MERCED INTEGRATED REGIONAL WATER MANAGEMENT PLAN

REGION ACCEPTANCE PROCESS

APPLICATION

APRIL 2009

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Introduction

The Merced Integrated Regional Water Management Plan area (MIRWMP, Merced) is an emerging region in terms of SB 1. However, in practicality it is a region of extensive record on cooperation between various entities to manage water resources. The region has all the needed components to produce an effective Water Management Plan (WMP) based on broad collaboration by all within the region. The similarity of challenges, terrain and natural features provide the potential connections for a cohesive Regional Water Management Group (RWMG). MIRWMP area stakeholders are enthusiastic about this effort where, for the first time, agencies will include more comprehensive land use considerations in developing future conceptual models for water management issues. While MIRWMP submits this application to establish the boundaries of its region for planning and funding purposes, Merced's intent is to utilize this opportunity to establish and further develop a group that maintains its vitality well beyond the current scope of this planning and funding program.

Submitting Entity

Efforts toward an MIRWMP started in March of 2008. The Merced Area Groundwater Pool Interest (MAGPI) formed an association in 1997 consisting of water purveyors in the Merced Groundwater Basin in addition to Merced County and the East Merced Resources Conservation District (EMRCD) envisioning a need to move forward with a regional water supply plan. MAGPI recognized the potential benefits that a regional plan would create when considering surface water and groundwater management in the basin. Anticipating a future IRWMP opportunity, MAGPI updated its groundwater management plan to meet SB 1938 requirements and was adopted on July 30 of 2008.

On behalf of MAGPI members and future stakeholders of this Regional Acceptance Process (RAP) application is submitted for your consideration by the current MAGPI chairman.

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As the Merced IRWMP is developed an alternative agency may be selected to represent the RWMG group to lead planning or implementation efforts.

Regional Water Management Group (RWMG)

The MIRWMP entities below are engaged in the process of establishing an RWMG. The existing model for the core group MAGPI is a board consisting of fifteen (15) agencies and one non-purveyor member at large (EMRCD) that hold open public meetings following the Brown Act using Roberts Rules for voting purposes.

The Board of Directors of MAGPI, an association created under AB3030 is comprised of the following agencies:

- Merced County (County)
- City of Merced (City)
- City of Atwater
- City of Livingston
- Winton Water and Sanitary District
- Meadowbrook Water Company
- Planada Community Service District
- Le Grand Community Service District
- Black Rascal Water Company
- Merced Irrigation District (MID)
- Stevinson Water District
- Le Grand-Athlone Water District
- Turner Island Water District (TIWD)
- East Merced Resource Conservation District (EMRCD)
- Merquin County Water District
- Lone Tree Mutual Water Company

Collectively, MAGPI meets all of the requirements for the RWMG including three public agencies, two of which have statutory authority over water supply or management. In addition, East Merced Resource Conservation District provides watershed coordination, stewardship and education.

During the March 25, 2009 MAGPI Board Meeting the proposed MIRWMP boundary maps were displayed and Kole Upton (Le Grand-Athlone Water District) motioned to keep the MIRWMP boundary contiguous with the MAGPI boundary, Second by Bob Kelly (Vice Chairman/Secretary/Stevinson Water District), motion passed with votes as follows:

YES:

Chairman/Merced Irrigation District

Vice Chairman/Secretary/Stevinson Water District

Le Grand-Athlone Water District

Merquin County Water District

Winton Water and Sanitary District

City of Atwater

Merced County

City of Merced

No:

East Merced Resource Conservation District

Absent:

Meadowbrook Water Company

Lone Tree Mutual Water Company

Turner Island Water District

Black Rascal Water District

Planada Community Service District

Le Grand Community Service District

Below is a table of the existing RWMG/MAGPI/MIRWMP members displaying their statutory authority related to water supply, water quality and water management:

Table of RWMG/MAGPI/MIRWMP Entities and Statutory Authorities

Vote to Approve the MIRWMP Boundary		Groundwater Potable	Groundwater Agricultural	Surface Water Potable	Surface Water Agricultural	Sanitary Sewer	Storm Drainage	Flood Fighting	Environmental Water	Recreational Water	Recycled Water
YES	City of Merced	■				■	■	■	■		■
	City of Atwater	■				■	■	■			■
	Merquin County Water District		■		■						
	County of Merced	■	Pending Approval	■	Pending Approval		■	■		■	
	Le Grand/Athlone Water District		■								
	Winton Water & Sanitary District	■				■					
	Merced Irrigation District	■	■	■	■	■	■	■	■	■	Pending Agreement
	Stevinson Water District		■		■						
NO	East Merced Resource Consrevation District										
ABSENT	Meadowbrook Water Company	■									
	Black Rascal Water District	■									
	Planada Community Service District	■				■					
	Truner Island Water District		■								
	Lone Tree Mutual Water Company		■								
	Le Grand Community Service	■				■					
	City of Livingston	■				■	■				

Stakeholders

The MIRWMP group is in the process of evaluating governance structures and processes that provide members and stakeholders with rewarding roles. MIRWMP plans to hold workshops, which will be followed by open house events for all parties of interest in becoming a stakeholder within MIRWMP. At the workshops one or more models may be proposed to the group. The model(s) may include levels of participation, financial/resource commitments, individual entity objectives versus group objectives, stakeholder legitimacy for various levels of commitment, and voting process model discussions.

Stakeholders will be requested to routinely attend MIRWMP meetings to provide input. The meetings will be open to accommodate stakeholder input at any stage of the meetings, on any item, with generous time limits. Stakeholders will also be encouraged to meet with members and entities from other IRWMP regions.

Participants will be asked for input on governance model(s), suggestions, and clarifications regarding their expectations of IRWMP processes and how they can help in establishing a regional plan that is goal oriented.

Current MAGPI/MIRWMP members include the vast majority of agencies within the proposed regional boundary with statutory authority over water supply, water quality, water management or flood control. Chowchilla Water District controls approximately 14,000 acres in the southeastern area of the MIRWMP. Lone Tree Mutual Water Company controls approximately 5,000 acres in the southern area of the MIRWMP. Both of these entities are located outside the official (DWR) Merced Groundwater Subbasin per Bulletin 118, which followed political boundaries in the southern area of the basin. However, the MIRWMP area encompasses the entire basin along its natural hydrologic boundary. Chowchilla Water District has also expressed interested in sitting on the MAGPI Board. Franklin County Water District, a sanitary sewer district has also expressed interest. Both Chowchilla Water District and Franklin County Water District will be invited to participate in the MIRWMP.

Various members share common interests:

- The City of Merced and Merced Irrigation District are partners in the Merced Water Supply Plan, an effort focused on water supply reliability for water users in the Merced area

- The overall health of the Merced Groundwater Basin is important to all MAGPI/MIRWMP members

- Flood preparedness is shared between the County of Merced, Merced Irrigation District and the City of Merced under the umbrella of the Merced Streams Group

- Merced Irrigation District and the City of Merced are negotiating a recycled water exchange proposal involving tertiary treated effluent

- Several entities are considering partnerships regarding Sanitary Sewers

The MIRWMP group will enjoy the legacy of MAGPI's established and future relationships with various stakeholders such as; Wholesale and retail water purveyors, Wastewater Agencies, Flood Management Agencies, Municipal, County Governments, and Special Districts, Electrical Corporations, Native American Tribes, Land Use Authorities, Self Supplied Water Users, Environmental Stewardship Organizations, Community and Landowner Organizations, Industry Organizations, State, Federal and Regional agencies, Colleges and Universities, Disadvantaged Communities, and other interests in the area. The MIRWMP group will continuously pursue stakeholder outreach efforts within the region to aid in serving and the broadening the missions for defining a regional water management plan.

MIRWMP has started expanding its stakeholder group by circulating an invitation to organizations in the region (see "Stakeholder Outreach Letter - Exhibit "C"). Stakeholders will be included in establishing the governance process. The stakeholder inclusion process will be an ongoing effort for the MIRWMP group. The MIRWMP intends to have a diverse group of stakeholders to represent a full spectrum of water management concepts. The stakeholders at a minimum will include environmental, industrial, residential, economic development, agricultural, social, and disadvantaged communities (DAC).

