

Chapter 13. Water Resources Element

13.1 Introduction

Purpose

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 the use and quality of water have long been regulated by government. Water-related issues include lowered groundwater levels, increased storm water runoff, sediment and pollutants in runoff, water diversions, the water needs of fish and wildlife, the rates of water usage, conservation methods, water storage limitations, the growing re-use of water and continuing changes in state and federal regulations.

The primary purpose of this element is to ensure that the County's water resources are sustained and protected. To achieve this purpose, water resource management will be addressed in an integrated manner throughout all jurisdictions in the County and be on a sustainable yield and quality protection basis. This basis will 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.

13.2 Background

Relationship to Other Elements

The Water Resources Element addresses a range of water related issues in Humboldt County. Some other water-related topics are also addressed in other elements. Water availability as a factor in land use plan map densities is addressed in the Land Use Element. The Conservation and Open Space Elements addresses riparian corridors, wetlands, wildlife protection, fishery resources, other biotic resources, water-oriented recreation, and soil erosion. The Community Infrastructure and Services Element addresses connections to public water systems. The Water Resources Element has been developed to be consistent with other elements.

13.3 Goals and Policies

Surface Waters

Goal

WR -G1: Protect, restore and enhance the quality of surface resources to meet the needs of all beneficial uses.

Policies

- WR-P1.** Ensure that land use decisions are consistent with the long term value of water resources in Humboldt County.*
- WR-P2.** Regulate development that would pollute watershed areas. *
- WR-P3.** Ensure that the intensity and timing of new development will be consistent with the capacity of water supplies.*
- WR-P4.** Existing water uses shall be considered during the review for new water uses.*
- WR-P5.** Projects must provide evidence of water availability prior to recordation of map.*
- WR-P6.** Continue participation in all state, regional or local water resource planning efforts effecting surface run-off or groundwater supplies.*
- WR-P7.** Encourage further investigation on the County's water resources by federal and state water resource agencies.*
- WR-P8.** The development of environmentally sound small hydroelectric projects on publicly and privately owned lands in Humboldt County is generally encouraged. The County should only examine small hydroelectric project proposals for impacts not reviewed by other agencies and for overall consistency with the intent of the General Plan.*
- WR-P9.** Resist accepting administrative responsibility for regulatory programs required of State or Federal agencies unless a State or Federal subvention will compensate the County for costs associated with such shift in administrative responsibility.
- WR-P10.** Projects requiring a grading permit shall have an erosion control program approved, where necessary. Projects shall be reviewed in an effort to avoid erosion and sedimentation, and minimize soil erosion and discharge of sediments into surface runoff, drainage systems, and water bodies.
- WR-P11.** Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water

Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).

- WR-P12.** Rivers, streams, ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.
- WR-P13.** Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.
- WR-P14.** Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.
- WR-P15.** Reduce Toxic Runoff. Reduce the volume of urban run-off from pollutants—such as pesticides from homes, golf courses, and other uses), cleaning agents, swimming pool chemicals, and road oil—and of excess sediments and nutrients from agricultural operations, and other toxic materials in runoff.
- WR-P16.** Reduce Pathogen, Sediment, and Nutrient Levels. Support programs to maintain pathogen and nutrient levels at or below target levels set by the Regional Water Quality Control Boards, including the efforts of ranchers, dairies, agencies, and community groups to address pathogen, sediment, and nutrient management in rural watersheds.
- WR-P17.** Design County Facilities to Minimize Pollutant Input. Design, construct, and maintain County buildings, roads, bridges, drainages, and other facilities to minimize the volume of sediment and other pollutants in storm water flows, and continue to improve road maintenance methods to reduce erosion and sedimentation potential.
- WR-P18.** Continue to support local storm water and community watershed group efforts to inform the public about practices and programs to minimize water pollution.
- WR-P19.** Require quality of treated water to conform with beneficial water use standards to the extent feasible.

Groundwater

Goal

WR-G2: Manage groundwater as a valuable and limited shared resource.

Policies

- WR-P20.** The availability of groundwater should be used as a prime factor in determining the desirable amount of residential development in a particular area in order to protect groundwater resources from depletion or contamination. (3361.5)*
- WR-P21.** Utilize the CEQA process to address the cumulative impacts of new agricultural wells and new residential wells required for discretionary projects on existing water users and upon creeks in all areas of the County.
- WR-P22.** Conserve, enhance and manage groundwater resources on a sustainable basis which assures sufficient amounts of clean water required for future generations, the uses allowed by the General Plan, and the natural environment.
- WR-P23.** Be willing to modify policies and programs as new information becomes available, recognizing the difficulty of assessing and resolving groundwater problems.
- WR-P24.** Require that discretionary projects, to the maximum extent practicable, utilize BMPs to maintain or increase the site's pre-development absorption of runoff to recharge groundwater.
- WR-P25.** Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.
- WR-P26.** Require consideration of naturally occurring and human caused contaminants in groundwater in new development projects. Work with the NCRWQCB to educate the public on evaluating the quality of groundwater.
- WR-P27.** For discretionary projects involving groundwater withdrawals, ensure that groundwater will not be adversely affected by saltwater intrusion.

Public Water Systems

Goal

- WR -G3:** Assure that public water systems and their sources provide an adequate supply to meet long -term needs that is consistent with adopted general plans and municipal service review plans and that water is provided in a manner that maintains water resources for other water users while protecting the natural environment. Assure that new development is consistent with the limitations of the local water supply.

Policies

- WR-P28.** Support to the extent feasible the actions and facilities needed by public water systems to supply water sufficient to meet the demands which are estimated in adopted master facilities plans, consistent with adopted general plans, urban water management plans and the sustainable yields of the available resources and in a manner protective of the natural environment.
- WR-P29.** Assist public water suppliers in assuring that proposed water supplies and facilities are consistent with adopted general plans, that all planning jurisdictions are notified of and consider potential water supply deficiencies during the preparation of such plans, and that adopted general plans accurately reflect secure water sources.
- WR-P30.** Encourage the preparation of municipal service reviews and urban water management plans where required by State law, for all public water supply systems to design and construct all facilities in accordance with sustainable yields and the general plans of applicable jurisdictions.
- WR-P31.** Maintain consistency between the General Plan, adopted groundwater management plans and the municipal service reviews of public water suppliers through meetings between staff of the Local Agency Formation Commission (Lafco) and public water suppliers, Lafco review of proposed municipal service reviews, and referral of General Plan changes to all public water suppliers.
- WR-P32.** Coordinate the County's land use decisions and actions to be consistent with the Water Resources Element.
- WR-P33.** Critical Water Supply Areas. Critical Water Supply Areas within the unincorporated County shall be protected by the application of standards for such areas (see Standards WR-S2, S3, and S4).

Conservation and Re-Use

Goal

WR-G4: Increase the role of conservation and safe, beneficial re-use in meeting water supply needs of both urban and rural users.

- WR-P34.** Maximize the use of water conservation techniques appropriate for new and existing development.*
- WR-P35.** Encourage disposal methods which minimize reliance on discharges into natural waterways. If discharge is proposed, review and comment on projects and environmental documents and request that projects maximize reclamation, conservation and reuse programs to minimize discharges and protect water quality and aquifer recharge areas.
- WR-P36.** Use water effectively and reduce water demand by:

- (1) Encouraging water conserving design and equipment in new construction.
- (2) Encouraging water conserving landscaping and other conservation measures.
- (3) Encouraging retrofitting with water conserving devices.
- (4) Encouraging service providers to design wastewater systems to minimize inflow and infiltration to the extent economically feasible.
- (5) Limiting impervious surfaces to minimize runoff.

WR-P37. Encourage service providers to increase the use of treated water where the quality of the recycled water is maintained, meets all applicable regulatory standards and is appropriate for the intended use and beneficial uses of other water resources will not be significantly impacted.

WR-P38. Promote and encourage the efficient use of water by all water users.

WR-P39 Avoid water reuse which could significantly adversely affect the quality of groundwater or surface water.

WR-P40. Support programs to monitor, establish and publicize per capita or per unit water use in each community and area and utilize this data in groundwater management plans, master facilities plans, and wastewater treatment plans.

WR-P41. Encourage monitoring for all water use and water metering and pricing systems for public water suppliers which require water users to pay all costs associated with the amount of water used. Encourage pricing mechanisms for public water suppliers which provide incentives for water users employing conservation and reuse programs.

WR-P42. Encourage and support conservation for agricultural activities which increase the efficiency of water use for crop irrigation, frost protection and livestock.

Importing and Exporting

Goal

WR-G5: Assure that there are no surface water or groundwater imports into or exports out of Humboldt County unless the proponent establishes by clear and convincing evidence that said import or export is consistent with Humboldt County's ability to sustain an adequate and quality water supply for its water users and dependent natural resources.

WR-P43. Large water export projects will not be approved or supported unless specific requirements and assurances are satisfied. These shall include the 1978 water policy statement policies regarding "Water Export Projects on Humboldt County Streams".* (* (3361.10) (See Standards WR-S8)

- WR-P44.** Require full assessment of impacts on the environment and impacts on the quality and quantity of water for Humboldt County water users of all existing and new proposals to physically export water to new locations outside from Humboldt County or to substantially increase water supply to existing out-of-county locations. Any consideration of exporting additional water resources shall place primary priority upon the benefit of and need for the water resources in Humboldt County and shall assure that water resources needed by urban, rural and agricultural water users and dependant natural resources in Humboldt County will not be exported outside the County.

Watershed Management

Goal

WR-G6: Foster understanding, valuation and sound management of the water resources in Humboldt County's diverse watersheds.

