy WR-1.4 Collection of Additional Groundwater Information

The County shall support additional studies focused on furthering the understanding of individual groundwater source areas and basins. Groundwater basins with limited or no information available include the following:

- Gravelly Valley Basin
- Upper Lake Basin
- Scotts Valley Basin
- Big Valley Basin
- High Valley Basin
- Burns Valley Basin
- Collayomi Valley Basin
- Lower Lake Basin
- Long Valley Basin
- Clear Lake Cache Formation Basin
- Middle Creek Basin
- Clear Lake Volcanic Groundwater Source Area

[New Policy]

Policy WR-1.5 Groundwater Management Plan

The County shall implement and update, as needed its groundwater management plan to protect local aquifers. [New Policy]

Policy WR -1.6 Groundwater Export

The groundwater resources of the County supply significant urban populations as well as nearly all actively managed agricultural lands. This resource is therefore of significance to the maintenance of the County's agricultural economy, the environmental benefits associated with those agricultural activities and a growing urban population. Therefore, the County will actively manage groundwater resources with a specific objective of limiting the exportation of groundwater outside its originating basin through the application of its ordinances and police powers. [New Policy]

Policy WR-1.7 Stream Management

Primary groundwater recharge in the County is from stream channels and coarse sediment deposits near the edges of the valley floors. The County will therefore work to manage stream systems and their watersheds in a sustainable manner, which maintains critical groundwater recharge functions. [New Policy]

11.2 Water Quality

Goal WR-2

To protect the quality of surface and groundwater resources to meet the needs of all beneficial users. [New Goal]

Policy WR-2.1 Protect Surface & Ground Water Quality

All proposed land use and development plans should be evaluated as to their potential to create surface and groundwater contamination hazards from point and non-point sources. Effects include, but are not limited to: soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products, or wastes; floating debris by runoff from the site. [Revised Existing Water Resources Policy 1.3]

Policy WR-2.2 NPDES Enforcement

The County shall continue to monitor and enforce provisions to control non-point source water pollution contained in the United States Environmental Protection Agency NPDES program. [New Policy]

Policy WR-2.3 Construction Site Sediment Control

The County shall continue to enforce provisions to control erosion and sediment from construction sites. [New Policy]

Policy WR-2.4 Best Management Practices

The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect surface water and groundwater from the adverse effects of construction activities and urban runoff. [New Policy]

Policy WR-2.5 Storm Water Runoff

The County shall ensure the design of facilities and management of storm water runoff in a safe and environmentally sustainable manner. This will be accomplished through the proper siting, design and operation and maintenance of storm drainage collection and drainage facilities so as to protect the people, property and environment including the quality of runoff water and receiving water. [New Policy]

Policy WR-2.5 TMDL Implementation

The County shall evaluate land use and development plans for their potential to cause an exceedance of the municipal waste load allocation for any TMDL under implementation, and to the maximum extent possible shall ensure that projects do not cause or contribute to water quality impairment. [New Policy]

11.3 Water Resource Sustainability

Goal WR-3	To provide a sustainable, affordable, long-term supply of water resources to meet existing and future domestic, agricultural industrial, environmental and recreational needs within the County, so as to maintain sustainability between new development and available water supplies. [New Goal]
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Policy WR-3.1 Critical Water Resources Areas

The County shall take appropriate measures in the issuance of discretionary entitlements, and in the application of zoning districts to protect identified Critical Water Supply Areas. Those areas may include, but are not limited to: water supply storage and collection facilities, groundwater recharge areas, key watersheds and other areas possessing a significant role in the sustainable management of the County’s water resources. [New Policy]

Policy WR-3.2 Adequate Water Availability

The County shall review new development proposals to ensure the intensity and timing of growth will be consistent with the availability of adequate water supplies. Projects must provide evidence of water availability prior breaking ground for construction. [New Policy]

Policy WR-3.3 Collection of Additional Surface Water Information

The County shall support the collection of water quality and flow information for the County’s three major drainages: the Eel River drainage, the Putah Creek drainage, and the Cache Creek drainage. The County shall encourage participation by local stakeholders in establishing and funding gauging stations to monitor surface water flows. [New Policy]