Public Involvement & Input

MIRWMP meetings occur as a part of MAGPI meetings at this time. Agendas for these meetings and the meeting place is posted publicly at the MID in accordance with the Brown Act. The agenda and approved minutes are also posted at the MAGPI web site (www.magpi-gw.org). A new website exclusive for the IRWMP was recently launched where future agenda and minutes, post the Regional Acceptance Process (RAP), will be posted (www.mercedirwmp.org). The new website includes a public forum for citizens input in addition to forums for the future RWMG. The IRWMP website will also explain Department of Water Resources (DWR) processes and goals along with local objectives.

RWMG Governance Structure

MAGPI has been cautious in its approach to governance processes and structure development, and from this conservative stance the MIRWMP group has postponed any final decisions regarding governance until the RAP process is near completion. The rationale to postpone includes interest from existing stakeholders and adjacent areas to include the MAGPI/Merced Groundwater Basin in their IRWMP and desire to produce a governance structure that is viable long term. Ultimately the IRWMP group is interested in a practical, manageable region, utilizing governance structures and processes capable of achieving water management goals important inside and outside the proposed boundary considering many goals that are often distinctly different from adjacent regions.

At the last MAGPI/MIRWMP meeting on April 15, 2009, the group embarked on a philosophical and exploratory discussion concerning a potential MIRWMP governance structure that may be separated from MAGPI. The generalized intent is to:

- Continue the successful legacy of MAGPI in the RWMG
- Retain interested MAGPI members as the core group, recognizing these agencies possess most of tools needed to approach water management comprehensively
- Include other agencies that are not currently part of MAGPI and yet are managing water (such as Franklin Water District - a sanitary sewer district)

- Include stakeholders representing various disciplines in the RWMG. A process will be established to determine if a stakeholder does truly represent the discipline and has an identified constitution or goals. There may also be a consideration for open and inclusive stakeholder organizations rather than exclusive organizational entities

- Attempt to create RWMG goals extending beyond the current DWR planning and funding period. At all meetings to date, this core concept is emphasized and is the primary reason why MAGPI members voted to stay with a manageable area, rather than branching out for the sake of securing funds for projects

- Establish MIRWMP goals and objectives and have the RWMG members adopt them through an MOU or other means by their respective boards

- Agree upon a governance structure and pursue the distribution of resources/costs across the RWMG membership. Currently, resource allocation and funding for the RWMG is primarily supported by MID, the City of Merced and Merced County

- Continue to have an open forum in future meetings and allow stakeholders and citizens beyond RWMG membership to contribute to the process in an various capacities

- Continue to create ad hoc committees as needed that may eventually be established for specific RWMG objectives

- Foster a sense of ownership in the process for the betterment of the region and avoid funding and project focused agendas

- Maintain the MIRWMP as an adaptive process which can accommodate change and modifications as circumstances require

- Recruit and develop relationships with consultants and grant writing resources for specific approved tasks. MIRWMP will pursue planning grants to further develop our planning base. Consultants can be selected and contracts developed using State standards in the anticipation of future cost share funding. MAGPI has an excellent history in maintaining such standards that can extend to the RWMG.

The MIRWMP group, within its proposed boundary, possesses the authority and resources required to develop an extensive and complex collaborative water management portfolio, prioritized on regional goals and objectives from various interests within the Merced Groundwater Basin and surrounding areas.

MAGPI has experimented with alternative public meeting formats. With a Memorandum of Undersdtanding (MOU) MAGPI adopting the Brown Act rules for its meetings, and

experimented with the Basin Advisory Panel concept (BAP), an advisory body made of stakeholders and citizens at large. A facilitator at BAP meetings proved costly for MAGPI allowing the meetings to cover subjects substantially outside of MAGPI's mission and expertise. Many MAGPI members stopped attending meetings and there are members who have never returned. The BAP was discontinued in 2003, and MAGPI returned to hold only Board meetings with the presence of stakeholders and citizenry. Currently, MAGPI can create ad hoc and technical advisory committees as needed for specific purposes. MAGPI learned from this experiment and intends to avoid similar pitfalls in the upcoming stakeholder input process.

Integrated Regional Water Management Boundary – The Proposed MIRWMP Area

The proposed MIRWMP region boundary is the area currently defined as and approved by the Merced Area Groundwater Pool Interest (MAGPI) group boundary. The MAGPI boundary is slightly larger than the Merced Groundwater Subbasin (Merced Subbasin) consisting of approximately 521,000 and 491,000 acres respectively (see Draft IRWMP – Surface Areas map – Exhibit D). The boundary contains primarily agricultural and to a lesser extent urban lands on the San Joaquin Valley floor in Eastern Merced County. The groundwater resources in the basin are extensively developed and managed conjunctively with the region's surface water resources to satisfy regional agricultural, urban and environmental water demands.

The largest urban communities within the basin include the cities of Merced, Atwater and Livingston; unincorporated communities include Cressey, Le Grand, Planada, Snelling and Winton. The current total population of Merced County is approximately 245,514 (2007 Censes Data) and is expected to double by 2040. Major urban water demands are supplied from groundwater. The value of agricultural production in Merced County is approximately $1.5 billion annually, much of this sustained by irrigation within the basin. Only MID managed irrigation demands are met by a combination of surface and groundwater supplies. Outside of MID irrigators often rely exclusively on groundwater although some entities obtain irrigation supplies from surface waters.

Several maps are provided in Exhibit "D" to visualize the MIRWMP proposed boundary. Maps attached to date include Political/Jurisdictional boundaries, Water, Conservation and Irrigation Districts (updates of FEMA flood maps are in progress), Watershed Management Areas, Groundwater Basins as defined in DWR Bulletin 118 and Central Valley Regional Water Quality Control Board Basins (CVRWQCB), Surface Water Bodies and Major Conveyances (lakes, reservoirs, streams, rivers, and irrigation), and Disadvantaged Communities. Physical, Topographical, Geographical, Biological Features, and additional Biological Significant units or other biological features (critical habitat areas) maps will be created and developed further as definition for content from the Department of Water Resources becomes available. Impaired Water Bodies will be mapped following the adoption of recently proposed drafts of new 303(d) listed water bodies from the CVRWQCB (expected in late spring of 2009).

The proposed MIRWMP region boundary is not based solely on geographic, hydrologic, and watershed delineations, considerations or characteristics. The IRWM region boundary proposed has been carefully evaluated. The proposed IRWM Region is defined by water management issues, its stakeholders, and water-related conflicts. The proposed IRWM region is designed and configured to diversify and strengthen the regional water management portfolio.

The proposed MIRWMP region boundary contains the Department of Water Resources Merced Subbasin 5-22.04 (Bulletin 118-80), a unique hydrologic basin inside the existing MAGPI area with a broad variety of water systems being managed in the planning area, including:

- Water Supply and Water Quality;
- Land Use and Flood Management;
- Drought Preparedness;
- Wastewater Treatment and Recycled water;
- Watershed Management;
- Groundwater Management;
- Environmental Stewardship, Natural Habitat and Conservation;
- Conjunctive Use (surface water and ground water); and
- Emphasis on Reduced Dependence on Imported Water.

California's Basin Delineations, Hydrogeology and Proposed MIRWMP Boundary

The San Joaquin Valley is a structural trough up to 200 miles long and 70 miles wide. It is filled with up to 32,000 feet of marine and continental sediments deposited during periodic inundation by the Pacific Ocean and by erosion of the surrounding mountains, respectively.

The San Joaquin Valley has three basins designated and acknowledged by DWR and the Regional Water Quality Control Boards (CVRWQCB). Basin and Subbasin designations by DWR were first published in 1952 in Bulletin 118, updated in 1975 and 1980, the primary source of hydro-geologic information for the MIRWMP boundary proposed.

Central Valley Hydrologic Regions include the Sacramento River, San Joaquin River and Tulare Lake regions. The San Joaquin River Hydrologic Region contains ten (10) distinct Subbasins including the Merced Subbasin (5-22.04).