- WR-P45.** Support the development of fisheries enhancement projects on small Humboldt County streams.* (3361.12)
- WR-P46.** Ensure that projects located within state designated wild, scenic or recreational river basins are consistent with the guidelines in the State Wild and Scenic Rivers Act (as amended).* (3361.13)
- WR-P47.** Support flow release schedules from existing reservoirs that maintain or enhance the fisheries of those rivers.* (3361.11)
- WR-P48.** Correlate the quality and quantity of water captured, stored and contained within each unique watershed to the needs of beneficial water uses by all county residents, local industry, agriculture and the natural environment.
- WR-P49.** Work with the NCRWQCB, watershed-focused groups and stakeholders in the collection, evaluation and use of watershed-specific water resource information.

Hydropower Projects Re-licensing

Goal

WR-G7: Continue to challenge FERC re-licensing of hydroelectric projects if the project degrades the water quality of Humboldt County's water bodies.

Policies

WR-P50. The County should request a determination from re-licensing projects on what conditions will effectively balance development values (electric power, flood

control and water supply) with non-developmental values (environmental resource protection and values) that best reflect the public interest.

- WR-P51.** The County should request that the California Public Utilities Commission (CPUC) takes the time to complete its ongoing environmental review under the California Environmental Quality Act. A full review is required to document cumulative damages and potential impacts of ownership transfer and to provide a basis to identify necessary mitigation measures.

13.4 Standards

- WR-S1.** Development which could potentially "pollute a watershed area" includes, but is not limited to: the placement of septic systems, junkyards, waste disposal facilities, industries utilizing toxic chemicals, and other potentially polluting substances proximate to streams, creeks, reservoirs, or groundwater basins. It can also occur from additions of natural material into a stream because of land use practices but does not include normal agricultural practices which do not require permits from the County.* (3362.1)
- WR-S2.** A Critical Water Supply Area is defined as the specific area used by a municipality or community for its water supply system, which is so limited in area that it is susceptible to a potential risk of contamination from development activities.* (3362.2)
- WR-S3.** Development proposed within Critical Water Supply Areas shall demonstrate that no risk of contamination to the water supply area would occur due to the development activity proposed.* (3362.3)
- WR-S4.** Development within Critical Water Supply Areas shall utilize appropriate Erosion Control Measures including, but not limited to, those in the grading ordinance and this chapter.* (3362.4)
- WR-S5.** "Water Conservation Techniques" include but are not limited to, domestic and industrial low-flow water fixtures and native vegetation landscaping.* (3362.5)
- WR-S6.** The County shall review new development proposals that include the withdrawal of groundwater resources for use within the County to determine the safe yield, and to ensure that other users are not adversely affected.
- WR-S7.** The County will review projects and include requirements for compliance with State and Federal water quality regulations, including the Clean Water Act and requirements of the National Pollutant Discharge Elimination System (NPDES).
- WR-S8.** Water Export Projects on Humboldt County Streams.
- The Humboldt County Board of Supervisors, prior to giving its approval and support to large export projects on County streams, will require the following:
- A. Assurances must be given that each project constructed on any stream tributary to Humboldt County be designed and operated in a manner that provides maximum practical flood protection from the water flowing from the project consistent with the project purposes.

B. Full recognition shall be given to the ecological impact of any proposed project. Appropriate ecological studies by a team of independent experts, qualified to conduct such studies, should be funded by the project sponsor and completed before project authorization.

C. Absolute assurance must be given that funding will be made available for development and improvement of suitable fisheries above, and maintenance and improvement of native fisheries below, any project. Absolute assurance must also be given that funding will be made available for the effort to replace, restore, and maintain the native wildlife habitat destroyed or altered by any of the contemplated projects. The funding requirement for such development, improvement and maintenance of the fisheries and native wildlife habitat set forth herein above, shall be a funding requirement of the project and shall be identified as a commitment of the state, federal or local entity sponsoring the project. Recognition must also be given to the difficulty in accurately predicting long range financial requirements to meet the fisheries and wildlife policies set forth herein. Consequently, reappraisal and adjustments should be considered on five to ten year schedules throughout the projected project life in order to meet all of the funding requirements which may occur during the project life. Funding shall be provided for post project evaluation. Wildlife mitigation should be accomplished insofar as possible on existing public lands with prime consideration given to the wildlife resources involved and to its habitat requirements.

D. Inasmuch as Native Americans comprise a large segment of Humboldt County's population with environmental and historical ties to some of the river valleys, assurances must be given prior to the construction of any water project that no Indian tribal lands, including burial, or ceremonial grounds in Humboldt County will be inundated without specific prior consultation with the Indian people concerned.

E. Water supplies must be planned and financed as part of any project in sufficient quantity to provide ultimate future supplies of agricultural, municipal, industrial, recreational, and environmental water, and water for fisheries and wildlife habitat development. Recreational, and environmental water requirements (i.e., non-consumptive water requirements for the general public enjoyment including non-resident populations of tourists to north-western California) may well exceed consumptive uses in many hydrographic areas. Thus, the project sponsor must take an active role in providing such water and must absorb the burden of expenses for such water. Greater consideration of the values of non-consumptive water uses should be given when assessing the economic feasibility of water projects.

F. Recreation land acquisition should be included in the project development, consistent with the project's purpose.

G. Land acquisition should include provisions for exchange.

- H. Water quality control must be included as a specific purpose of the project.
- I. Projects which result in property tax loss to local entities shall have in-lieu taxes as a part of the project costs.
- J. The state must assume the non-federal recreational costs of a federal project. These costs must include the improvement of existing roads and development of roads required for the recreational development.
- K. If hydroelectric power is generated by a major water project using the water resources of the county, the county should be compensated for the sale of such power.
- L. Department of Fish and Game shall develop a flow release schedule to provide for the maintenance of the fishery resources and habitat. The project sponsor shall agree to provide the water for the release schedule.* (3362.6)

WR-S9. Development of fisheries enhancement projects should include:

- A. An immediate pilot project initiated on one of the Humboldt County streams for the express purpose of establishing the feasibility of small dams designated and operated only for fishery development and enhancement.
- B. Efforts designed to improve the anadromous fishery resources of Humboldt County streams. Specifically, the assessment of the natural capacities of the streams and identification of factors limiting production of anadromous fish.
- C. The use of Humboldt County Water Resources for the development of mariculture and aquaculture, with appropriate regulations to protect the native fish populations and the general public interests.* (3362.7)

WR-S10. Small hydroelectric projects for the purposes of this policy are defined as run of the river type diversions and existing impoundments with a maximum generating capacity of five (5) megawatts.* (3362.8)

13.5 Implementation Measures

General

- WR-IM1.** Coordinate with federal and state land management agencies to ensure adequate protection of watersheds that are vital to Humboldt County's groundwater and surface water resources.
- WR-IM2.** Design, construct, and maintain County buildings, roads, bridges, drainage and other facilities to minimize sediment and other pollutants in storm water flows. Develop and implement "best management practices" for ongoing maintenance and operation.
- WR-IM3.** Work cooperatively with the RWQCB to manage the quality and quantity of storm water runoff from new development and redevelopment in order to:
- (1) Prevent, to the maximum extent practicable, pollutants from reaching storm water conveyance systems.
 - (2) Limit, to the maximum extent practicable, storm water flows from post development sites to pre -development quantities.
 - (3) Conserve and protect natural areas to the maximum extent practicable.
- WR-IM4.** Continue to require grading plans to include measures that address soil erosion and on-site sediment retention and consider upgrading requirements as needed to avoid sedimentation in storm water to the maximum extent practicable. Require developments to include on-site facilities for the retention of sediments, and, if necessary, upon project completion, require continued monitoring and maintenance of these facilities.
- WR-IM5.** Seek opportunities to participate in developing programs and implementing projects for water quality restoration and remediation with agencies and organizations such as RWQCBs, CDFG and RCDs in areas where water quality impairment is a concern.
- WR-IM6.** Actively pursue the abatement of failing septic systems that have been demonstrated as causing a health and safety hazard.
- WR-IM7.** The County shall continue to implement Ordinance provisions for buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.
- WR-IM8.** Coordinate Watershed Efforts. Work with land and water management agencies, community-based watershed restoration groups, and private property owners to explore methods and programs for maintaining and improving watershed health.

- WR-IM9.** Work with the North Coast Regional Water Quality Control Board (NCRWQCB) and interested parties in the development and implementation of future NCRWQCB requirements so that the needs of Humboldt County can be met.
- WR-IM10.** Work with the SWRCB, DWR, California Department of Health Services (DHS), CalEPA, and applicable County and City agencies to seek and secure funding sources for development of countywide groundwater quality assessment, monitoring, remedial and corrective action and awareness/education programs.
- WR-IM11.** Require Restoration of Degraded Areas. Require replanting of vegetation and remediation of associated erosion in conjunction with requested land use approvals, especially those including roads and grading on steep slopes.
- WR-IM12.** Integrated Water Resources Funding Program Description: Work with public water suppliers, utility districts, stakeholder groups and interested parties to seek and secure outside funding sources for Water Resources Element programs and associated plans.
- WR-IM13.** Watershed Planning: Seek funding opportunities for collaborative watershed planning approaches to water quantity and quality enhancement and protection, where such an approach is the desired method of accomplishing the program objectives.

Groundwater

- WR-IM14.** Encourage and support research on and monitoring of local groundwater conditions, aquifer recharge, watersheds and streams.
- WR-IM15.** Coordinate the County's land use decisions and actions to be consistent with the Water Resources Element.
- WR-IM16.** Work with NCRWQCB, DWR, DHS, CalEPA, and applicable County and City agencies to seek and secure funding sources for development of groundwater assessment, protection, enhancement and management programs.