Policy WR-3.4 Major Drainage Management

Based on the collection of additional information and analysis, the County should develop management policies for each individual drainage basin within the County based on the basin’s unique hydrologic and use characteristics. The County shall incorporate monitoring data collected and provided by public agency water providers when developing management policies for individual drainage basins. The County shall not impose management policies for public agency water providers that have established water management programs, when such programs are consistent with the General Plan. [New Policy]

11.4 Watershed Management

Goal WR-4	To manage the water resources in Lake County's diverse watersheds and develop new sources of surface water and enhance groundwater recharge. [New Goal]
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Policy WR-4.1 Watersheds

The County shall support and attempt to obtain funding for locally based watershed programs, planning efforts and projects located within the County. Where possible and practicable, watershed efforts shall be coordinated with other local planning and implementation programs. [New Policy]

Policy WR-4.2 Additional Water Supplies

The County, working cooperatively with other local, state and federal agencies as well as developers, shall attempt to provide for the development of additional water supplies through any feasible means. These may include, but are not limited to; the expansion of existing water supply facilities, the promotion of water conservation programs, the re-operation of existing water supply facilities, the active implementation of locally or regionally cost effective water resources, the active management of the County's groundwater basins and the development of other feasible methods. [New Policy]

Policy WR-4.3 Use of Storm water runoff

The County will incorporate, through approval, design and siting, actions to more efficiently use storm water runoff in a manner that supports the County's existing watersheds and streams, which serve a critical groundwater recharge function. [New Policy]

Policy WR-4.4 Joint Water Project with Yolo County

The County will attempt to facilitate exploration and discussions between the County, Lake County water management agencies, the Yolo County water management agencies and other appropriate participants. The discussions will examine water resources utilization throughout the Planning Area to determine if there are opportunities for mutually beneficial projects, or management strategies to increase water supply for reasonable and beneficial use. [Revised Existing Water Resources Policy]

Policy WR-4.5 Water Resource Planning

The County shall continue to participate in all appropriate state, regional and local water resources planning efforts, which may be beneficial to the people, environment or economy of the County. The County should also work towards the development of an Integrated Regional Water Management Plan, which includes both surface and groundwater resources, as well as the man made and natural infrastructure. That plan should include a comprehensive groundwater management plan as well as a surface water strategy and a process to track existing water quality, pricing, supply, sustainability and flows in cooperation with the agencies and organizations that share water management responsibilities within the County. This work

should be carried out in a supporting role for the County General Plan as well as local and regional watershed programs. [New Policy]

Policy WR-4.6 *Establish Critical Water Supply Areas*

The County shall establish Critical Water Supply Areas to include the specific areas used by a municipality or community for its water supply system, areas critical to groundwater recharge, and other areas possessing a vital role in the management of the County’s water resources. [New Policy]

Policy WR 4.7 *Policy Impacts to Water Resources*

The County shall monitor actions taken at the federal and State level, which impact water resources in order to evaluate the effects of these actions on the County’s resources. [New Policy]

11.5 Conservation and Reuse

Goal WR-5	Encourage efficient use of water for new and existing land uses. [New Goal]
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Policy WR-5.1 *Water Use Efficiency for New and Existing Development*

The County shall encourage the use of water conservation techniques appropriate for new and existing development. Such techniques include, but are not limited to; requiring low flow fixtures on new construction, the use of high efficiency irrigation systems, use of gray-water for landscaping, the integration of storm water runoff into passive groundwater recharge, the use when feasible of reclaimed water resources for reasonable and beneficial use and the use of drought-tolerant vegetation. [New Policy]

Policy WR-5.2 *Water Use Efficiency for Agricultural Uses*

The County shall encourage the use of agricultural and forest resources management practices that result in the efficient use of water resources. Those practices include but are not limited to; drip and micro drip irrigation systems and appropriate forest thinning. The County will also encourage agricultural and forest resource operators/managers to participate in watershed management and restoration efforts. [New Policy]

