



WATER ELEMENT

INTRODUCTION

Water is one of the most critical resources for the Merced County economy and for the quality of life of its residents. Both surface water and groundwater supplies are an important determinant of future growth and agricultural production in the County, yet, like much of California, areas of the County have experienced problems with water supply and quality. Declining groundwater levels have been a long-term, recurring problem in certain regions of the County. Groundwater recharge, conjunctive use programs, and recycled water practices are keys to meeting increased agricultural and urban water demands. Water conservation will also be critical to sustaining an adequate water supply for future use.

Water quality is also a concern in many areas of the County where contamination sources have degraded water use. Areas with degraded water quality may require extensive and expensive treatment/remediation.

This element includes goals and policies that address the multiple uses of water, including urban, agricultural, and environmental. The element also addresses water resource issues, such as water supply, water quality, and watershed management. Goals and policies in this element are organized under the following headings:

- Water Supply
- Water Quality
- Water Reuse and Conservation
- Watershed Management
- Interagency Coordination

WATER SUPPLY

Merced County depends heavily on groundwater for its water needs. Historical water data shows the use of surface water supplied by the irrigation districts is decreasing during droughts, while the pumping of groundwater for irrigation has been increasing. Several consequences can occur if aquifer levels continue to decline, including land subsidence, reduction of drought protection, increased regulatory control, higher

energy costs, and reduction in agricultural production. The policies in this section seek to protect Merced County's long-term water supply.

Goal W-1

Ensure a reliable water supply sufficient to meet the existing and future needs of the County. *[Source: New Goal, GPU Consultants]*

Policy W-1.1: Countywide Water Supply (MPSP/IGC)

Ensure that continued supplies of surface and groundwater are available to serve existing and future uses by supporting water districts and agencies in groundwater management and water supply planning; requiring that new development have demonstrated long-term water supply; and assisting both urban and agricultural water districts in efforts to use water efficiently. *[Sources: MCGPU Alternatives Report, Policy Option NR-2.c, BOS/PC Comment]*

Policy W-1.2: Demonstrating Sufficient Water Supply for New Development

Require all new development within the adopted service area of a water purveyor to demonstrate adequate quantity and quality of water will be available prior to issuing building permits. *[Source: Existing GP Policy OS.2.12, County Staff]*

Policy W-1.3: Agricultural Water Study (MPSP/IGC)

In cooperation with local water agencies and districts, maintain the detailed General Plan study of Countywide water use and needs for agriculture with periodic updates and with information that can be widely shared and publicized. *[Sources: MCGPU Policy Alternatives Report, Policy Option Ag-5.a, BOS/PC Comment, Qualitative Comparison of Water Supply and Demands in Merced County: Technical Memorandum]*

Policy W-1.4: Groundwater Recharge Projects (RDR)

Support implementation of groundwater recharge projects consistent with adopted Integrated Regional Water Management Plans to minimize overdraft of groundwater and ensure the long-term availability of groundwater. *[Sources: WR Focus Group meeting comment, GPU Consultants]*

Policy W-1.5: New Well Guidelines (RDR/IGC)

Coordinate with the cities and special districts in developing County-wide guidelines regarding the location and construction of new water wells. *[Source: MCGPU Alternatives Report, Policy Option PIS-3.a]*

Policy W-1.6: Surface Water Storage (SO)

Support water agencies in the exploration of additional surface water storage opportunities. *[Sources: WR Focus Group meeting comment, GPU Consultants]*

Policy W-1.7: Water Sufficiency Requirement (RDR)

Require new developments to prepare a detailed source water sufficiency study and water supply assessment per Title 22 and SB 610, consistent with any Integrated Regional Water Management Plan or similar water management plan. This shall include studying the effect of new development on the water supply of existing users, with

public input. [Sources: MCGPU Alternatives Report, Policy Option PIS-3.b, BOS/PC Comment, MARG Comment]

Policy W-1.8: Single User Well Consolidation (IGC)

Encourage consolidation of single user wells into local water districts (with management plans) where feasible. [Source: MCGPU Alternatives Report, Policy Option PIS-3.d]

Policy W-1.9: Water Supply Research and Protection (PSR/SO)