Public Water Systems

- WR-IM17.** Request technical assistance and water resource data from public water suppliers and share available water resource information with them and the public.
- WR-IM18.** Cooperate with public water suppliers in the planning, development and construction of the storage and transmission facilities needed to supply water pursuant to adopted General Plan policies, urban water management plans, water supply agreements, municipal service reviews,

and programs to mitigate identified water quantity conditions, where applicable.

- WR-IM19.** Pursuant to the requirements of Government Code 65400-65402, request that public water suppliers, including cities, county-dependent districts, special districts and other local public agencies, consult with the County prior to acquiring a site or developing any well or facilities for public water supplies in the unincorporated area and request a determination of consistency with the Humboldt County General Plan.
- WR-IM20.** Assist public water suppliers in the assessment of available water supplies and protection of water quality.
- WR-IM21.** Work with HBMWD and other public water suppliers in the development and implementation of 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.

Conservation and Re-use

- WR-IM22.** Support programs to monitor, establish and publicize per capita or per unit water use in each community and area and utilize this data in groundwater management plans, municipal service reviews, and wastewater treatment plans.
- WR-IM23.** Encourage monitoring for all water use and water metering and pricing systems for public water suppliers which require water users to pay all costs of the amount of water used. Encourage pricing mechanisms for public water suppliers which provide incentives for water users employing conservation and reuse programs.
- WR-IM24.** Require that development, where feasible, retain storm water for on-site use which offsets the use of other water. Implementation could include standards for runoff retention and storage, impervious surfaces, vegetation removal, landscaping, and preservation of wetlands and riparian areas.
- WR-IM25.** Encourage and support conservation for agricultural activities which increase the efficiency of water use for crop irrigation, frost protection and livestock.
- WR-IM26.** Ensure that wastewater disposal systems *are* designed to reclaim and reuse treated water on agricultural lands, and for other irrigation and wildlife enhancement projects to the extent practicable.
- WR-IM27.** Encourage participation in programs for reuse of treated water, including the establishment of wastewater irrigation districts.
- WR-IM28.** Support the use of recycled water to offset use of other water where the quality of the recycled water is maintained, meets all applicable

regulatory standards, and is appropriate for the intended use and beneficial uses of other water resources will not be significantly impacted.

- WR-IM29.** Coordinate with the cities and other wastewater treatment entities in the planning of uses and minimizing of impacts for treated water in agricultural activities and other uses in the incorporated and unincorporated areas.
- WR-IM30.** Support the use of treated water for irrigation, landscaping, parks, public facilities and other appropriate uses.
- WR-IM31.** Encourage graywater systems, roof catchment of rainwater and other methods of re-using water and minimizing the need to use groundwater.
- WR-IM32.** Update existing County septic regulations to reflect the latest in knowledge regarding the design of on site wastewater systems.

Importing and Exporting

- WR-IM-33.** Protect the interests of Humboldt County water users in the review of proposals to export water from the County.
- WR-IM34.** The County shall require that exports not damage the County's environmental and economic setting by ensuring that "no unreasonable effect" occurs in the transfer and withdrawal of water resources pursuant to Section 1810 of the Water Code.
- "No unreasonable effect" shall be defined as the following:
- The action would not contribute to the decline in the population of any sensitive or protected plant, fish, or wildlife species;
 - The action would not reduce water levels in any existing public or private groundwater wells to levels that preclude withdrawal by existing users or would substantially increase the costs or such withdrawal;
 - The action would not contribute to any impacts on water quality that reduces water quality below health standards or federal/state water quality standards;
 - The action would not contribute to effects on water quality that would result in a deficiency by the water treatment agency's ability to treat water to appropriate standards;
 - The action would not reduce available groundwater or surface water resources to levels that would make access and/or use of these waters uneconomical for development planned in accordance with this General Plan; and/or
 - The action would not directly or indirectly discharge contaminants into surface or groundwater resources.

Watershed Management

- WR-IM35.** Seek and secure funding to evaluate the quality and quantity of water resources in each of the watershed basins.

- WR-IM36.** Where there is a problem identified, promote and seek funding for the evaluation and remediation of the problem through a watershed management approach.
- WR-IM37.** Work with the RWOCBs, watershed-focused groups and stakeholders in the collection, evaluation and use of watershed-specific water resource information.
- WR-IM38.** Require that building permits for residential development that include development of a new in-stream water source for domestic water be conditioned upon providing a copy of a valid Streambed Alteration Agreement Permit from the Department of Fish and Game.

NOTE: The section below will fall out of the 'final' version of the General Plan when it is adopted. It is provided here to assist the review process.

13.6 Staff Analysis and Alternatives

Background - See Water Resources Technical Report

13.6.1 State Requirements

Water Resources

The topic of water in Humboldt County is discussed in various sections of the Plan. Flooding and dam failure are discussed in the Hazard section. Water supply for domestic purposes is discussed in the Development Timing and Public Facilities sections. Water is an important component of wildlife habitat is discussed in the Biological Resources section.

This section, containing a discussion of water as a natural occurring resource, addresses some of the requirements of the Conservation and Open Space Elements.

Under the Conservation Element, state law requires:

A conservation element for the conservation, development and utilization of natural resources including water and its hydraulic force.(and) rivers and other waters. The conservation element may also cover.(3) preservation and control of the pollution of streams and other waters.(4) regulation of the use of land in stream channels and other areas.(6) protection of watersheds (Government Code Section 65302(d).

Under the Open Space Element, as required by State legislation, water resources can be considered open-spaces when characterized as any one of the following:

- (1) Open space for the preservation of natural resources including...rivers, streams, bays, and estuaries;... lakeshores, banks of rivers and streams, and watershed lands; (and)
- (2) Open space for the managed production of resources including...areas required for recharge of ground water basins, bays, estuaries, marshes and rivers and streams which are important for the management of commercial fisheries..."
- (4) Open space for public health and safety including... watershed, protection of water quality and water reservoirs. (Government Code Section 65560(b).

Note: For a detailed background discussion of water resources, including surface waters, aquifers, water rights, hydrology, watersheds, floodplains, and water availability see the Water Resources Technical Background Report.

13.6.2 Staff Recommendations

The policies of this chapter use the 1984 Framework Plan policies related to water resources as a starting point, and adds additional policies, standards and implementation measures to further address water resource issues in this optional element. This element was drafted to be responsive to a number of more recent state and federal directives for dealing with water resource related issues as noted in the Water Resources Technical Background Report. The element incorporates recommendations that derive from the North Coast Integrated Regional Water Management Plan. These include looking at water resource issues on a watershed level and comprehensively addressing the topics of: water sources and supply, water conservation and reuse, water runoff, water imports and exports, watershed management, and groundwater.

13.6.3 Alternatives

Alternatives

The body text of the chapter represents Alternative B, the staff recommended proposed project. Alternative B carries forward water policies from the previous general plan. Alternative B is responsive to a number of more recent state and federal directives for dealing with water resource related issues as noted in the Water Resources Technical Background Report.

Alternative A

Alternative A includes additional policies and implementation measures in water resource categories that would more comprehensively address water resource issues but would add significant financial costs to the County for water resource management programs.

Policies

Groundwater

- WR-P51** Encourage and support research and monitoring of local ground water conditions, aquifer recharge, watersheds and streams.
- WR-P52** Support the establishment and maintenance by the County and other agencies of a system of monitoring wells throughout the county, utilizing existing wells where feasible.

Public Water Systems

- WR-P53.** Help public water suppliers to disseminate and discuss information on the limits of available water supplies, how the supplies can be used efficiently, 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 which could be used or developed.

Stormwater Management

WR-P54. Storm Water/Non-Point Source Pollution Management. Promote integration of storm water and NPS best management practices that protect source watersheds and aquatic systems, and introduce natural system design standards into urban areas.

Discussion: Stormwater runoff and non-point source (NPS) pollution in Humboldt County is derived from several sources, including runoff from roads and other sediment sources in rural watershed areas, and urban stormwater runoff associated with commercial and residential development. Rural watersheds are often home to sensitive habitats and organisms (eg, endangered salmonids) which are adversely impacted by NPS pollution. Aquatic environments in urban areas are often adversely impacted by stormwater runoff due to changes in flow regime, or the nature of the pollutants in the runoff. Sediment loads derived from agriculture, forestry, road management, and construction may significantly influence downstream water quality. Agriculture and forestry generate non-point source sediment and, in some cases, chemical loads, while stormwater contributes to episodic point and non-point source loads. Animal waste, agricultural runoff, recycled water, and septic systems contribute nutrient loads and return flow from industrial use of water also impacts receiving water quality.

Humboldt Bay supports a significant commercial oyster industry and is a popular area for recreational shell fishing. Contaminated stormwater runoff during high intensity rainfall is a continued threat to commercial and recreational uses of the bay. Considerable monitoring is required from the commercial shellfish industry under a conditional harvest regulation to ensure a safe product.