The Merced Subbasin includes lands south of the Merced River between the San Joaquin River on the west and the crystalline basement rock of the Sierra Nevada foothills on the east. The Subbasin boundary on the south stretches westerly along the Madera-Merced County line (Chowchilla River) and then between the boundary of the Le Grand-Athlone Water District and the Chowchilla Water District. The boundary continues west along the northern boundaries of Chowchilla Water District and El Nido Irrigation District. The

southern boundary then follows the western boundary of El Nido I.D. south to the northern boundary of the Sierra Water District, which is followed westerly to the San Joaquin River. An "Area of Interest" has also been designated to the north of the proposed region boundary consisting of the Dry Creek watershed and low lying areas on the north side of the Merced River to its confluence with the San Joaquin River. The Dry Creek watershed is a tributary to the Merced River. The larger proposed MAGPI boundary area is primarily represented by the Merced Subbasin and adjacent subbasin descriptions that follow.

The crystalline basement rock at the eastern edge of the Merced Subbasin is a critical hydro-geologic feature to consider when proposing the MIRWMP regional boundary. With the exception of the Yosemite Valley Subbasin (5-69) in Yosemite National Park, no DWR designated groundwater basins are listed east of Merced County to the crest of the Sierra's in the entire mountainous zones (Sierra Nevada range) of the San Joaquin River Hydrologic Region. In essence counties like Tuolumne, Mariposa and Madera (if utilizing their political/jurisdictional boundaries or well defined watersheds) will be required to manage the water systems in their mountainous areas in a dramatically different manor since most of the water is in fluvial (creek and river) and fractured rock systems. In addition computerized modeling needed to assess a proposed region's water system is entirely different in mountainous watersheds in contrast to regions dominated by a groundwater/alluvial basin setting.

Water use in the proposed MIRWMP region is managed by local purveyors, special districts, and private land owners. The County of Merced has no water rights. According to DWR Bulletin 118, annual urban and agricultural extractions are 54,000 acre-feet and 492,000 acre-feet (AF), respectively. Other extractions equal approximately 9,000 acre-feet.

There are three ground water bodies in the Merced Subbasin and the larger proposed MIRWMP boundary area: an unconfined water body, a confined water body, and the water body in consolidated rocks. The unconfined water body occurs in the unconsolidated deposits above and east of the Corcoran Clay, which underlies the western half of the sub basin at depths ranging between about 50 and 200 feet (DWR 1981), except in the western and southern parts of the area where clay lenses occur and semi-confined conditions exist. The confined water body occurs in the unconsolidated deposits below the Corcoran Clay and extends downward to the base of fresh water. The water body in consolidated rocks occurs under both unconfined and confined conditions. An estimated 15,700,000 acre-feet of groundwater to a depth of 300 feet is stored in this Subbasin as of 1995 (DWR 1995).

The groundwater in the Merced Subbasin and the larger proposed MIRWMP boundary area are characterized by calcium-magnesium bicarbonate at the basin interior, sodium bicarbonate to the west, and calcium-sodium bicarbonate to the south. Small areas of sodium chloride and calcium-sodium chloride waters exist at the southwest corner of the basin. TDS values range from 100 to 3,600 mg/L, with a typical range of 200 to 400 mg/L. The Department of Health Services, which monitors Title 22 water quality standards, reports TDS values in 46 wells ranging from 150 to 424 mg/L, with an average

value of 231 mg/L. For 10 wells, EC values range from 260 to 410 µmhos/cm, with an average value of 291 µmhos/cm. There are areas of localized arsenic, nitrate, pesticides and volatile organics in groundwater within the proposed MIRWMP region. Impaired surface water bodies from the 303(d) list are displayed in an attachment (See "Table of Impaired Water Bodies in Merced County" – Exhibit "E").

There are three ground water bodies in the adjacent Turlock Subbasin (5-22.03) to the north primarily in Stanislaus County: the unconfined water body; the semi-confined and confined water body in the consolidated rocks; and the confined water body beneath the E-clay in the western Subbasin. Turlock Subbasin has an estimated 12,800,000 acre-feet of groundwater to a depth of 300 feet stored in this subbasin as of 1995 (DWR 1995.

The adjacent Chowchilla Subbasin (5-22.05, see Figure 1) to the south primarily in Madera County has hydro-geologic units consisting of unconsolidated deposits of Pleistocene and Holocene age. These deposits are divided into continental deposit of Tertiary and Quaternary age, and continental deposits of Quaternary age. Continental deposits of Quaternary age include older alluvium, lacustrine and marsh deposits and younger alluvium. The continental deposits of Quaternary age crop out over most of the area and yield probably more than 95 percent of the water pumped from wells. Although younger alluvium and flood-basin deposits yield small quantities of water to wells, the most important aquifer in the area is the older alluvium. It consists mostly of intercalated lenses of clay, silt, sand, and some gravel. The Corcoran Clay or E-Clay (a lacustrine and marsh deposit), which underlies most of the subbasin at depths ranging between 50 and 250 feet (DWR 1981), restricts the vertical movement of ground water and divides the water bearing deposits into confined and unconfined aquifers. There is significantly less groundwater storage in the Chowchilla Subbasin, an estimated 5,500,000 acre-feet of groundwater to a depth of 300 feet is stored in this subbasin as of 1995 (DWR 1995).

The San Joaquin River on the west is another critical hydro-geologic feature. West of the San Joaquin River and adjacent to the Merced Subbasin lies the Delta-Mendota Subbasin (5-22.07). The Delta-Mendota Subbasin is unique due primarily to the composition of the contributing parent/alluvial materials and reliance on imported water sources as the Delta-Mendota Canal (DMC) and California Aqueduct (CAq) system. The Subbasins on the west side of the San Joaquin River from the San Joaquin Delta to Mendota Pool are areas likely/best suited for a significantly different region and management proposal due to hydrogeology, flooding from Cantua and Panoche drainages into the California Aqueduct, land use, water use patterns and water quality issues. There are localized areas of high iron, fluoride, nitrate, and boron in the Delta-Mendota Subbasin, selenium and salts are also of significant concern.

The mountainous fractured rock areas to the east, the Delta-Mendota Subbasin to the west, the Chowchilla Subbasin to the south, and Turlock Subbasin to the north are distinctly different from the proposed Merced Subbasin/MAGPI/MIRWMP boundary proposed and should be managed separately based on their unique characteristics with collaboration from all that surround them.

Surface Area, Land Use, Water Use and the Proposed MIRWMP Boundary

A large portion of the eastern half of Merced County (west of the San Joaquin River, 509,000 acres) is included in the proposed MIRWMP region excluding only the Ballico and Hilmar areas since these areas overlie the DWR designated Turlock Subbasin (5-22.03) lying north of the Merced River. Including Dry Creek, the only major tributary to the Merced River in Merced County the proposed MIRWMP region is slightly larger than the DWR designated Merced Subbasin (See "Draft Merced IRWMP – Surface Areas Map" – Exhibit D).

Land use patterns in the Merced Subbasin and the proposed MIRWMP boundary area are dominated by agricultural uses including animal confinement (dairy), grazing, forage, row crop, nut and fruit trees relying heavily on purveyors/districts, private groundwater wells and surface water sources in some areas. Urban land use relies on groundwater in most instances. Land use is primarily controlled by local agencies.

Land use patterns in the mountainous areas to the east of the proposed MIRWMP Region are dominated by national forest and timber, recreation, tourism, rangeland grazing of forested areas and in the lower foothills. Significant portions of the land areas to the east of the proposed MIRWMP boundary are controlled at the federal level as National Park Lands, National Forests, and the Bureau of Land Management areas. The balance of land area in the mountainous areas to the east of the proposed MIRWMP region is controlled by private entities and local agencies.