Policy WR-5.3 *Efficient Use of Water Supplies*

The County shall promote efficient use of surface and groundwater resources to maintain a supply for all reasonable and beneficial uses within the County that is affordable and reasonable to the type of use of the water supply, and shall take appropriate measures to discourage unreasonable use and waste in the issuance of discretionary entitlements. [New Policy]

Policy WR-5.4 *Water-Conserving Appliances*

The County shall require the use of water-conserving appliances and fixtures in all new development, as mandated by State law (California Health and Safety Code, Section 17921.3; Title 20, California Code of Regulations, Section 1601(b); and other applicable sections of Title 24 of the California Code of

regulations). In addition, the County shall encourage the retrofitting of existing development with water-conserving devices. [New Policy]

Policy WR-5.5 Use of Water Tolerant Landscaping and Irrigation

The County should encourage the use of low water consuming, drought tolerant landscaping and water-conserving agricultural irrigation as means of reducing water demand. Additionally, the County should develop a model for efficient water use for its own operations within and around its buildings. [New Policy]

Policy WR-5.6 Educational Programs

The County shall encourage the development of educational programs both by water purveyors and public agencies to increase public awareness of water conservation opportunities and the potential benefits of implementing conservation measures and programs. [New Policy]

Policy WR-5.7 Reclaimed Wastewater

The County shall take appropriate measures in the issuance of discretionary entitlements and the application of Zoning districts to seek out opportunities to expand the utilization of reclaimed wastewater (tertiary treated and secondary treated) for other reasonable and beneficial uses. Those uses include, but are not limited to: groundwater recharge, irrigation of agricultural lands, irrigation of landscaped areas, geothermal recharge, and environmental restoration and enhancement projects. [New Policy]

Policy WR-5.8 Expand Use of Reclaimed Wastewater

To augment groundwater supplies and to conserve potable water for domestic purposes, the County should seek opportunities to expand the use of reclaimed wastewater for all beneficial uses. [Revised Water Resources Policy 2.2]

11.6 Implementation Measures

Table 11-1, Water Resources Implementation Measures, identifies the implementation measures the County should take to implement the goals and policies of this element. The table lists each specific implementation measure, a reference to which General Plan policy it is implementing, who is responsible to implement the program, and the timeframe for implementation.

Table 11-1. Water Resources Implementation Measures

Implementation Measure	Policy	Who is Responsible	Timeframe				
			2008-2012	2013-2017	2018-2022	2023-2028	On-going
1.0 Designate known groundwater recharge areas for limited density and apply cluster development policies to new development proposals via application of “PDR” and “PDC” zoning districts.	WR-1.1 WR-1.2	Water Resources Division					■
2.0 The County shall prepare a groundwater management plan to ensure that the groundwater resources of the County are protected used and managed in a sustainable manner. The plan would support the Integrated Regional Water Management Plan and include an inventory of groundwater resources in the County and a management strategy to maintain the resource for the reasonable and beneficial use of the people and agencies of the County. [New Program]	WR-1.1	Water Resources Division, Board of Supervisors	■				
3.0 The County shall develop a review process for all proposed land use and development that will evaluate the potential for those uses and developments to create surface and/or groundwater quality degradation. Water quality impacts could come from point and non-point sources. The County shall coordinate this review process with other appropriate agencies where feasible to assure a comprehensive review. Impacts to water quality include but may not be limited to: soil erosion, discharge of potentially harmful substances, ground leaching from the storage of raw materials, petroleum products or wastes, floating debris and runoff from a site. When completed the review process should result in any necessary changes to land uses and development so as to reduce impacts to a non-significant level and where feasible to improve water quality. [New Program]	WR-1.1	Community Development Department, Water Resources Division					■
4.0 The County shall manage the groundwater resources within its jurisdiction through ordinances, agreements and discretionary entitlements to ensure that the groundwater resources of the County are utilized in a manner which maintains the sustained yield of the groundwater basins and avoids significant environmental damage. The sustained yield should reflect the need for future development within the County, the existing groundwater uses, the environment and natural infrastructure requirements, as well as maintenance of affordability and groundwater quality. The potential export of groundwater resources out of the groundwater basin, or as a substitute for surface water resources, will be regulated so as to achieve General Plan consistency. [New Program]	WR-1.2	Board of Supervisors, Water Resources Division, Community Development Department					■