The NCRWQCB has identified high priority activities for the north coast region that are relevant to stormwater runoff and NPS pollution in Humboldt County:

1. Implement TMDLs for sediment in coastal watersheds
2. Maintain the core regulatory program for regulated dischargers, including storm water
3. Develop a monitoring strategy for the region and integrating SWAMP with TMDL monitoring
4. Develop policies for runoff from roads
5. Improve outreach and community involvement in decisions
6. Foster watershed groups and citizen monitoring
7. Protect Critical Coastal Areas

8. Promote water recycling activities

The construction and maintenance of traditional engineered stormwater systems has become increasingly expensive and challenging from a regulatory standpoint, and there are numerous innovative programs in California and the nation for addressing stormwater runoff via more natural means. These include integrating permeable surfaces, green roofs, urban ephemeral streams, and low-impact vegetated stormwater conveyance and treatment systems into community design. Urban stormwater design principles are included in *Design Guidelines to Enhance Community Appearance and Protect Natural Resources* (Local Government Commission, 2007).

There are numerous methods for protecting rural source watershed areas from NPS pollution, including the successful Five Counties Salmonid Conservation Program "A Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds". Ongoing support for landowner based organizations such as the Humboldt County Resource Conservation District will result in education and project implementation.

Importing And Exporting

- WR-P55.** No new exports of water to locations outside Humboldt County shall be permitted unless the County has issued a Conditional Use Permit for such exportations. In the event a permit is issued, it shall set forth with specificity the details of the exportations (e.g. quantity, origination location, destination location, period of exportation, etc.).

Watershed Management

- WR-P56.** Watershed Based Planning and Assessments. Utilize watershed boundaries for planning in concert with other jurisdictional boundaries (such as municipal or special district boundaries), and incorporate the principles of watershed planning as outlined by the California Watershed Manual <http://cwam.ucdavis.edu>

Discussion: Because healthy watersheds provide the basis for safe drinking water quality and supply (while at the same time maintaining other critical beneficial uses of water such as biodiversity and salmonid population viability), there is increased emphasis on the integration between watershed-based and jurisdiction-based planning in establishing water management policies. A watershed planning approach, including comprehensive watershed assessments, typically emphasizes an adaptive management framework, whereby watershed data are gathered (assessment phase), plans are developed, specific management activities are implemented, and these activities are monitored and evaluated, with the data informing the next iteration of planning. Stakeholder participation in the planning process is critical to ensure that all relevant information and priorities are included and evaluated. Watershed

planning allows for the integration of a wide variety of objectives, often resulting in more cost effective program and project implementation.

- WR-P57.** Integrated Riparian Corridor Management Protect and enhance riparian corridor biodiversity and community benefits, while using these natural waterways to accomplish flood protection, groundwater stewardship and storm water management objectives.

Discussion: Intact riparian systems are critical to the maintenance of biological diversity and water quality for human consumption. In addition to the growing awareness of these riparian system benefits, there has been a philosophical shift toward the integration of water management activities such as flood control, protection of storm water quality, and groundwater recharge with conservation and socio-economic objectives such as habitat protection/enhancement, recreational tourism, and open space preservation. There is an increased understanding that integrated management of diverse, historically competing objectives (such as flood control and biodiversity protection) may be more cost-effective than the traditional engineering approaches to riparian system management.

Riparian corridors in the county (defined by their designation as USGS "blueline" streams, should be described in terms of the historic and current biotic and physical processes and features (ie, extent and quality of riparian habitat, hydrology, geomorphology, sensitive habitats and organisms, etc). Regular meetings and working sessions should be convened among the individuals and organizations responsible for the diverse functions -- that will occur within the riparian corridor. A list of activities should be developed that address the various functions to be fulfilled via riparian corridor management, including flood control, storm water management, groundwater stewardship, aquatic habitat protection/enhancement, recreational tourism, etc.

The above collaborative and integrative approach to riparian corridor management would serve to resolve the often conflicting objectives of aquatic habitat preservation, endangered species protection, and municipal needs for flood control and NPDES compliance. There are several options for implementing the above policies, both of which rely upon the following voluntary and incentive-based approaches to riparian corridor management:

1. The County or some other entity with taxing authority, such as an open space district, would hold easements or title to the riparian corridors, thereby ensuring access for periodic management activities (removal of invasive plants, garbage and debris, thinning of vegetation and/or maintenance of recreational facilities) and facilitating the implementation of consistent, peer-reviewed management practices along entire stream reaches, as opposed to management at the level of individual tax assessor parcels.
2. Riparian corridor management would occur through financial incentives and county planning building permit/land use permit policies that encourage landowners to incorporate maintenance of

natural riparian systems over other activities (i.e., incorporate maintenance or enhancement of a natural riparian corridor as opposed to creating an artificial drainage channel or wetland to comply with storm water management objectives).

WR-P58. Floodplain Management. Implement "No Adverse Impact Standards" as recommended by the Association of Flood Plain Managers, and manage floodplains for beneficial uses.

Discussion: Undeveloped floodplains are an important community protection against flood damages, and also serve important functions in protecting water quality and ecosystem health. Local communities are increasingly being held liable for the approval of new development in floodplains, and the regulatory environment related to floodplain/stream corridor development has become more restricted. In the long term, protection of floodplains is a cost-effective mechanism for ensuring water quality, ecosystem function and public health and safety. This policy recommends the adoption of the following three *No Adverse Impact Standards* developed by the Association of State Floodplain Managers:

1. No rise in floodway elevation as a result of new development
2. No increase in flood flow velocity as a result of new development
3. No loss of floodplain storage as a result of new development

The above *No Adverse Impact* standards should be implemented in concert with the approach outlined in Policy # 2, Riparian Corridor Management.

Standards

WR-S11. Require proof of groundwater with a sufficient yield and quality to support proposed uses in Class 3 and 4 water areas. Require test wells or the establishment of community water systems in Class 4 water areas. Test wells may be required in Class 3 areas. Deny discretionary applications in Class 3 and 4 areas unless a hydrogeologic report establishes that groundwater quality and quantity are adequate and will not be adversely impacted by the cumulative amount of development and uses allowed in the area, so that the proposed use will not cause or exacerbate an overdraft condition in a groundwater basin or sub basin.

Implementation Measures

General

WR-IM36 Establish development standards to maximize retention of runoff and regulate development to avoid, to the maximum extent practicable, pollution of storm water, water bodies and groundwater.

WR-IM37 Inform the public about practices and programs to minimize water pollution and provide educational and technical assistance to agriculture in order to reduce sedimentation and increase on-site retention and recharge of storm water.

Groundwater

WR-IM38 Monitor groundwater conditions, require descriptive information for well permits, and analyze, map and publicize the data gathered.

WR-IM39 Increase institutional capacity and expertise within the County to competently review hydrogeologic reports and data for critical indicators and criteria.

WR-IM40 Initiate an educational program to inform residents, agriculture, businesses and other groundwater users of best management practices in the areas of efficient water use, water conservation, and increasing groundwater recharge. Implementation would include preparation and distribution of educational materials and public workshops.

WR-IM41 Revise ordinance requirements for permits to drill, replace, deepen or repair all wells as follows:

1. Show exact locations, depths, yield, drilling logs, soil data, flow direction and water levels of proposed wells and existing wells on the site, locations of known nearby wells, proposed uses of the water, and estimated amount of water use. Review available groundwater data and well permit information in the permit area and make this information available to the applicant to the extent allowed by law.
2. Based upon available information indicating a need, require that new wells be located definite distances from property lines and existing wells. Implementation would develop setbacks which could vary by well size, location of nearby wells, water use, groundwater availability, lot size and other appropriate factors.
3. Require proof of groundwater quantity and quality sufficient for proposed uses and existing beneficial uses on the site in all Class 3 and 4 areas and in other areas with identified water quality and quantity problems, special area studies underway or where adopted management plans require it. Implementation would develop procedures and quantitative standards for pump tests, well yields, pollutant levels, and water storage.
4. Include provisions for applicant fees and other funding of County costs.
5. In areas where a groundwater management plan has been approved and has been accepted by the County, require the issuance of well permits and any limitations imposed on well permits to be consistent with the adopted plan.

- WR-IM42** Revise procedures for proving adequate groundwater for discretionary projects by adding criteria for study boundaries, review procedures, and required findings that the area's groundwater supplies and surface water flows will not be adversely impacted by the project and the cumulative amount of development allowed in the area and will not cause or exacerbate groundwater overdraft, land subsidence or saltwater intrusion. Procedures for proving adequate groundwater for discretionary projects should be flexible enough to consider the expense of such study in relation to the size of the discretionary project.
- WR-IM43** Establish a computerized groundwater data base from available application data, well tests, monitoring results, study reports and other sources; analyze the data collected in an annual report to the Board; provide the data to DWR, and use the data to refine the mapping of groundwater availability classes.
- WR-IM44** In order to identify areas where groundwater supplies may be declining, in the annual report staff shall review well permit data, monitoring data and reported problems and recommend to the Board of Supervisors the boundaries for areas where comprehensive studies are needed. In each such special study area which is approved by the Board following a public hearing, develop a comprehensive groundwater assessment.
- WR-IM45.** Groundwater Conservation. Prepare and adopt a Groundwater Conservation Plan to protect groundwater resources from contamination and/or over extraction by new development.

Discussion: The protection of groundwater quality and quantity is expected to become a significant water resources management issue in Humboldt County, as the groundwater resources in the area may be increasingly limited due to increased extraction, physical constraints, contamination, and regulatory uncertainty. Groundwater quality issues stem from current and past pollution of groundwater sources that include leaking underground storage tanks, industrial pollution, leaking wastewater treatment facilities (individual and public). These issues generally develop over time; often detection occurs only after the pollution has been occurring for a long period. Similarly, quantity problems associated with over-extraction are often not detected until an existing user is adversely impacted.