Disadvantaged Communities (DAC) and the Proposed MIRWMP Boundary

One hundred percent of the land area in the proposed MIRWMP Region is defined as Disadvantaged Communities (DAC). A "disadvantaged community" is defined as a community with an annual median household income (MHI) that is less than 80% of the statewide annual median household income. Using the 80% criteria, the County of Merced, City of Atwater, City of Livingston and City of Merced qualify as disadvantaged communities within the proposed MIRWMP Region.

- The County of Merced qualifies at 74.8%.
- Within the County of Merced and propose MIRWMP boundary:
- The City of Atwater qualifies at 78.6%.
- The City of Livingston qualifies at 68.4%.
- The City of Merced qualifies at 64.1%.

The 2000 census data used for quantification follows as:

- California State MHI: $47,493; $37,994 = 80 % of the State
- County of Merced MHI: $35,532 = 74.8% of the State

- City of Atwater MHI: $37,344 = 78.6% of the State
- City of Livingston MHI: $32,500 = 68.4% of the State
- City of Merced MHI: $30,429 = 64.1% of the State

Governance Structure, Stakeholders and Proposed MIRWMP Selection Rationale

Formed in 1997 by a Memorandum of Understanding (MOU), the Merced Area Groundwater Pool Interests (MAGPI) group is tasked with developing technical data and management strategies to ensure the health of the groundwater basin. Since its formation, MAGPI's main issues have been implementation of the Merced Groundwater Management Plan, which promotes conjunctive surface water and groundwater management. In June 2001, the California Department of Water Resources (DWR) and MAGPI entered into a MOU to work cooperatively to promote conjunctive use projects within the Merced basin. This established governance structure is the source of the proposed MIRWMP boundary. As stated previously, MAGPI consists of 15 municipal and agricultural water purveyors and one non-purveyor Member at Large operating in the proposed MIRWMP region including:

- Black Rascal Water Company
- City of Atwater
- City of Livingston
- City of Merced
- County of Merced
- Le Grand Community Services District
- Le Grand-Athlone Water District
- Lone Tree Mutual Water Company
- Meadowbrook Water Company
- Merced Irrigation District
- Merquin County Water District
- Planada Community Services District
- Stevenson Water District
- Turner Island Water District
- Winton Water & Sanitary District

In addition, non-purveyor Members at Large includes:

- East Merced Resources Conservation District

The interconnected surface water and groundwater system is complex in the proposed MIRWMP boundary. Surface water flows and water quality are directly and indirectly affected by land use practices in the entire watershed and subbasin. Stormwater drainage,

precipitation based sheet flow, agricultural drainage, wastewater effluent and other contributing sources can dramatically affect surface water quality and quantity. Precipitation, irrigation and recharge based infiltration from and through variable surfaces and soil types in different land use settings also affect groundwater quality and quantity. In addition, groundwater accretions to surface waters have inter-related outcomes on both surface and ground water simultaneously. Man made and natural conveyances, including but not limited to irrigation and flood management projects have the potential to transfer water sources with significantly different qualitative and quantitative characteristics throughout the proposed boundary. Public, domestic, irrigation and industrial production wells can create highly variable ground water flow patterns and cones of depression affecting groundwater elevations and regional flow directions temporally and spatially ultimately affecting the quality and quantity of ground water in the proposed boundary. Collectively, the existing MAGPI/MIRWMP members listed above and future stakeholders clearly represent a motivated and structured opportunity to integrate water management activities related to natural and man made water systems, including water supply reliability, water quality, environmental stewardship, and flood management in the proposed MIRWMP boundary.

Stakeholder attendance and outreach is encouraged through MAGPI's proposed MIRWMP region development process (See attached Maps for stakeholders listed in legends). All stakeholders will be expected to promote and support collaborative and cooperate efforts to achieve local, regional, statewide and federal water supply and water quality objectives. A website is currently under construction for the proposed Merced IRWMP region (http://mercedirwmp.org/).

History within the MIRWMP Region

Merced Streams Group

The original Merced County Stream Group project was authorized by the Flood Control Act of 1944 as part of the comprehensive plan for flood control for the Sacramento and San Joaquin River Basins. The project, which was completed in 1957, consisted of the construction of four flood control reservoirs on Burns, Bear, Owens, and Mariposa Creeks including downstream improvements.

To modify and improve the original project, Congress authorized the Merced County Streams project in the Flood Control Act of 1970. This authorization provided for enlargement of the four existing reservoirs, construction of three new reservoirs, and channel improvements along Bear Creek and Mariposa Creek systems.

Technical studies were later conducted to reexamine and reevaluate the 1970 authorized project according to current Federal laws regulations and policies. In March 1980, Phase I of the General Design Memorandum for the Merced County Stream Group area was completed indicating that the authorized features of the channel improvements on the Mariposa Creek system, enlargement of the Owens and Mariposa Reservoirs, and construction of one of the three new reservoirs were no longer feasible.

The Phase II General Design Memorandum for the Merced County Stream Group area was completed in 1982 and the Merced County Stream Group project was modified to include only the construction of Castle and Haystack Reservoirs, enlargement of the Bear Reservoir, and channel improvements along Bear Creek. Construction of Castle Dam (Reservoir) was completed in January of 1992.

The Merced Streams Group is responsible for the maintenance of natural channels to reduce potential flooding while maintaining certain reaches for recreational purposes.

Merced Streams Group maintains approximately 107 miles of natural channels within Merced County covering following 9 creeks:

- Black Rascal Creek
- Canal Creek
- Bear Creek
- Burns Creek
- Edendale Creek
- Fahrens Creek
- Miles Creek
- Owens Creek
- Mariposa Creek

The above listed creeks meander through the City of Merced as well as unincorporated areas of Le Grand, Planada and the Franklin/Beachwood area in which flooding has always been a concern.

Currently the Army Corps of Engineers is conducting a General Reevaluation Report for the Merced County Streams Project.

Merced County Critical Area Flooding and Drainage (1983)

Merced County, the City of Merced, the City of Atwater and the Merced Irrigation District in addition to other entities to the west of MIRWMP collaborated in a flood management effort that was prepared by the Merced County Association of Governments (MCAG). The study amounted to a Master Drainage Plan (MDP) that established drainage flows and set criteria for detention drainage basins and other related operations for the area. Most of the parties listed above continue to use components of the MDP as a compliment to other flood planning efforts specific to their agencies.

Merced Storm Water Management Program

The Storm Water Management Program (SWMP) is implemented to limit, to the Maximum Extent Practicable (MEP), the discharge of pollutants from Merced Storm Water Group (MSWG) storm sewer system. The MSWG is a coalition of municipalities acting as co-permitees consisting of the Cities of Atwater and Merced, Merced County and the Merced Irrigation District. The development and implementation of the SWMP is to fulfill requirements of storm water discharge from Small Municipal Separate Storm Sewer System (MSS) operators in accordance with section 402(p) of the Federal Clean

Water Act (CWA). The SWMP is reviewed on an annual basis and any changes or modifications will be described and submitted to and approved by the California State Regional Water Quality Control Board Central Valley Region (5F).

Merced Water Supply Plan

In 1992, the City of Merced (City) and MID executed a memorandum of understanding calling for the two entities to cooperate in the development of a water resources plan to address issues of mutual concern, particularly declining groundwater levels and increasing urban water demands. After three years of technical investigation complemented by extensive public involvement (See attached "Merced Water Supply Plan Stakeholder List" - Exhibit "A"), the entities published the Merced Water Supply Plan (MWSP or Plan). The Plan identified the factors contributing to groundwater overdraft and established a framework for action to restore and preserve the health of the Basin, thereby ensuring the sustained economic vitality of the region. The Plan is unique among other similar initiatives in the San Joaquin Valley in that it features the continuation of groundwater as the sole municipal supply source to meet urban water demands in exchange for delivery of surface water (SW) supplies to overlying agricultural water user's in-lieu of groundwater pumping. This is based on analyses that indicate that the existing municipal groundwater-based system is less costly and incremental expansion of the existing system is more easily financed than a system involving surface water treatment and distribution.