Implementation Measure	Policy	Who is Responsible	Timeframe				
			2008-2012	2013-2017	2018-2022	2023-2028	On-going
5.0 The County shall promote and recognize local management of groundwater basins by public agency water providers that have established water management programs, when such programs are consistent with the General Plan. The County shall promote active participation by local stakeholders and develop groundwater management partnerships with local groundwater users. Prior to developing groundwater monitoring programs, the County shall consult with public agency water providers that have established water monitoring programs to incorporate any monitoring data collected by those providers. [New Program]	WR-1.2 WR-1.3	Board of Supervisors, Water Resources Division,					■
6.0 The County shall evaluate and quantify long-term groundwater recharge capabilities as a method to sustain groundwater resources. [New Program]	WR-1.3	Water Resources Division					■
7.0 The County shall continue to participate in all appropriate state, regional and local water resources planning efforts, which may be beneficial to the people, environment or economy of the County. The County will also work towards the development of an Integrated Regional Water Management Plan for the County, which includes both surface and groundwater resources, as well as the man made and natural infrastructure. That plan should include a comprehensive groundwater management plan as well as a surface water strategy and a process to track existing water quality, pricing, supply, sustainability and flows in cooperation with the agencies and organizations that share water management responsibilities within the County. Other interested parties such as land owners, the general public, business interests, tribal interests, Yolo County and non-governmental organizations within the Planning Area will be asked to participate in this planning program. This work shall be carried out in a supporting role for the County General Plan as well as local and regional watershed programs. [New Program]	WR-1.3 WR-1.4	Planning Commission, Board of Supervisors, Water Resources Division, Special Districts, Water Purveyors					■
8.0 The County will work with willing landowners and local agencies to improve the monitoring and reporting of local well depths, yield and water quality changes due to any draw-down. The County will attempt to seek funding to implement this action. [New Program]	WR-1.3 WR-1.4	Water Resources Division, Environmental Health Division, Community Development Department					■

Implementation Measure	Policy	Who is Responsible	Timeframe				
			2008-2012	2013-2017	2018-2022	2023-2028	On-going
9.0 The County shall inventory, map and otherwise identify groundwater recharge areas of significance as resources become available. Those areas shall have design standards that employ various methods including siting and design to allow for the continued recharge of groundwater. These standards may include, but not be limited to; clustered development, density limitations, minimizing impervious surfaces, storm water capture and recharge utilization, the maintenance of natural watershed functions and reclamation of water resources. [New Program]	WR-1.4 WR-1.5	Water Resources Division					■
10.0 Determine the feasibility for the installation and monitoring of additional groundwater monitoring wells in areas of increasing groundwater demand or where data gaps exist. [New Program]	WR-1.5	Water Resources Division, Board of Supervisors					■
11.0 The County shall seek funding sources to support the development of an Integrated Regional Water Management Plan for the County. Development of the Plan should be carried out cooperatively with other appropriate state, local and regional agencies as well as other interested parties such as landowners, the general public, business interests, tribal interests and non-governmental organizations. [New Program]	WR-1.6 WR-4.5	Water Resources Division, Special Districts					■
12.0 The Integrated Regional Water Management Plan will inventory the location, quantity and quality of existing surface and groundwater resources; evaluate potential new supplies in terms of cost, firm yield, sustainability, and environmental constraints; identify inconsistencies between projected development rates and future water supply availability and costs and provide the institutional and financial mechanisms for future development and management of the County's water resources. [New Program]	WR-1.6 WR-4.5	Water Resources Division, Special Districts					■
13.0 The County will evaluate land use and development projects for their potential to cause changes to drainage patterns and/or morphologic changes to stream channels that could lead to increased surfacing of groundwater. Project modification(s) will be proposed, if necessary, to minimize adverse impacts to groundwater. [New Program]	WR-1.7	Board of Supervisors, Community Development Department					■