The development and adoption of a Groundwater Conservation Plan will help to protect groundwater resources from contamination and/or over extraction. The proposed Plan should include a characterization of the available groundwater resources, and provide guidelines for evaluating the potential impacts of development, such as an increase/decrease in groundwater recharge, or degradation of water quality. In addition to documenting existing groundwater resources, the Plan should include a database for the on going compilation of publicly available groundwater data, and a groundwater monitoring program to assess the status and quality of the county's groundwater, as well as the effectiveness of the Plan. The Groundwater Conservation Plan should be prepared under the

direction of an advisory committee that includes representation from County, City, Agricultural, and municipal water district interests.

Conservation and Re-Use

- WR-IM46.** Require water-conserving plumbing and water-conserving landscaping in all new development projects and require water-conserving plumbing in all new dwellings. Educate and promote programs to minimize water loss and waste by public water suppliers. Require County-operated water systems to minimize water loss and waste.
- WR-IM47.** Educate and promote programs for retrofitting plumbing, providing cost rebates, identifying leaks, changing landscaping, irrigating efficiently and other methods of reducing water consumption by existing users.
- WR-IM48.** Assess water use by County buildings and facilities and reduce water consumption to the maximum extent practicable.

Importing and Exporting

- WR-IM49.** **Basin Management and Local Self-Sufficiency:** Establish a permit process for water exports from Humboldt County. No water shall be exported to locations outside Humboldt County unless the County has issued a permit for such exportations. In the event a permit is issued, it shall set forth with specificity the details of the exportations (e.g. quantity, origination location, destination location, period of exportation, etc.). Require full assessment of impacts on the environment and impacts on the quality and quantity of water for Humboldt County water users of all existing and new proposals to physically export water from Humboldt County. Any consideration of exporting water resources shall place primary priority upon the benefit of and need for the water resources in Humboldt County and shall assure that water resources needed by urban, rural and agricultural water users and dependant natural resources in Humboldt County will not be exported outside the County.

Alternative C

Alternative C omits any new prescriptions and implementation measures. While CEQA review and application requirements may result in protections similar to those of Alternative B, they may provide more flexibility and require more interpretation.

Alternative D

Alternative D, the existing 1984 Framework Plan, is attached separately to show the wording and original policy set.

Plan Alternatives Comparison Chart

The "Vote" column is provided for the user to indicate a policy preference. Enter a Retain, Delete or Modify.

Alternative D

3360 Goal

1. To maintain or enhance the quality of the County's water resources and the fish and wildlife habitat utilizing those resources.
2. To maintain a dependable water supply, sufficient to meet existing and future domestic, agricultural, industrial needs and to assure that new development is consistent with the limitations of the local water supply.

3361 Policies

1. Ensure that land use decisions are consistent with the long term value of water resources in Humboldt County.
2. Regulate development that would pollute watershed areas.
3. Ensure that the intensity and timing of new development will be consistent with the capacity of water supplies.
4. Existing water uses shall be considered during the review for new water uses.
5. The availability of groundwater should be used as a prime factor in determining the desirable amount of residential development in a particular area in order to protect groundwater resources from depletion or contamination.
6. Projects must provide evidence of water availability prior to recordation of map.
7. Maximize the use of water conservation techniques appropriate for new and existing development.
8. Continue participation in all state, regional or local water resource planning efforts effecting surface run-off or groundwater supplies.
9. Encourage further investigation on the County's water resources by federal and state water resource agencies.
10. Large water export projects will not be approved or supported unless specific requirements and assurances are satisfied. These shall include the 1978 water policy statement policies regarding "Water Export Projects on Humboldt County Streams". (See Standards 5a-1)
11. Support flow release schedules from existing reservoirs that maintain or enhance the fisheries of those rivers.
12. Support the development of fisheries enhancement projects on small Humboldt County streams.
13. Ensure that projects located within state designated wild, scenic or recreational river basins are consistent with the guidelines in the State Wild and Scenic Rivers Act (as amended).

14. The development of environmentally sound small hydroelectric projects on publicly and privately owned lands in Humboldt County is generally encouraged. The County should only examine small hydroelectric project proposals for impacts not reviewed by other agencies and for overall consistency with the intent of the General Plan.

3362 Standards

1. Development which could potentially "pollute a watershed area" includes, but is not limited to: the placement of septic systems, junkyards, waste disposal facilities, industries utilizing toxic chemicals, and other potentially polluting substances proximate to streams, creeks, reservoirs, or groundwater basins. It can also occur from additions of natural material into a stream because of land use practices but does not include normal agricultural practices which do not require permits from the County.
2. A Critical Water Supply Area is defined as the specific area used by a municipality or community for its water supply system, which is so limited in area that it is susceptible to a potential risk of contamination from development activities.
3. Development proposed within Critical Water Supply Areas shall demonstrate that no risk of contamination to the water supply area would occur due to the development activity proposed.
4. Development within Critical Water Supply Areas shall utilize appropriate Erosion Control Measures including, but not limited to, those in Section 3432.9.
5. "Water Conservation Techniques" include but are not limited to, domestic and industrial low-flow water fixtures and native vegetation landscaping.
6. Water Export Projects on Humboldt County Streams.

The Humboldt County Board of Supervisors, prior to giving its approval and support to large export projects on County streams, will require the following:

- A. Assurances must be given that each project constructed on any stream tributary to Humboldt County be designed and operated in a manner that provides maximum practical flood protection from the water flowing from the project consistent with the project purposes.
- B. Full recognition shall be given to the ecological impact of any proposed project. Appropriate ecological studies by a team of independent experts, qualified to conduct such studies, should be funded by the project sponsor and completed before project authorization.
- C. Absolute assurance must be given that funding will be made available for development and improvement of suitable fisheries above, and maintenance and improvement of native fisheries below, any project. Absolute assurance must also be given that funding will be made available for the effort to replace, restore, and maintain the native wildlife

habitat destroyed or altered by any of the contemplated projects. The funding requirement for such development, improvement and maintenance of the fisheries and native wildlife habitat set forth herein above, shall be a funding requirement of the project and shall be identified as a commitment of the state, federal or local entity sponsoring the project. Recognition must also be given to the difficulty in accurately predicting long range financial requirements to meet the fisheries and wildlife policies set forth herein. Consequently, reappraisal and adjustments should be considered on five to ten year schedules throughout the projected project life in order to meet all of the funding requirements which may occur during the project life. Funding shall be provided for post project evaluation. Wildlife mitigation should be accomplished insofar as possible on existing public lands with prime consideration given to the wildlife resources involved and to its habitat requirements.

- D. Inasmuch as Native Americans comprise a large segment of Humboldt County's population with environmental and historical ties to some of the river valleys, assurances must be given prior to the construction of any water project that no Indian tribal lands, including burial, or ceremonial grounds in Humboldt County will be inundated without specific prior consultation with the Indian people concerned.
- E. Water supplies must be planned and financed as part of any project in sufficient quantity to provide ultimate future supplies of agricultural, municipal, industrial, recreational, and environmental water, and water for fisheries and wildlife habitat development. Recreational, and environmental water requirements (i.e., non-consumptive water requirements for the general public enjoyment including non-resident populations of tourists to north-western California) may well exceed consumptive uses in many hydrographic areas. Thus, the project sponsor must take an active role in providing such water and must absorb the burden of expenses for such water. Greater consideration of the values of non-consumptive water uses should be given when assessing the economic feasibility of water projects.
- F. Recreation land acquisition should be included in the project development, consistent with the project's purpose.
- G. Land acquisition should include provisions for exchange.
- H. Water quality control must be included as a specific purpose of the project.
- I. Projects which result in property tax loss to local entities shall have in-lieu taxes as a part of the project costs.
- J. The state must assume the non-federal recreational costs of a federal project. These costs must include the improvement of existing roads and development of roads required for the recreational development.

- K. If hydroelectric power is generated by a major water project using the water resources of the county, the county should be compensated for the sale of such power.
 - L. Department of Fish and Game shall develop a flow release schedule to provide for the maintenance of the fishery resources and habitat. The project sponsor shall agree to provide the water for the release schedule.
7. Development of fisheries enhancement projects should include:
- A. An immediate pilot project initiated on one of the Humboldt County streams for the express purpose of establishing the feasibility of small dams designated and operated only for fishery development and enhancement.
 - B. Efforts designed to improve the anadromous fishery resources of Humboldt County streams. Specifically, the assessment of the natural capacities of the streams and identification of factors limiting production of anadromous fish.
 - C. The use of Humboldt County Water Resources for the development of mariculture and aquaculture, with appropriate regulations to protect the native fish populations and the general public interests.
8. Small hydroelectric projects for the purposes of this policy are defined as run of the river type diversions and existing impoundments with a maximum generating capacity of five (5) megawatts.

13.6.4 Plan Alternatives Comparison Chart

<i>Table 3-1. Plan Alternatives Comparison Chart</i>							
<i>Plan Alternative</i>				<i>Goals and Policies</i>		<i>Staff Remarks</i>	<i>Vote: R, D, M</i>
Surface Waters							
A	B	C	D	WR-P1. Ensure that land use decisions are consistent with the long term value of water resources in Humboldt County.* (3361.1)			
A	B	C	D	WR-P2. Regulate development that would pollute watershed areas. * (3361.2)			
A	B	C	D	WR-P3. Ensure that the intensity and timing of new development will be consistent with the capacity of water supplies.* (3361.3)			
A	B	C	D	WR-P4. Existing water uses shall be considered during the review for new water uses.* (3361.4)			
A	B	C	D	WR-P5. Projects must provide evidence of water availability prior to recordation of map.* (3361.5)			
A	B	C	D	WR-P6. Continue participation in all state, regional or local water resource planning efforts effecting surface run-off or groundwater supplies.* (3361.6)			
A	B	C	D	WR-P7. Encourage further investigation on the County's water resources by federal and state water resource agencies.* (3361.7)			
A	B	C	D	WR-P8. The development of environmentally sound small hydroelectric projects on publicly and privately owned lands in Humboldt County is generally encouraged. The County should only examine small hydroelectric project proposals for impacts not reviewed by other agencies and for overall consistency with the intent of the General Plan.* (3361.8)			
	B			WR-P9. Resist accepting administrative responsibility for regulatory programs required of State or Federal agencies unless a State or Federal subvention will compensate the County for costs associated with such shift in administrative responsibility.			
A	B			WR-P10. Projects requiring a grading permit shall have an erosion control program approved, where necessary. Projects shall be reviewed in an effort to avoid erosion and sedimentation, and minimize soil erosion and discharge of sediments into surface runoff, drainage systems, and water bodies.			