The Plan called for MID to implement projects and adopt measures to restore and maintain its base of surface water users, which had been in decline since the late 1970s, and to implement artificial and/or in-lieu groundwater recharge as necessary to maintain targeted groundwater levels in the basin. The plan identified 40,000 AF of annual recharge to maintain water levels by 2020 to maintain static water level in the basin for all users. The City was to implement an aggressive urban water conservation program to better manage and control the increase in water demands as urban growth occurs. The Plan was updated by the City and MID in 2001, with the cooperation and financial support of the University of California, which is proceeding with the development of its newest campus in the Merced area. Total local expenditures on developing and updating the Plan exceed $1.7 million; the City's contribution alone to the original Plan exceeded $1.3 million. Additionally, MID has since completed the bulk of the projects, which are mainly automation and distribution system improvements, in addition to expanding the District's conjunctive use by implementing operational enhancements, policies, and in lieu recharge projects in excess of $13M. These projects also included water conservation projects aimed at making water available for groundwater recharge. The result was in a normal water year such as 2004, system efficiency approached 83% which is phenomenal for an open gravity mostly earthen system that spans about 800 miles. In all, the plan confirmed the indispensability of the basin's historic conjunctive use practice.

Southeast Quadrant Water Supply Study

In 2000 MID received a grant from DWR under Prop. 204 to explore reliability of groundwater in a 25,000 acre agricultural area named the Southeast Quadrant of MID. The study concluded that the aquifer could not sustain pumping for agricultural land, which confirmed MID's conjunctive use practice of providing surface water to the Southeast Quadrant while pumping in the westerly portions of the basin where groundwater supply and aquifer recoveries are possible. The study was crucial to avoiding the construction of a well field in the vicinity of the town of Planada, a DAC.

Merced Area Groundwater Pool Interests (MAGPI)

In 1997, fifteen local water purveying agencies formed a regional groundwater management association, known as the Merced Area Groundwater Pool Interests (MAGPI), pursuant to Water Code Section 10750-10755.4 (commonly known as AB3030). Most of these agencies depend solely on groundwater as their supply source. With its broad, regional constituency and track record of accomplishments (see next section), MAGPI is increasingly viewed as the most productive collaborative for implementing the Merced Water Supply Plan. This may ultimately occur through a formalized governance structure such as a Joint Powers Authority. This reflects the expectation that the benefits of the Plan will be shared broadly among the region's water users, particularly groundwater pumpers, and broad financial support will be needed to fully implement and pay for the Plan. Upon it's formation in 1997, MAGPI established the following goals and objectives to guide its activities:

- To determine the extent and evaluate the quantity and quality of the Basin's existing groundwater supplies
- Consider developing a new (or adopting an existing) hydrologic groundwater model of the Basin
- Determine the Basin's need for additional or improved ground water extraction, storage, delivery, conservation and recharge facilities
- Provide information and guidance for the management, preservation, protection and enhancement of the Basin
- Provide a way to maintain local control of the region's water resources;
- Promote coordinated planning to make the best use of water resources to meet the needs of the association's respective constituents and service areas in the best mutual interests of the users and resources of the Basin
- Prepare and promote adoption of a groundwater management plan for the Basin

MAGPI Accomplishments:

By the end of 1997, MAGPI had completed development of the Merced Groundwater Basin Management Plan, which was adopted by each MAGPI member. This Plan provides a foundation for ongoing cooperation among the MAGPI members for purposes of monitoring and reporting groundwater conditions, protection of Basin water quality and development and management of Basin resources. MAGPI includes as cosigner to the Memorandum of Understanding (MOU), Merced County (Division of Environmental Health), as the overarching local regulatory agency regarding groundwater quality, and EMRCD as a land steward.

In 2001, MAGPI entered into a MOU with DWR to participate in the Conjunctive Water Management Program for the expressed purpose of working cooperatively with DWR to promote conjunctive use projects and programs in Eastern Merced County. In addition, MAGPI was granted financial assistance by DWR through the Local Groundwater Management Assistance Act of 2000 (AB3030). Tasks that MAGPI has accomplished with a combination of local resources and those furnished through the DWR MOU and AB3030 grant, are as follows:

- Data Assessment (Water Resources & Information Management Engineering (WRIME) 2002; DWR funding), which described the regional hydro-geologic setting of Eastern Merced County, identified and compiled available water resources data and developed a data management plan for MAGPI members

- Conjunctive Use Site Assessment (WRIME 2003; DWR funding), which compared and evaluated alternative artificial recharge sites

- Cressey Pilot Recharge Basin (ongoing; MID funding), which is providing very promising results with respect to infiltration rates for spreading basins. MAGPI received technical help when DWR funded and provided geologists to construct a number of monitoring wells and log holes to establish better understanding of the recharge site. MID currently has a successful pilot basin, which unfortunately was not developed due to the drought which caused lack of water and funding. It is estimated that 16 acres of the site can be developed into a series of basins that can recharge in excess of 20,000 acre feet annually based on the existing capacity in MID facilities leading to the site. DWR contribution was estimated at $25,000

- Public Involvement (ongoing; DWR funding), aimed at improving coordination among MAGPI members and between MAGPI and other entities in the Basin

- Groundwater Monitoring (Completed in 2006; AB303 funding), aimed at tying all available existing public production wells (221 wells) to one datum by use of GPS, and the construction of nested and separated monitoring wells along Bear Creek East of Merced to define natural stream-aquifer interaction along Bear Creek

- Water Resource Model, from 2005 to present, MAGPI and DWR have engaged in an aggressive effort to complete a Water Resources Model of higher resolution; to implement objectives outlined by MAGPI and the Merced Water Supply Plan. The group realized that a one solution fits all for the basin, as outlined in the plan, is not achievable since recharge is only conducive in the northwesterly area of the basin, also for the fact that the Merced Water Supply is static and of low resolution at the township per node level. Embedded in the software, the new model now contains the components for estimating an overall water balance. The chosen software was the Integrated Groundwater Surface Model IGSM2, which also used by DWR. The effort is estimated to cost $2M. MID and the City of Merced are co-sharing half of the cost, while DWR is presenting the other half as a grant through Prop. 50 funding. This effort by itself involves an extensive stakeholder process and outreach to include all possible data and calibrate the model with stakeholder input, not too different from the Kings River model. The ultimate objective is to establish protocols to manage the groundwater basin for all users, maintain local control, set up a JPA for all agencies to meet and cooperate on projects, funding, and possibly fees or special permits for sensitive areas. The model will identify potential beneficiaries of any recharge effort.

  Analytical work conducted for development of the MWSP indicates that management of the regional groundwater system as called for by the Plan would yield benefits to water users throughout the basin, particularly to independent agricultural pumpers whose water levels are predicted to decline significantly if the Plan is not implemented. Identifying these beneficiaries is relatively straightforward, but drawing them willingly into dialogue and ultimately into agreements to pay for the benefits received is difficult. In relative terms, a city water supply program based on surface water treatment and distribution is attractive because the beneficiary is obvious and the benefits directly measurable, even though such a program for the cities was shown to be far more costly and the benefits would be concentrated within the cities, leaving eventual problems for independent pumpers largely unaddressed. For the Plan to succeed, it is essential to clearly identify the full complement of beneficiaries, so that cost allocation and repayment obligations can be assigned.

- Water Resource Model (or Hydrologic Model), A groundwater model was developed to support development of the Merced Water Supply Plan. The model was based on a relatively coarse spatial grid that was adequate for the reconnaissance-level investigations performed for Plan development; however, it is not sufficiently detailed to address the more rigorous needs as MAGPI proceeds toward Plan implementation. Thus, a more detailed, robust high resolution model was needed to address the more demanding analytical requirements involved with identification of beneficiaries, quantification of benefits and assessment of potential contaminant transport. Additionally, the existing model was not developed with the participation of basin stakeholders;

thus it is does not have the acceptance and credibility needed to support the upcoming difficult and complex decisions.