	Implementation Measure	Policy	Who is Responsible	Timeframe				
				2008-2012	2013-2017	2018-2022	2023-2028	On-going
14.0	<p>The County shall work with industrial developments and incorporate the following provisions into County ordinances and development policies:</p> <ul style="list-style-type: none"> ▪ Monitor industries that may directly or indirectly discharge pollutants to surface waters or critical groundwater basins for compliance with existing regulations; ▪ Work with industries to reduce direct-source pollution into surface waters and groundwater. ▪ Review new industrial developments to determine the appropriate mechanisms to reduce wastewater discharge. <p>These mechanisms may include onsite treatment prior to discharge of materials. [New Program]</p>	WR-2.1	Community Development Department					■
15.0	<p>The County shall work with state and local agencies as well as landowners, non governmental organizations and developers to identify methods to minimize impacts to water quality within the County. This effort shall include the promulgation of siting and design standards, which could accommodate development, but in such a fashion that water quality is enhanced when possible in a cost-effective manner. These standards should also consider the potential to improve the condition and trend of the watersheds and groundwater basins of the county. [New Program]</p>	WR-2.1	Community Development Department Water Resources Division Planning Commission Board of Supervisors					■
16.0	<p>Amend County ordinances to include development standards which protect groundwater basins and surface water drainage areas. The County shall incorporate monitoring data collected and provided by public agency water providers when developing management policies for individual drainage basins. The County shall not impose management policies for public agency water providers that have established water management programs, when such programs are consistent with the General Plan. [New Program]</p>	WR-2.1 WR-3.4	Community Development Department, Board of Supervisors Planning Commission		■			
17.0	<p>The County shall support efforts to evaluate the potential for existing and future septic systems to cause or contribute to water quality impairment in groundwater and/or surface waters.</p>	WR-2.1	Community Development Department, Water Resources Division, Special Districts					■

Implementation Measure	Policy	Who is Responsible	Timeframe				
			2008-2012	2013-2017	2018-2022	2023-2028	On-going
18.0 The County shall review existing CEQA Guidelines and establish appropriate thresholds of significance to be considered when acting as lead agency in evaluating projects for potential impacts to water quality.	WR-2.1 WR-2.2 WR-2.3 WR-2.4	Community Development Department					■
19.0 The County shall reduce or eliminate any illicit discharges to the stormwater conveyance system through a program including inspections, education, and coordination with existing programs and other agencies.	WR-2.2	Community Development Department, Water Resources Division, Special Districts					■
20.0 The County shall review existing procedures for reviewing construction site plans, and revise them where necessary; develop a training program for site inspectors and plan review staff; and develop a training program for construction site operators to ensure that appropriate construction and post-construction best management practices are implemented.	WR-2.2 WR-2.3 WR-2.4	Community Development Department, Water Resources Division, Special Districts					■
21.0 The County shall, through application of its Grading Ordinance and Stormwater Ordinance, review development proposals to ensure that erosion control measures are utilized during construction and post construction. Developers shall be educated as to appropriate erosion control measures through the Pre-application Development Review process, use permit and subdivision process, and through permit plan review and ongoing inspections. Site drainage information shall be required for all permit applications for new homes and substantial additions.	WR-2.3 WR-2.5	Community Development Department, Board of Supervisors Planning Commission					■
22.0 The County shall identify and map Critical Water Resources Areas in collaboration with other local agencies and appropriate state agencies as resources become available. Those areas include but are not limited to: water supply storage and collection facilities, groundwater recharge areas, key watersheds and other areas possessing a significant role in the sustainable management of the County’s water resources. The County will then develop appropriate means to protect the water resources values of those areas through a combination of zoning and other regulatory means. Prior to developing measures to protect water resources values, the County shall consult with public agency water providers that have established water management policies and/or ordinances, when such policies or ordinances are consistent with the General Plan. [New Program]	WR-3.1	Water Resources Division, Special Districts, Community Development Department		■			