A	B			WR-P11. Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water Quality Task Force’s California Storm Water Best Management Practices Handbooks (1993).		
A	B			WR-P12. Rivers, streams, ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.		
A	B			WR-P13. Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.		
A	B			WR-P14. Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.		
A	B			WR-P15. Reduce Toxic Runoff. Reduce the volume of urban run-off from pollutants—such as pesticides from homes, golf courses, and other uses), cleaning agents, swimming pool chemicals, and road oil—and of excess sediments and nutrients from agricultural operations, and other toxic materials in runoff.		
A	B			WR-P16. Reduce Pathogen, Sediment, and Nutrient Levels. Support programs to maintain pathogen and nutrient levels at or below target levels set by the Regional Water Quality Control Boards, including the efforts of ranchers, dairies, agencies, and community groups to address pathogen, sediment, and nutrient management in rural watersheds.		
A	B			WR-P17. Design County Facilities to Minimize Pollutant Input. Design, construct, and maintain County buildings, roads, bridges, drainages, and other facilities to minimize the volume of sediment and other pollutants in storm water flows, and continue to improve road maintenance methods to reduce erosion and sedimentation potential.		
A	B			WR-P18. Continue to support local storm water and community watershed group efforts to inform the public about practices and programs to minimize water pollution.		
A	B			WR-P19. Require quality of treated water to conform with beneficial water use standards to the extent feasible.		

Groundwater						
A	B	C	D	WR-P20. The availability of groundwater should be used as a prime factor in determining the desirable amount of residential development in a particular area in order to protect groundwater resources from depletion or contamination. (3361.5)*		
A	B			WR-P21. Utilize the CEQA process to address the cumulative impacts of new agricultural wells and new residential wells required for discretionary projects on existing water users and upon creeks in all areas of the County.		
A	B			WR-P22. Conserve, enhance and manage groundwater resources on a sustainable basis which assures sufficient amounts of clean water required for future generations, the uses allowed by the General Plan, and the natural environment.		
A	B			WR-P23. Be willing to modify policies and programs as new information becomes available, recognizing the difficulty of assessing and resolving groundwater problems.		
A	B			WR-P24. Require that discretionary projects, to the maximum extent practicable, utilize BMPs to maintain or increase the site's pre-development absorption of runoff to recharge groundwater.		
A	B			WR-P25. Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.		
A	B			WR-P26. Require consideration of naturally occurring and human caused contaminants in groundwater in new development projects. Work with the NCRWQCB to educate the public on evaluating the quality of groundwater.		
A	B			WR-P27. For discretionary projects involving groundwater withdrawals, ensure that groundwater will not be adversely affected by saltwater intrusion.		
A				WR-P51 Encourage and support research and monitoring of local ground water conditions, aquifer recharge, watersheds and streams.		
A				WR-P52 Support the establishment and maintenance by the County and other agencies of a system of monitoring wells throughout the county, utilizing existing wells where feasible.		
Public Water Systems						

A	B			WR-P28. Support to the extent feasible the actions and facilities needed by public water systems to supply water sufficient to meet the demands which are estimated in adopted master facilities plans, consistent with adopted general plans, urban water management plans and the sustainable yields of the available resources and in a manner protective of the natural environment.		
A	B			WR-P29. Assist public water suppliers in assuring that proposed water supplies and facilities are consistent with adopted general plans, that all planning jurisdictions are notified of and consider potential water supply deficiencies during the preparation of such plans, and that adopted general plans accurately reflect secure water sources.		
A	B			WR-P30. Encourage the preparation of municipal service reviews and urban water management plans where required by State law, for all public water supply systems to design and construct all facilities in accordance with sustainable yields and the general plans of applicable jurisdictions.		
A	B			WR-P31. Maintain consistency between the General Plan, adopted groundwater management plans and the municipal service reviews of public water suppliers through meetings between staff of the Local Agency Formation Commission (Lafco) and public water suppliers, Lafco review of proposed municipal service reviews, and referral of General Plan changes to all public water suppliers.		
A	B			WR-P32. Coordinate the County's land use decisions and actions to be consistent with the Water Resources Element.		
A	B			WR-P33. Critical Water Supply Areas. Identify Critical Water Supply Areas within the unincorporated County and apply the standards for such areas.		
A				WR-P53. Help public water suppliers to disseminate and discuss information on the limits of available water supplies, how the supplies can be used efficiently, 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 which could be used or developed.		
Conservation and Re-Use						
A	B	C	D	WP-P34. Maximize the use of water conservation techniques appropriate for new and existing development.*		

A	B		WR-P35. Encourage disposal methods which minimize reliance on discharges into natural waterways. If discharge is proposed, review and comment on projects and environmental documents and request that projects maximize reclamation, conservation and reuse programs to minimize discharges and protect water quality and aquifer recharge areas.		
A	B		WR-P36. Use water effectively and reduce water demand by: (1) Encouraging water conserving design and equipment in new construction. (2) Encouraging water conserving landscaping and other conservation measures. (3) Encouraging retrofitting with water conserving devices. (4) Encouraging service providers to design wastewater systems to minimize inflow and infiltration to the extent economically feasible. (5) Limiting impervious surfaces to minimize runoff.		
A	B		WR-P37. Encourage service providers to increase the use of treated water where the quality of the recycled water is maintained, meets all applicable regulatory standards and is appropriate for the intended use and beneficial uses of other water resources will not be significantly impacted.		
A	B		WR-P38. Promote and encourage the efficient use of water by all water users.		
A	B		WR-P39 Avoid water reuse which could significantly adversely affect the quality of groundwater or surface water.		
A	B		WR-P40. Support programs to monitor, establish and publicize per capita or per unit water use in each community and area and utilize this data in groundwater management plans, master facilities plans, and wastewater treatment plans.		
A	B		WR-P41. Encourage monitoring for all water use and water metering and pricing systems for public water suppliers which require water users to pay all costs associated with the amount of water used. Encourage pricing mechanisms for public water suppliers which provide incentives for water users employing conservation and reuse programs.		
A	B		WR-P42. Encourage and support conservation for agricultural activities which increase the efficiency of water use for crop irrigation, frost protection and livestock.		
Importing and Exporting					

A	B	C	D	WR-P43. Large water export projects will not be approved or supported unless specific requirements and assurances are satisfied. These shall include the 1978 water policy statement policies regarding "Water Export Projects on Humboldt County Streams". (3361.10) (See Standards WR-S8)		
A	B			WR-P44. Require full assessment of impacts on the environment and impacts on the quality and quantity of water for Humboldt County water users of all existing and new proposals to physically export water to new locations outside from Humboldt County or to substantially increase water supply to existing out-of-county locations. Any consideration of exporting additional water resources shall place primary priority upon the benefit of and need for the water resources in Humboldt County and shall assure that water resources needed by urban, rural and agricultural water users and dependant natural resources in Humboldt County will not be exported outside the County.		
A				WR-P55. No new exports of water to locations outside Humboldt County shall be permitted unless the County has issued a Conditional Use Permit for such exportations. In the event a permit is issued, it shall set forth with specificity the details of the exportations (e.g. quantity, origination location, destination location, period of exportation, etc.).		
Stormwater Management						
A				WR-P54. Storm Water/Non-Point Source Pollution Management. Promote integration of storm water and NPS best management practices that protect source watersheds and aquatic systems, and introduce natural system design standards into urban areas.		
Watershed Management						
A	B	C	D	WR-P45. Support the development of fisheries enhancement projects on small Humboldt County streams.* (3361.12)		
A	B	C	D	WR-P46. Ensure that projects located within state designated wild, scenic or recreational river basins are consistent with the guidelines in the State Wild and Scenic Rivers Act (as amended).* (3361.13)		
A	B	C	D	WR-P47. Support flow release schedules from existing reservoirs that maintain or enhance the fisheries of those rivers.* (3361.11)		

A	B		WR-P48. Correlate the quality and quantity of water captured, stored and contained within each unique watershed to the needs of beneficial water uses by all county residents, local industry, agriculture and the natural environment.		
A	B		WR-P49. Work with the NCRWQCB, watershed-focused groups and stakeholders in the collection, evaluation and use of watershed-specific water resource information.		
A			WR-P56. Watershed Based Planning and Assessments. Utilize watershed boundaries for planning in concert with other jurisdictional boundaries (such as municipal or special district boundaries), and incorporate the principles of watershed planning as outlined by the California Watershed Manual http://cwam.ucdavis.edu		
A			WR-P57. Integrated Riparian Corridor Management Protect and enhance riparian corridor biodiversity and community benefits, while using these natural waterways to accomplish flood protection, groundwater stewardship and storm water management objectives.		
A			WR-P58. Floodplain Management. Implement "No Adverse Impact Standards" as recommended by the Association of Flood Plain Managers, and manage floodplains for beneficial uses.		
Hydropower Projects Re-licensing					
A	B		WR-P50. The County should request a determination from re-licensing projects on what conditions will effectively balance development values (electric power, flood control and water supply) with non-developmental values (environmental resource protection and values) that best reflect the public interest.		
A	B		WR-P51. The County should request that the California Public Utilities Commission (CPUC) takes the time to complete its ongoing environmental review under the California Environmental Quality Act. A full review is required to document cumulative damages and potential impacts of ownership transfer and to provide a basis to identify necessary mitigation measures.		
Standards					