The existing model and its data sets will be thoroughly reviewed; however, it is anticipated that a completely new model and model development process are needed to develop a tool that is technically suited for making implementation level decisions that are accessible, transparent and accepted by all stakeholders. The main tasks involved with developing a sufficiently detailed model and gaining acceptance of the model are as follows:

- Conduct meetings and interviews with MAGPI members individually and collectively to identify the issues, concerns and questions that the new model is expected to address. For example, in addition to the need to identify beneficiaries and quantify benefits, will the model need to address stream-aquifer interaction issues

- Throughout the model development process, meet with MAGPI members and other interested parties as needed to keep them informed and involved.

- Review and assess the data sources and sets used in the original planning model. Determine the extent to which the data can be used "as is" or requires reorganization and additional processing.

- Prepare a Model Development white paper that frames the model objectives, assesses the suitability of alternative modeling codes to meet the objectives, and recommends a model development approach, including preliminary model boundaries, grids and layers.

- Drawing to the maximum practical extent on the original model and data sets, compile available land use, water use, hydrology, hydro-geologic, climatic and other data needed for model development.

- Establish the final model boundaries, grids and layers considering physical conditions, such as the presence of streams, hydro-geologic features and political/jurisdictional boundaries that influence model calibration and reporting of results.

- Prepare a historical water balance of the land surface layer as a means of quantifying historical groundwater extraction and deep percolation, the primary parameters influencing groundwater flow.

- Within the context of the water balance, develop and calibrate the model to observed historical groundwater levels in selected wells.

- Apply the calibrated model to address the issues identified at the outset.

    - Document the model's development and application in a formal report

- Groundwater Management Update 2008, MAGPI upgraded its Groundwater Management Plan in anticipation of possible conjunctive use projects under the IRWMP funding and the ongoing Prop 50 anticipated cooperative grant with DWR

- Planning Process Involvement, MAGPI is providing input to the County General Plan regarding concepts that make use of flood control and land use to benefit recharge for water supply and environmental benefits.

- The City of Merced and Franklin County Water District, These agencies explored consolidating their treatment plant.

- The City of Atwater and the Winton Water and Sanitary District, The agencies explored consolidating their treatment plant. Winton decided the merge was not feasible.

- Winton Water and Sanitary District and Castle Air Force Base Area, The County is exploring consolidating their treatment plant. The effort is still on going.

Coordination Efforts

A representative from MAGPI along with members representing land use, flood control and environmental water quality will be asked to attend the RAP interview if requested by DWR. At least one representative from Merced County will be present. Representatives can be selected from a list of volunteers at subsequent MIRWMP meetings. MIRWMP will promptly provide DWR with a list of RAP interview panel members at DWR request.

Members within MAGPI have a legacy of cooperation that begins in the early 20th century. MID's predecessor and the City of Merced constructed the first reservoir, Lake Yosemite, in the central valley in 1887 to provide drinking water to the City of Merced. The 8,000 acre-foot lake was called a mammoth project at the time with celebrations lasting several days. The governor, as well as various dignitaries, were present at the celebrations. Unfortunately the City chose to use groundwater in 1927 for its water supply needs.

Cooperation in the process of preparing the MIRWMP has been phenomenal. The members have been urging more frequent meetings to maintain momentum. Considering that many of the agencies are of limited staff and resources, their attendance was costly, no doubt. Merced County Environmental Health, Public Works and the Planning Department worked hand in hand with Merced Irrigation District in preparing this document. EMRCD and San Joaquin Raptor Rescue Center (a stakeholder) provided biological information to prepare this application.

MIRWMP has one gap area between anticipated regions which occurs on its westerly boundary. As previously stated MIRWMP is submitting a proposed region based on the Merced groundwater basin which is a significant hydrological unit within California's Central Valley. Based upon the information provided through the established IRWMP process, San Luis Delta Mendota IRWMP did not include a strip of land located west of the San Joaquin River and North of TIWD, which is not encompassed by either IRWMP. It is also noted that the San Luis Delta Mendota IRWMP, again based upon the previous IRWMP process, has chosen to include TIWD within its boundary even though this area is located within Merced Groundwater Basin. MIRWMP can accept an overlap of the plans in that area if the parties are agreeable to that.

The MIRWMP group intends to work collaboratively with the San Luis Delta Mendota IRWMP group in order to provide the most benefit to both regions and their stakeholders. This same philosophy stands true to all other surrounding IRWMP regions. The MIRWMP group understands that it is imperative that regions work together to ensure that stakeholders and the public at large benefit from the integrated management of water (see "Letters of Cooperation & Letters of Support: - Exhibit "B").

The MIRWMP group has identified surrounding areas of interest. The Dry Creek watershed located north of the Merced River has been labeled as an "Area of Interest" since the creek is one of the last tributaries which spill into the Merced River prior to its

terminus at the San Joaquin River. The area is not currently designated for inclusion by any known IRWMP. The MAGPI/MIRWMP group attempted to include the Dry Creek watershed within this application but due to the lack of a quorum the MAGPI board was unable to vote on the matter during the mid April 2009 meeting. The Merced River watershed located to the east within Mariposa County has been labeled as an area of potential future expansion. The MIRWMP group is very interested in activities that occur within watersheds of Mariposa and Madera Counties. Water quality and flood control are just a few of MIRWMP's interests, the potential reopening of mines within the area could have a negative impact on not only the immediate area but also lands downstream.

At its March 25, 2009 meeting, the MAGPI Board voted nine to one to keep the proposed MIRWMP area equal to the existing MAGPI boundary. The approved action included a clause for cooperation with adjacent regions. MAGPI members clearly indicated to adjacent and surrounding parties present its interest in developing open and cooperative relationships at various stages of IRWMP processes (also discussed at MAGPI meetings on March 3, and April 15, 2009 to members representing adjacent IRWMP groups in attendance). MAGPI representatives also attended the Mariposa/Madera IRWMP meeting on March 5 and a Mariposa IRWMP meeting on April 16 with the same message. MAGPI informed the groups that it intends to enter into an MOU or other letter agreement if the parties are willing. MAGPI attempted on multiple occasions to contact the representative from the San Luis Delta Mendota IRWMP (SLDM), Mr. Ara Azhderian. Mr. Azhderian is busy and mostly out of the office. MIRWMP is interested in resolving the issue of Turner Island Water District (TIWD) that is within the hydrologic Merced Groundwater basin, and a gap left by SLDM outside the Merced Groundwater Basin.

Region Acceptance Process Interview Participants

Below is a potential list of representatives that anticipate participating in the RAP interview process:

Dave Tucker	City of Merced
Cindy Lashbrook	East Merced Resource Conservation District
Hicham Eltal	MAGPI / Merced Irrigation District
Ron Rowe	Merced County

Exhibit "A"

Merced Water Supply Plan Stakeholder List

Department of Fish and Game

Merced County Association of Governments

California Regional Water Quality Control Board

Castle Air Force Base

United States Fish and Wildlife Service

Meadowbrook Water Company

Foster Farms

Merced County Farm Bureau

City of Livingston

City of Atwater

Merced Irrigation District Advisory Board

Ragu Foods Company

University of California Merced

City of Merced

Merced Irrigation District

B.J. Miller

Exhibit "B"

Letters of Cooperation & Letters of Support (cont.)

MERCED AREA GROUNDWATER POOL INTERESTS
744 W. 20th Street
Merced, CA 95340
(209) 722-5761
www.magpi-gw.org

April 20, 2009

John Reed, Water Commissioner
Madera County
P.O. Box 338
Oakhurst, Ca. 93644

Re: Merced Integrated Regional Water Management Plan

Dear Mr. Reed:

Merced Integrated Regional Water Management Plan (Merced or MIRWMP) would like to take the time to briefly introduce our proposed emerging region. MIWRMP is located in the eastern one-half of Merced County, nestled between the Merced River to the north, Chowchilla River to the south, San Joaquin River to the west and the Sierra Nevada mountain foothills to the east. MIRWMP is bordered by Madera IRWMP to the south, Central California IRWMP to the east, San Luis Delta Mendota IRWMP to the west and Tuolumne-Stanislaus IRWMP to the northeast.

Merced would like to establish an open line of communication with your water management group as well as other IRWMP associates. Merced is very interested in water management activities in Madera especially relating to groundwater extraction south of Merced. Merced understands that it is imperative that all IRWMPs work together toward common goals in regard to water issues and the welfare of the public within the regions.