Implementation Measure	Policy	Who is Responsible	Timeframe				
			2008-2012	2013-2017	2018-2022	2023-2028	On-going
23.0 The County shall attempt to inventory watersheds that drain into Clear Lake and identify those which carry high levels of pollutants and those, which have high sediment yield. The watersheds with the greatest amounts of pollutants or sediment yield will be prioritized for restoration and management. The County shall attempt to secure funding sources including local, state and federal, to implement these actions. [New Program]	WR-4.1 WR-4.5	Water Resources Division					■
24.0 The County shall utilize any reasonable and feasible means to develop additional water supplies within the County for reasonable and beneficial uses within the County. The County will examine a full range of methods ranging from increased water use efficiency measures for water uses within the County to the physical development of new water sources. The County will work with state and local agencies and other interest parties to develop a series of strategies as part of an Integrated Water Resources Management Plan. [New Program]	WR-4.2	Board of Supervisors					■
25.0 The County shall participate in all appropriate venues, which hold a reasonable potential for additional water resource supplies for reasonable and beneficial uses within the County. These venues may include collaborative processes, administrative and regulatory processes, legislative processes and judicial proceedings. [New Program]	WR-4.5	Board of Supervisors					■
26.0 The County shall develop necessary criteria for evaluation of new development proposals to most efficiently use water resources in new developments. The criteria shall address low flow fixtures on new construction, the use of high efficiency irrigation systems, the integration of storm water runoff into passive groundwater recharge, the use when feasible of reclaimed water resources for reasonable and beneficial use and the use of vegetation types which use less water. The County will work in cooperation with local water agencies in the development of these criteria. [New Program]	WR-5.1	Community Development Department, Water Resources Division, Special Districts					■
27.0 The County will seek funds for and then develop educational materials describing agricultural and forest resources management practices that more efficiently use water resources. These materials will include suggestions ranging from irrigation systems to forest thinning programs. Where possible these educational processes will be carried out as part of a local cooperative watershed program. [New Program]	WR-5.2	Community Development Department, Agricultural Department, CDF					■

Implementation Measure	Policy	Who is Responsible	Timeframe				
			2008-2012	2013-2017	2018-2022	2023-2028	On-going
28.0 The County shall develop and Emergency Water Conservation Plan.[New Program]	WR-5.3	Board of Supervisors, Community Development Department		■			
29.0 The County shall attempt to find funding sources to assist in the development of water management strategies which maintain the affordability of water supplies for all reasonable and beneficial uses within the County. The County shall also determine if other development, resource management or innovative methods can be implemented to maintain affordable water supplies within the County. The County will work with state and local agencies as well as other interested parties and non-governmental organizations to achieve this objective. [New Program]	WR-5.3	Board of Supervisors, Water Resources Division					■
30.0 The County shall work with state and local agencies as well as other interested parties to identify methods to increase the efficient use of surface water resources within the County. The efficiency measures should include agricultural, municipal and environmental uses of surface water resources. The County shall attempt to secure funding sources to implement those measures so as to maintain the relative affordability of water resources for reasonable and beneficial uses. [New Program]	WR-5.3	Board of Supervisors, Agricultural Department, Community Development Department					■
31.0 The County shall develop and implement a water conserving landscape ordinance, which requires the use of natural and drought resistant planting materials and efficient irrigation systems in new development. [New Program]	WR-5.5	Board of Supervisors, Community Development Department	■				
32.0 The County shall develop an education program to inform residents of water conservation techniques and the importance of water quality and adequate water supplies. Programs may include informational flyers, community workshops, technology transfer fairs, and other various means of education and information dissemination. [New Program]	WR-5.6	Board of Supervisors, Community Development Department		■			
33.0 The County shall work with state and local agencies to develop methods to implement the use of reclaimed wastewater for reasonable and beneficial use within the County. The County will include the consideration of wastewater treatment and reclamation in its criteria for development review. The County shall actively seek funding sources to further advance this effort. [New Program]	WR-5.7 WR-5.8	Board of Supervisors Special Districts Water Resources Division Community Development Department					■

Implementation Measure		Policy	Who is Responsible	Timeframe				
				2008-2012	2013-2017	2018-2022	2023-2028	On-going
34.0	The County shall implement the recommendations for the recycling of wastewater as addressed in the Clear Lake Basin 2000 Master Plan. [New Program]	WR-5.7 WR-5.8	Special Districts, Agricultural Department, Community Development Department.		■			

Please see the next page.