A	B	C	D	WR-S1. Development which could potentially "pollute a watershed area" includes, but is not limited to: the placement of septic systems, junkyards, waste disposal facilities, industries utilizing toxic chemicals, and other potentially polluting substances proximate to streams, creeks, reservoirs, or groundwater basins. It can also occur from additions of natural material into a stream because of land use practices but does not include normal agricultural practices which do not require permits from the County.* (3362.1)		
A	B	C	D	WR-S2. A Critical Water Supply Area is defined as the specific area used by a municipality or community for its water supply system, which is so limited in area that it is susceptible to a potential risk of contamination from development activities.* (3362.2)		
A	B	C	D	WR-S3. Development proposed within Critical Water Supply Areas shall demonstrate that no risk of contamination to the water supply area would occur due to the development activity proposed.* (3362.3)		
A	B	C	D	WR-S4. Development within Critical Water Supply Areas shall utilize appropriate Erosion Control Measures including, but not limited to, those in the grading ordinance and this chapter.* (3362.4)		
A	B	C	D	WR-S5. "Water Conservation Techniques" include but are not limited to, domestic and industrial low-flow water fixtures and native vegetation landscaping.* (3362.5)		
A	B			WR-S6. The County shall review new development proposals that include the withdrawal of groundwater resources for use within the County to determine the safe yield, and to ensure that other users are not adversely affected.		
A	B			WR-S7. The County will review projects and include requirements for compliance with State and Federal water quality regulations, including the Clean Water Act and requirements of the National Pollutant Discharge Elimination System (NPDES).		
A	B	C	D	WR-S8. Water Export Projects on Humboldt County Streams. The Humboldt County Board of Supervisors, prior to giving its approval and support to large export projects on County streams, will require the following: (see text for items A through L.)(3362.6)		

A	B	C	D	<p>WR-S9. Development of fisheries enhancement projects should include:</p> <p>A. An immediate pilot project initiated on one of the Humboldt County streams for the express purpose of establishing the feasibility of small dams designated and operated only for fishery development and enhancement.</p> <p>B. Efforts designed to improve the anadromous fishery resources of Humboldt County streams. Specifically, the assessment of the natural capacities of the streams and identification of factors limiting production of anadromous fish.</p> <p>C. The use of Humboldt County Water Resources for the development of mariculture and aquaculture, with appropriate regulations to protect the native fish populations and the general public interests.* (3362.7)</p>		
A	B	C	D	<p>WR-S10. Small hydroelectric projects for the purposes of this policy are defined as run of the river type diversions and existing impoundments with a maximum generating capacity of five (5) megawatts.* (3362.8)</p>		
A				<p>WR-S11. Require proof of groundwater with a sufficient yield and quality to support proposed uses in Class 3 and 4 water areas. Require test wells or the establishment of community water systems in Class 4 water areas. Test wells may be required in Class 3 areas. Deny discretionary applications in Class 3 and 4 areas unless a hydrogeologic report establishes that groundwater quality and quantity are adequate and will not be adversely impacted by the cumulative amount of development and uses allowed in the area, so that the proposed use will not cause or exacerbate an overdraft condition in a groundwater basin or sub basin.</p>		
Implementation Measures						
General						
A	B			<p>WR-IM1. Coordinate with federal and state land management agencies to ensure adequate protection of watersheds that are vital to Humboldt County's groundwater and surface water resources.</p>		
A	B			<p>WR-IM2. Design, construct, and maintain County buildings, roads, bridges, drainage and other facilities to minimize sediment and other pollutants in storm water flows. Develop and implement "best management practices" for ongoing maintenance and operation.</p>		

A	B		<p>WR-IM3. Work cooperatively with the RWQCB to manage the quality and quantity of storm water runoff from new development and redevelopment in order to:</p> <p>(1) Prevent, to the maximum extent practicable, pollutants from reaching storm water conveyance systems.</p> <p>(2) Limit, to the maximum extent practicable, storm water flows from post development sites to pre -development quantities.</p> <p>(3) Conserve and protect natural areas to the maximum extent practicable.</p>		
A	B		<p>WR-IM4. Continue to require grading plans to include measures that address soil erosion and on-site sediment retention and consider upgrading requirements as needed to avoid sedimentation in storm water to the maximum extent practicable. Require developments to include on-site facilities for the retention of sediments, and, if necessary, upon project completion, require continued monitoring and maintenance of these facilities.</p>		
A	B		<p>WR-IM5. Seek opportunities to participate in developing programs and implementing projects for water quality restoration and remediation with agencies and organizations such as RWQCBs, CDFG and RCDs in areas where water quality impairment is a concern.</p>		
A	B		<p>WR-IM6. Actively pursue the abatement of failing septic systems that have been demonstrated as causing a health and safety hazard.</p>		
A	B		<p>WR-IM7. The County shall continue to implement Ordinance provisions for buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.</p>		
A	B		<p>WR-IM8. Coordinate Watershed Efforts. Work with land and water management agencies, community-based watershed restoration groups, and private property owners to explore methods and programs for maintaining and improving watershed health.</p>		
A	B		<p>WR-IM9. Work with the North Coast Regional Water Quality Control Board (NCRWQCB) and interested parties in the development and implementation of future NCRWQCB requirements so that the needs of Humboldt County can be met.</p>		

A	B		WR-IM10. Work with the SWRCB, DWR, California Department of Health Services (DHS), CalEPA, and applicable County and City agencies to seek and secure funding sources for development of countywide groundwater quality assessment, monitoring, remedial and corrective action and awareness/education programs.		
A	B		WR-IM11. Require Restoration of Degraded Areas. Require replanting of vegetation and remediation of associated erosion in conjunction with requested land use approvals, especially those including roads and grading on steep slopes.		
A	B		WR-IM12. Integrated Water Resources Funding Program Description: Work with public water suppliers, utility districts, stakeholder groups and interested parties to seek and secure outside funding sources for Water Resources Element programs and associated plans.		
A	B		WR-IM13. Watershed Planning: Seek funding opportunities for collaborative watershed planning approaches to water quantity and quality enhancement and protection, where such an approach is the desired method of accomplishing the program objectives.		
A			WR-IM36 Establish development standards to maximize retention of runoff and regulate development to avoid, to the maximum extent practicable, pollution of storm water, water bodies and groundwater.		
A			WR-IM37 Inform the public about practices and programs to minimize water pollution and provide educational and technical assistance to agriculture in order to reduce sedimentation and increase on-site retention and recharge of storm water.		
Groundwater					
A	B		WR-IM14. Encourage and support research on and monitoring of local groundwater conditions, aquifer recharge, watersheds and streams.		
A	B		WR-IM15. Coordinate the County's land use decisions and actions to be consistent with the Water Resources Element.		
A	B		WR-IM16. Work with NCRWQCB, DWR, DHS, CalEPA, and applicable County and City agencies to seek and secure funding sources for development of groundwater assessment, protection, enhancement and management programs.		
Public Water Systems					

A	B		WR-IM17. Request technical assistance and water resource data from public water suppliers and share available water resource information with them and the public.		
A	B		WR-IM18. Cooperate with public water suppliers in the planning, development and construction of the storage and transmission facilities needed to supply water pursuant to adopted General Plan policies, urban water management plans, water supply agreements, municipal service reviews, and programs to mitigate identified water quantity conditions, where applicable.		
A	B		WR-IM19. Pursuant to the requirements of Government Code 65400-65402, request that public water suppliers, including cities, county-dependent districts, special districts and other local public agencies, consult with the County prior to acquiring a site or developing any well or facilities for public water supplies in the unincorporated area and request a determination of consistency with the Humboldt County General Plan.		
A	B		WR-IM20. Assist public water suppliers in the assessment of available water supplies and protection of water quality.		
A	B		WR-IM21. Work with HBMWD and other public water suppliers in the development and implementation of 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.		
A			WR-IM38. Monitor groundwater conditions, require descriptive information for well permits, and analyze, map and publicize the data gathered.		
A			WR-IM39 Increase institutional capacity and expertise within the County to competently review hydrogeologic reports and data for critical indicators and criteria.		
A			WR-IM40 Initiate an educational program to inform residents, agriculture, businesses and other groundwater users of best management practices in the areas of efficient water use, water conservation, and increasing groundwater recharge. Implementation would include preparation and distribution of educational materials and public workshops.		