Encourage investment into water quality improvement techniques such as desalination plants and desalinization plants and the treatment of urban runoff. Encourage improvements to the drainage systems in the County, including the efforts of the San Joaquin River Flood Control Association, and completion of the San Luis Drain Project. Or, if it is determined that the San Luis Drain cannot be completed as designed, the removal and elimination of the drain in Merced County. [Source: Existing GP Implementation AG.4.4]

Policy W-1.10: Groundwater Overdraft Protection

Where a water supply source is nearby and accessible, encourage large water consumers to use available surface irrigation water (secondary water) for school athletic fields, sports complexes, and large landscape areas. [Source: MCGPU Alternatives Report, Policy Option PIS-3.c; BOS/PC Study Session]

WATER QUALITY

Water quality is a concern in many areas of the County where contamination has degraded water. Water contamination can come from various sources, including soil erosion, ground leaching from septic tanks, runoff from impervious surfaces, and discharge from agricultural activities. Impacts on water quality can be mitigated by using proper management practices for agricultural, livestock, industrial, and commercial operations by reducing or eliminating excess sediment, nutrients, and pathogens in downstream waters; requiring new development to use best management practices; and enforcing septic tank regulations. The policies in this section seek to protect water resources and maintain the highest quality water for human and natural use.

Goal W-2

Protect the quality of surface and groundwater resources to meet the needs of all users. [Source: New Goal, GPU Consultants]

Policy W-2.1: Water Resource Protection (RDR)

Ensure that land uses and development on or near water resources will not impair the quality or productive capacity of these water resources. [Source: Existing Merced County GP Revised Policy OS.2.5]

Policy W-2.2: Development Regulations to Protect Water Quality (RDR)

Prepare updated development regulations, such as best management practices, that prevent adverse effects on water resources from construction and development activities. [Sources: MCGPU Alternatives Report, Policy Option NR-2.a, BOS/PC Comment]

Policy W-2.3: Natural Drainage Channels (RDR/MPSP)

Encourage the use of natural channels for drainage and flood control to benefit water quality and other natural resource values. *[Source: MCGPU Alternatives Report, Policy Option NR-2.e]*

Policy W-2.4: Agricultural and Urban Practices to Minimize Water Contamination (JP)

Encourage agriculture and urban practices to comply with the requirements of the Regional Water Quality Control Board for irrigated lands and confined animal facilities, which mandate agricultural practices that minimize erosion and the generation of contaminated runoff to ground or surface waters by providing assistance and incentives. *[Source: MCGPU Alternatives Report, Policy Option NR-2.f, Revised]*

Policy W-2.5: Septic Tank Regulation (RDR)

Enforce septic tank and onsite system regulations of the Regional Water Quality Control Board to protect the water quality of surface water bodies and groundwater quality. *[Source: New Policy, GPU Consultants]*

Policy W-2.6: Wellhead Protection Program (MPSP)

Enforce the wellhead protection program to protect the quality of existing and future groundwater supplies by monitoring the construction, deepening, and destruction of all wells within the County. *[Source: New Policy, GPU Consultants]*

Policy W-2.7: NPDES Enforcement (RDR)

Monitor and enforce provisions of the U.S. Environmental Protection Agency National Pollution Discharge Elimination System (NPDES) program to control non-point source water pollution. *[Source: New Policy, GPU Consultants]*

Policy W-2.8: Water Contamination Protection (RDR/MPSP)

Coordinate with the State Water Resources Control Board, Regional Water Quality Control Board, and other responsible agencies to ensure that sources of water contamination (including boron, salt, selenium and other trace element concentrations) do not enter agricultural or domestic water supplies, and will be reduced where water quality is already affected. *[Source: Existing GP Policy AG.4.3]*

WATER REUSE AND CONSERVATION

Water conservation is an easy, cost-effective way to reduce demand for water. Water-efficient technologies benefit the environment, economy, and community as a whole. Water can also be conserved through the reuse of agricultural wastewater and domestic greywater. Through a series of wastewater treatments and filtration techniques, recycled water can be safely used for agriculture and domestic non-potable purposes. The policies in this section address water conservation in Merced County through increased efficiency and reuse.