Merced would be interested in entering into an MOU or other agreement that outlines areas of cooperation between the regions.

Merced stands ready to work with you and support projects in your region that have positive impacts on Merced

Please feel free to contact Merced at any time, now or in the future to discuss progress or issues within the region.

Thank you

Hicham Eltal

Hicham Eltal
MAGPI, Chairman

Cc: MAGPI Board Members

Exhibit "B"

Letters of Cooperation & Letters of Support (cont.)

MERCED AREA GROUNDWATER POOL INTERESTS
744 W. 20th Street
Merced, CA 95340
(209) 722-5761
www.magpi-gw.org

April 20, 2009

Board of Supervisors
County of Mariposa
5100 Bullion Street
Mariposa, Ca. 95338

Re: Merced Integrated Regional Water Management Plan

Dear Mariposa Board of Supervisors:

Merced Integrated Regional Water Management Plan (Merced or MIRWMP) would like to take the time to briefly introduce our proposed emerging region. MIWRMP is located in the eastern one-half of Merced County, nestled between the Merced River to the north, Chowchilla River to the south, San Joaquin River to the west and the Sierra Nevada mountain foothills to the east. MIRWMP is bordered by Madera IRWMP to the south, Central California IRWMP to the east, San Luis Delta Mendota IRWMP to the west and Tuolumne-Stanislaus IRWMP to the northeast.

Merced would like to establish an open line of communication with your water management group as well as other IRWMP associates. Merced is very interested in activities in Mariposa especially relating to flood control and water quality. Merced understands that it is imperative that all IRWMPs work together toward common goals in regards to water issues and the welfare of the public within the regions.

Merced would be interested in entering into an MOU or other agreement that outlines areas of cooperation. Merced wants to also inform you that Merced River watershed and the San Joaquin tributary creeks watersheds are all areas of interest, cooperation, and possible future expansion for its IRWMP.

Merced stands ready to work with you and support projects in your region that have positive impacts on Merced

Please feel free to contact Merced at any time, now or in the future to discuss progress or issues within the region.

Thank you

Hicham Eltal

Hicham Eltal
MAGPI, Chairman

Cc: MAGPI Board Members

Exhibit "B"

Letters of Cooperation & Letters of Support (cont.)

MERCED AREA GROUNDWATER POOL INTERESTS
744 W. 20th Street
Merced, CA 95340
(209) 722-5761
www.magpi-gw.org

April 20, 2009

Ara Azhderian
San Luis Delta Mendota IRWMP
5100 Bullion Street
Mariposa, Ca. 95338

Re: Merced Integrated Regional Water Management Plan

Dear Ara Azhderian:

Merced Integrated Regional Water Management Plan (Merced or MIRWMP) would like to take the time to briefly introduce our proposed emerging region. MIWRMP is located in the eastern one-half of Merced County, nestled between the Merced River to the north, Chowchilla River to the south, San Joaquin River to the west and the Sierra Nevada mountain foothills to the east. MIRWMP is bordered by Madera IRWMP to the south, Central California IRWMP to the east, San Luis Delta Mendota IRWMP to the west and Tuolumne-Stanislaus IRWMP to the northeast.

Merced would like to establish an open line of communication with your water management group as well as other IRWMP associates. Merced understands that it is imperative that all IRWMPs work together toward common goals in regards to water issues and the welfare of the public within the regions. Merced is interested in discussing areas of gaps and overlaps between MIRWMP and San Luis Delta Mendota IRWMP.

Merced would be interested in entering into an MOU or other agreement that outlines areas of cooperation between the regions.

Merced stands ready to work with you and support projects in your region that have positive impacts on Merced

Please feel free to contact Merced at any time, now or in the future to discuss progress or issues within the region.

Thank you

Hicham Eltal
MAGPI, Chairman

Cc: MAGPI Board Members

Exhibit "B"

Letters of Cooperation & Letters of Support (cont.)

MERCED AREA GROUNDWATER POOL INTERESTS
744 W. 20th Street
Merced, CA 95340
(209) 722-5761
www.magpi.gw.org

April 20, 2009

Peter Kampa, General Manager
Tuolumne Utilities District
18885 Nugget Boulevard
Sonora, Ca. 95370

Re: Merced Integrated Regional Water Management Plan

Dear Mr. Kampa:

Merced Integrated Regional Water Management Plan (Merced or MIRWMP) would like to take the time to briefly introduce our proposed emerging region. MIWRMP is located in the eastern one-half of Merced County, nestled between the Merced River to the north, Chowchilla River to the south, San Joaquin River to the west and the Sierra Nevada mountain foothills to the east. MIRWMP is bordered by Madera IRWMP to the south, Central California IRWMP to the east, San Luis Delta Mendota IRWMP to the west and Tuolumne-Stanislaus IRWMP to the northeast.

Merced would like to establish an open line of communication with your water management group as well as other IRWMP associates. Merced understands that it is imperative that all IRWMPs work together toward common goals in regards to water issues and the welfare of the public within the regions.

Merced would be interested in entering into an MOU or other agreement that outlines areas of cooperation between the regions.

Merced stands ready to work with you and support projects in your region that have positive impacts on Merced

Please feel free to contact Merced at any time, now or in the future to discuss progress or issues within the region.

Thank you

Hicham Eltal
MAGPI, Chairman

Cc: MAGPI Board Members

Exhibit "B"

Letters of Cooperation & Letters of Support (cont.)

EAST MERCED
RESOURCE
CONSERVATION DISTRICT

(209) 722-4119 x 3 PHONE
(209) 755-2964 FAX
2135 Wardrobe Avenue, Suite C, Merced, CA 95431
www.emrcd.org

April, 22, 2009

Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236

RE: Region Acceptance Process of the IRWMP

Gentlemen:

The East Merced Resource Conservation District understands the importance of regional water management planning. With that idea in mind, the East Merced Resource Conservation District supports the efforts of, and agrees to act as stakeholders to, the Merced Area Groundwater Pool Interests.

Sincerely,

Glenn Anderson
President

Exhibit "C"

Stakeholder Outreach Letter (cont.)

MERCED AREA GROUNDWATER POOL INTERESTS
744 W. 20th Street
Merced, CA 95340
(209) 722-5761
www.magpi-gw.org

April 13, 2009

Re: Merced Integrated Regional Water Management Plan (IRWMP) Stakeholder

Dear Stakeholder:

You are invited to participate in the preparation of the Merced Integrated Regional Water Management Plan (IRWMP). The plan's purpose is to identify means to manage, and optimize the resource and execute projects dealing with water to benefit all in our area. The IRWMP is intended to take a comprehensive approach of all disciplines dealing with water, be it surface or groundwater supply, potable, water quality, storm drainage, wastewater, flood control, environmental water, agricultural, recreational, or recycled water, including land use consideration.

Since water does not recognize jurisdictional boundaries such cities or counties, an IRWM region boundary is identified by natural barriers that contribute to the task of managing the resource, such watershed, groundwater basins, or a combination thereof. This regional boundary is not assigned by the State but rather decided upon by the region and approved by the State. The Merced Area Groundwater Pool Interest (MAGPI), a cooperative association of all water purveyors, Merced County, and the East Merced Resource Conservation District are currently leading this effort.

Why should you participate as a stakeholder? Beside the fact that we live in the Central Valley of California, a region whose vitality is totally dependant on water management, the State has funds set aside via Prop 50 and Prop 84 which is to be used for water related projects. Also specified is that the IRWMP is a stakeholder driven process. Merced IRWMP has also launched www.mercedirwmp.org in order to provide more information regarding the IRWMP process to the public.

A governing process will be set to help manage the process of formulating the plan. The participants are mainly public agencies and stakeholders.

How much money is available for the region? Merced IRWMP is located within the San Joaquin Funding area which has a maximum funding capacity of 57 million dollars. Additionally, 100 million dollars is available for all approved regions within the State of California to compete for. The funds are geared towards planning efforts as well as implementation efforts. Implementation grants are available to fund the projects that were identified during the planning

Exhibit "C"

Stakeholder Outreach Letter (cont.)

decide which projects to fund.