A		<p>WR-IM41 Revise ordinance requirements for permits to drill, replace, deepen or repair all wells as follows:</p> <ol style="list-style-type: none"> 1. Show exact locations, depths, yield, drilling logs, soil data, flow direction and water levels of proposed wells and existing wells on the site, locations of known nearby wells, proposed uses of the water, and estimated amount of water use. Review available groundwater data and well permit information in the permit area and make this information available to the applicant to the extent allowed by law. 2. Based upon available information indicating a need, require that new wells be located definite distances from property lines and existing wells. Implementation would develop setbacks which could vary by well size, location of nearby wells, water use, groundwater availability, lot size and other appropriate factors. 3. Require proof of groundwater quantity and quality sufficient for proposed uses and existing beneficial uses on the site in all Class 3 and 4 areas and in other areas with identified water quality and quantity problems, special area studies underway or where adopted management plans require it. Implementation would develop procedures and quantitative standards for pump tests, well yields, pollutant levels, and water storage. 4. Include provisions for applicant fees and other funding of County costs. 5. In areas where a groundwater management plan has been approved and has been accepted by the County, require the issuance of well permits and any limitations imposed on well permits to be consistent with the adopted plan. 		
A		<p>WR-IM42 Revise procedures for proving adequate groundwater for discretionary projects by adding criteria for study boundaries, review procedures, and required findings that the area's groundwater supplies and surface water flows will not be adversely impacted by the project and the cumulative amount of development allowed in the area and will not cause or exacerbate groundwater overdraft, land subsidence or saltwater intrusion. Procedures for proving adequate groundwater for discretionary projects should be flexible enough to consider the expense of such study in relation to the size of the discretionary project.</p>		

A			WR-IM43 Establish a computerized groundwater data base from available application data, well tests, monitoring results, study reports and other sources; analyze the data collected in an annual report to the Board; provide the data to DWR, and use the data to refine the mapping of groundwater availability classes.		
A			WR-IM44 In order to identify areas where groundwater supplies may be declining, in the annual report staff shall review well permit data, monitoring data and reported problems and recommend to the Board of Supervisors the boundaries for areas where comprehensive studies are needed. In each such special study area which is approved by the Board following a public hearing, develop a comprehensive groundwater assessment.		
A			WR-IM45. Groundwater Conservation. Prepare and adopt a Groundwater Conservation Plan to protect groundwater resources from contamination and/or over extraction by new development.		
Conservation and Re-use					
A	B		WR-IM22. Support programs to monitor, establish and publicize per capita or per unit water use in each community and area and utilize this data in groundwater management plans, municipal service reviews, and wastewater treatment plans.		
A	B		WR-IM23. Encourage monitoring for all water use and water metering and pricing systems for public water suppliers which require water users to pay all costs of the amount of water used. Encourage pricing mechanisms for public water suppliers which provide incentives for water users employing conservation and reuse programs.		
A	B		WR-IM24. Require that development, where feasible, retain storm water for on-site use which offsets the use of other water. Implementation could include standards for runoff retention and storage, impervious surfaces, vegetation removal, landscaping, and preservation of wetlands and riparian areas.		
A	B		WR-IM25. Encourage and support conservation for agricultural activities which increase the efficiency of water use for crop irrigation, frost protection and livestock.		
A	B		WR-IM26. Ensure that wastewater disposal systems <i>are</i> designed to reclaim and reuse treated water on agricultural lands, and for other irrigation and wildlife enhancement projects to the extent practicable.		

A	B		WR-IM27. Encourage participation in programs for reuse of treated water, including the establishment of wastewater irrigation districts.		
A	B		WR-IM28. Support the use of recycled water to offset use of other water where the quality of the recycled water is maintained, meets all applicable regulatory standards, and is appropriate for the intended use and beneficial uses of other water resources will not be significantly impacted.		
A	B		WR-IM29. Coordinate with the cities and other wastewater treatment entities in the planning of uses and minimizing of impacts for treated water in agricultural activities and other uses in the incorporated and unincorporated areas.		
A	B		WR-IM30. Support the use of treated water for irrigation, landscaping, parks, public facilities and other appropriate uses.		
A	B		WR-IM31. Encourage graywater systems, roof catchment of rainwater and other methods of re-using water and minimizing the need to use groundwater.		
A	B		WR-IM32. Update existing County septic regulations to reflect the latest in knowledge regarding the design of on site wastewater systems.		
A			WR-IM46. Require water-conserving plumbing and water-conserving landscaping in all new development projects and require water-conserving plumbing in all new dwellings. Educate and promote programs to minimize water loss and waste by public water suppliers. Require County-operated water systems to minimize water loss and waste.		
A			WR-IM47. Educate and promote programs for retrofitting plumbing, providing cost rebates, identifying leaks, changing landscaping, irrigating efficiently and other methods of reducing water consumption by existing users.		
A			WR-IM48. Assess water use by County buildings and facilities and reduce water consumption to the maximum extent practicable.		
Importing and Exporting					
A	B		WR-IM-33. Protect the interests of Humboldt County water users in the review of proposals to export water from the County.		

A	B	<p>WR-IM34. The County shall require that exports not damage the County's environmental and economic setting by ensuring that "no unreasonable effect" occurs in the transfer and withdrawal of water resources pursuant to Section 1810 of the Water Code.</p> <p>"No unreasonable effect" shall be defined as the following:</p> <ul style="list-style-type: none"> ▪ The action would not contribute to the decline in the population of any sensitive or protected plant, fish, or wildlife species; ▪ The action would not reduce water levels in any existing public or private groundwater wells to levels that preclude withdrawal by existing users or would substantially increase the costs or such withdrawal; ▪ The action would not contribute to any impacts on water quality that reduces water quality below health standards or federal/state water quality standards; ▪ The action would not contribute to effects on water quality that would result in a deficiency by the water treatment agency's ability to treat water to appropriate standards; ▪ The action would not reduce available groundwater or surface water resources to levels that would make access and/or use of these waters uneconomical for development planned in accordance with this General Plan; and/or ▪ The action would not directly or indirectly discharge contaminants into surface or groundwater resources. 		
---	---	---	--	--

A			<p>WR-IM49. Basin Management and Local Self-Sufficiency: Establish a permit process for water exports from Humboldt County. No water shall be exported to locations outside Humboldt County unless the County has issued a permit for such exportations. In the event a permit is issued, it shall set forth with specificity the details of the exportations (e.g. quantity, origination location, destination location, period of exportation, etc.). Require full assessment of impacts on the environment and impacts on the quality and quantity of water for Humboldt County water users of all existing and new proposals to physically export water from Humboldt County. Any consideration of exporting water resources shall place primary priority upon the benefit of and need for the water resources in Humboldt County and shall assure that water resources needed by urban, rural and agricultural water users and dependant natural resources in Humboldt County will not be exported outside the County.</p>		
Watershed Management					
A	B		<p>WR-IM35. Seek and secure funding to evaluate the quality and quantity of water resources in each of the watershed basins.</p>		
A	B		<p>WR-IM36. Where there is a problem identified, promote and seek funding for the evaluation and remediation of the problem through a watershed management approach.</p>		
A	B		<p>WR-IM37. Work with the RWQCBs, watershed-focused groups and stakeholders in the collection, evaluation and use of watershed-specific water resource information.</p>		

13.6 Preliminary CEQA Analysis

The threshold for significance for impacts to water resources is as follows:

The proposed project would result in a significant impact on **hydrology and water quality** if it would:

- Substantially degrade water quality.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- Result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff which cannot be responded to by existing policies or plans.
- Result in changes in the course or direction of water movement.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or from inundation by seiche, tsunami, or mudflow.

This Water Resources Element deals, to a large degree, with water management and conservation issues, and for the most part, the various policies and implementation measures for each alternative would serve to prevent potential impacts to water resources. Mitigation to address potential degradation of water quality is covered under policies P2 and P6 and standards S1 and S3 of the Framework Plan, which would remain in effect under the updated General Plan and all alternatives. Mitigation to address potential depletion of groundwater or interference of groundwater recharge is covered under policy P20 and standard S6 of the Framework Plan, which would remain in effect under the updated General Plan and all alternatives. Mitigation to address potential alteration the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site is addressed in policies P1, P3, P4, and P5 and Standards S1, S2, S3, S4, S5, and S8 of the Framework Plan, which would remain in effect under the updated General Plan and all alternatives. Mitigation to address potential changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff is addressed in policies P1, P3, P4, and P5 and Standards S1, S2, S3, S4, S5, and S8 of the Framework Plan, which would remain in effect under the updated General Plan and all alternatives. None of the proposed policies, standards or implementation measures would result in changes in the course or direction of water movement. The water resource element policies would serve to further flood hazard delineation, thus supporting other plan elements designed to avoid placing housing in the 100-year flood hazard area. The policies, standards and implementation measures would serve to avoid exposing people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or from inundation by seiche, tsunami, or mudflow.

Summary

All of the proposed alternatives incorporate the existing Framework Plan policies and standards, which address management of water resources. None of the alternatives would introduce any changes that would impose a significant new impact on water resources in Humboldt County.

Glossary and Definitions

Aquifer. An aquifer is a body of saturated rock or sediment through which water can move readily. An aquifer is the underground area that stores groundwater resources.

Groundwater Basin. A groundwater basin is the aboveground area from which water flows or seeps into a particular aquifer or series of linked aquifers.

Groundwater Transfer. Groundwater transfer refers to the mechanical or artificial relocation of groundwater resources to a location outside the source location.

Mining or Overdraft. Overdraft is a condition of a groundwater basin or aquifer in which withdrawals exceed recharge (i.e., more water is taken out than is put back in).

Water Table. The upper surface of an aquifer (zone of saturation).

Sustainable yield is defined as 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.

Natural groundwater recharge is defined as increasing groundwater quantity by natural percolation of rainfall or by surface irrigation so as not to have any significant impact on groundwater quality, and excludes intentional underground injection of treated wastewater or other contaminants that degrade aquifers.

Water user is defined as a person or entity whose diversion, appropriation, extraction, acquisition, storage usage of water meets all applicable legal requirements.