Goal W-3

Maximize the efficient use and reuse of water supplies through water conservation, water recycling, and public education. *[Source: New Goal, GPU Consultants]*

Policy W-3.1: Water Availability and Conservation (SO/PI)

Support efforts of water agencies and districts to prevent the depletion of groundwater resources and promote the conservation and reuse of water. *[Source: Existing GP Policy OS.2.6]*

Policy W-3.2: Landscape Water Efficiency (SO/PI)

Ensure the conservation of water in urban areas through the implementation of the State Model Water Efficient Landscape Ordinance as implemented in Section 18.38 (Landscaping Standards) of the County Zoning Ordinance. *[Source: Existing Merced County GP Revised Policy OS.2.13, County Staff]*

Policy W-3.3: Water System Rehabilitation (RDR/MPSP)

Encourage the rehabilitation of irrigation systems and other water delivery systems to reduce lost water and increase the efficient use and availability of water. *[Source: Existing Merced County GP Revised Policy OS.2.7]*

Policy W-3.4: High Water Use Processing Activities (RDR)

Prohibit any processing activities with high water use practices near areas where groundwater overdraft problems exist, unless the facility uses water recycling and conservation techniques that minimize affects of water use to the groundwater table. *[Source: Existing Merced County GP Revised Policy OS.2.10]*

Policy W-3.5: Educational Programs (IGC/PI)

Support the development of educational programs by water districts and public agencies, including the Model Water Efficient Landscape Standards adopted by the State Department of Water Resources, to increase public awareness of efficiently conserving, using, reusing, and managing water resources. *[Source: New Policy, GPU Consultants, County Staff]*

Policy W-3.6: New Construction (RDR/SO)

Promote efficient water conveyance systems in new construction, including systems for the recycling of greywater. *[Sources: MCGPU Alternatives Report, Policy Option PIS-3.g, BOS/PC Comment]*

Policy W-3.7: Existing Development Retrofits (RDR/SO)

Encourage the retrofitting of existing development with water-conserving devices. *[Source: New Policy, GPU Consultants]*

Policy W-3.8: Water Reuse Programs (RDR/SO)

Encourage water reuse programs to conserve raw or potable water supplies (such as the capture of rainwater) consistent with State Department of Public Health guidelines. *[Source: MCGPU Alternatives Report, Policy Option PIS-3.h]*

Policy W-3.9: Water Reuse Treatment (RDR/SO)

Encourage water reuse/recycling through the treatment and distribution of tertiary treated wastewater. *[Sources: MCGPU Alternatives Report, Policy Option PIS-4.e, BOS/PC Comment]*

Policy W-3.10: Domestic Greywater Use (SO)

Encourage the use of domestic greywater for landscape irrigation purposes. *[Sources: MCGPU Alternatives Report, Policy Option PIS-4.f, BOS/PC Comment]*

Policy W-3.11: Composting Toilets (PSR)

Explore the feasibility of reducing wastewater through the use of dry/composting toilets in new construction. *[Source: New Policy: MARG Comment]*

Policy W-3.12: Water Conservation Information (IGC/PI)

Provide information on water conservation measures to the general public and coordinate with conservation efforts of the University of California, Cooperative Extension, local Resource Conservation Districts, the Natural Resource Conservation Service, and irrigation districts. *[Source: Existing GP Implementation AG.4.2]*

Policy W-3.13: Agricultural Water Reuse (RDR)

Promote and facilitate using reclaimed wastewater for agricultural irrigation, in accordance with Title 22 and guidelines published by the State Department of Public Health. *[Source: MCGPU Alternatives Report, Policy Option PIS-4.d, BOS/PC Comment]*

Policy W-3.14: Agricultural Water Conservation (JP)

Encourage farmers to use irrigation methods which conserve water in areas where flood irrigation is used for groundwater recharge. *[Source: Existing GP Policy AG.4.2]*

Policy W-3.15: Agricultural Water Efficiency (IGC)

Coordinate with the Farm Bureau and agricultural irrigation districts to promote protection of water resources in agricultural areas by encouraging programs that assist producers to use water efficiently in agricultural operations and by promoting technology for efficient water use in agriculture. *[Source: MCGPU Alternatives Report, Policy Option NR-2.f, County Staff]*

WATERSHED MANAGEMENT

Watershed management is a comprehensive approach for the oversight of supply, water quality, drainage, stormwater runoff, and water rights. The objective of watershed management is to assure the diverse needs of the watershed users and beneficiaries are met. The policies in this section address the County's role in watershed protection and enhancement.

Goal W-4	Enhance and protect County watersheds through responsible water and land use management practices that address water bodies, open spaces, soils, recreation, habitat, vegetation, groundwater recharge, and development. <i>[Source: New Goal, GPU Consultants]</i>
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Policy W-4.1: Water Resource Protection and Replenishment (RDR/IGC)

Encourage the protection of watersheds, aquifer recharge areas, and areas susceptible to ground and surface water contamination by identifying such areas such as:

- a) Consider the implementation of zoning and development regulations to protect water resources;
- b) Encourage community drainage systems and contaminant control measures; and
- c) Coordinate with other agencies and entities with responsibilities for water quality and watershed protection. *[Sources: MCGPU Alternatives Report, Policy Option NR-2.b, BOS/CP Comment]*

Policy W-4.2: Watershed Program Funding (FB)

Support efforts to obtain grant funding for locally-sponsored watershed programs, planning efforts, and projects that enhance and protect the watersheds of the County. *[Source: New Policy, GPU Consultants]*

IRRIGATION DISTRICT AND WATER AGENCY COORDINATION

The County of Merced does not own or control water rights within the County, however, land use decisions made by the County do affect water demand. There are five major irrigation districts, nine medium-sized irrigation districts or water agencies, and 15 smaller irrigation districts or water agencies that control and manage this resource within the County. The policies in this section promote coordination and information sharing between local governments and the water agencies in the County.

Goal W-5	Promote interagency communication and cooperation between local governments, irrigation districts, and water districts in order to optimize use of resources and provide the highest level of dependable and affordable service, while respecting individual entities water rights and interests. <i>[Source: New Policy, GPU Consultants]</i>
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Policy W-5.1: Countywide Water Supply Study (RDR/MPSP/PSR)

Prepare and regularly update a comprehensive water supply study that includes all four groundwater basins and three hydrologic zones, and takes into consideration activities in neighboring counties and the region. The plan shall consider reductions in Federal and State water deliveries in the western part of the County and anticipated reductions in water supplies due to climate change. *[Sources: New Policy, Ag Focus Group Comment, MARG Comment, County Staff]*

Policy W-5.2: Master Plan Development (IGC)

Coordinate with all agricultural and urban water districts to develop water supply master plans to guide future groundwater basin water supplies through regional solutions. *[Source: MCGPU Alternatives Report, Policy Option PIS-3.f]*

Policy W-5.3: Water Forum (IGC/FB)

Support a County-wide water forum to coordinate long-term water demand and supply programs that emphasize sustainability in the County. *[Source: New Policy, GPU Consultants, County Staff]*

IMPLEMENTATION PROGRAM

Water Element Implementation Program						
		2013-2015	2016-2020	2021-2030	Annual	Ongoing
<p>Program W-A: Water Conservation Plan (MPSP, IGC) Prepare a countywide Water Conservation Plan, in coordination with the six incorporated cities and special districts, which identifies water sources and outlines ways of conserving water resources. <i>[Source: New Program, WR Focus Group Comment]</i></p>		✓				
Implements Which Policies	W-1.1 through W-1.11					
Responsible Department	Public Works, Cities, Special Districts					
Supporting Department	Planning and Community Development					
<p>Program W-B: Agricultural Water Study (MPSP, IGC) Prepare, adopt, and regularly update, in cooperation with local water agencies, a detailed study of Countywide water use and needs for agriculture with periodic updates and with information that can be widely shared and publicized. <i>[Sources: MCGPU Policy Alternatives Report, Policy Option Ag-5.a, BOS/PC Comment]</i></p>			✓			
Implements Which Policies	W-1.3					
Responsible Department	Public Works, Cities, Special Districts					
Supporting Department	Planning and Community Development					
<p>Program W-C: Countywide Water Supply Study (RDR, MPSP, PSR) Prepare, adopt, and regularly update a comprehensive water supply study that includes all four groundwater basins and three hydrologic zones, and takes into consideration activities in neighboring counties and the region. The plan shall consider reductions in Federal and State water deliveries in the western part of the County and anticipated reductions in water supplies due to climate change. <i>[Sources: New Policy, Ag Focus Group Comment, MARG Comment, County Staff]</i></p>		✓				
Implements Which Policies	W-5.1					
Responsible Department	Public Works, Cities, Special Districts					
Supporting Department	Planning and Community Development					