Your input is valuable to this process, so please show your interests and concern by joining the group. A protocol will be set to control the stakeholder process.

Thank you

Hicham Eltal
MAGPI, Chairman

Exhibit "D"

Maps

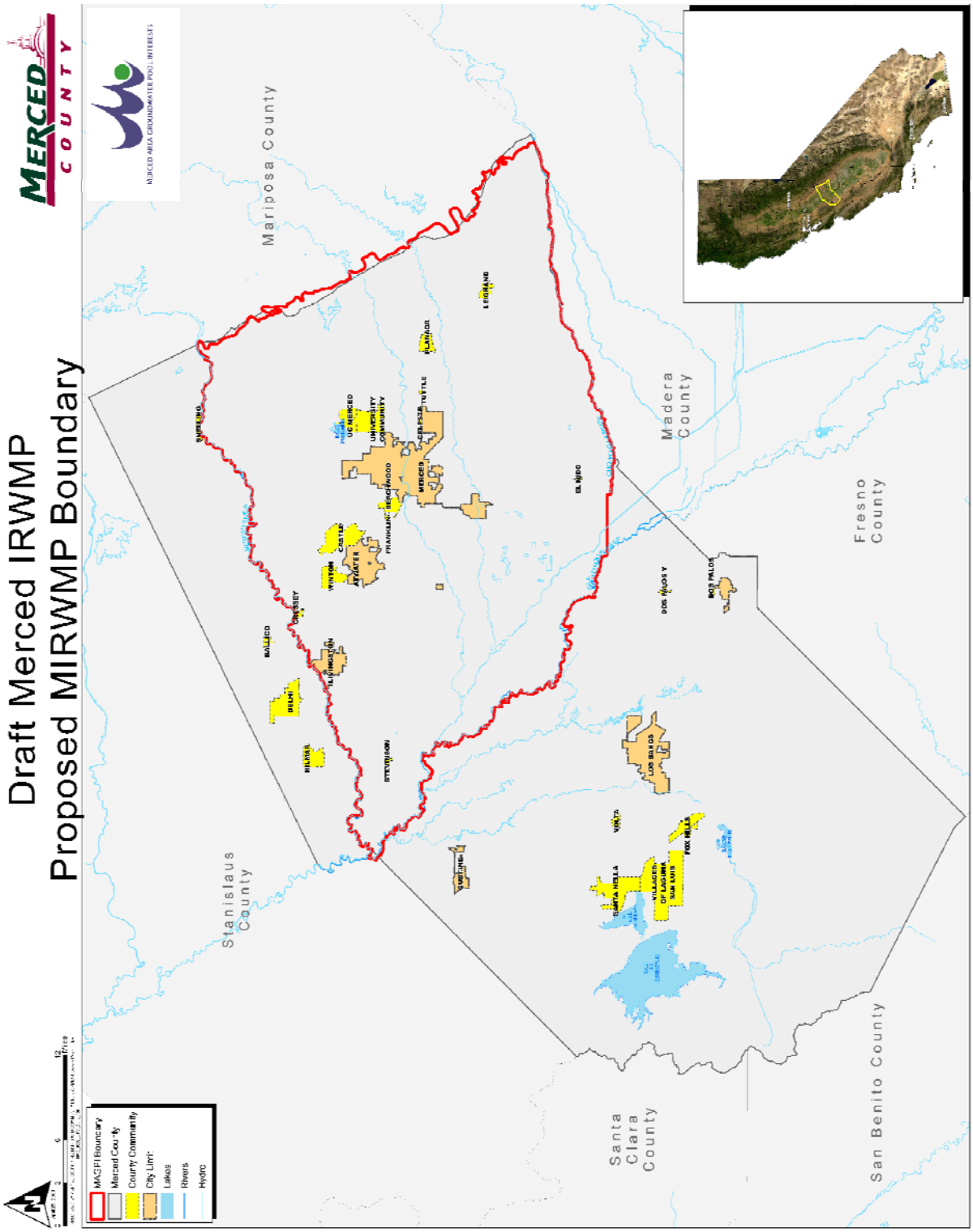
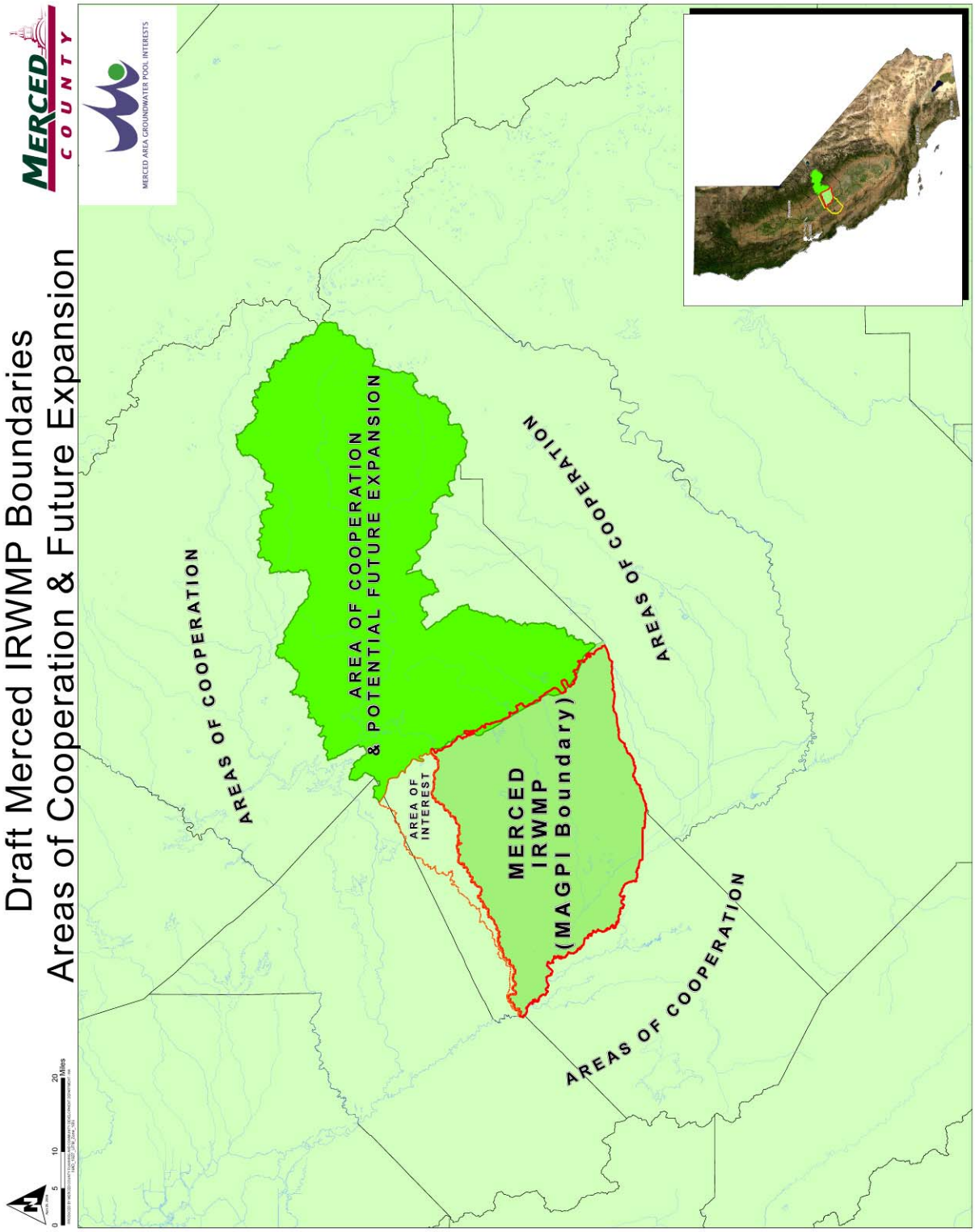


Exhibit "D"

Maps (cont.)



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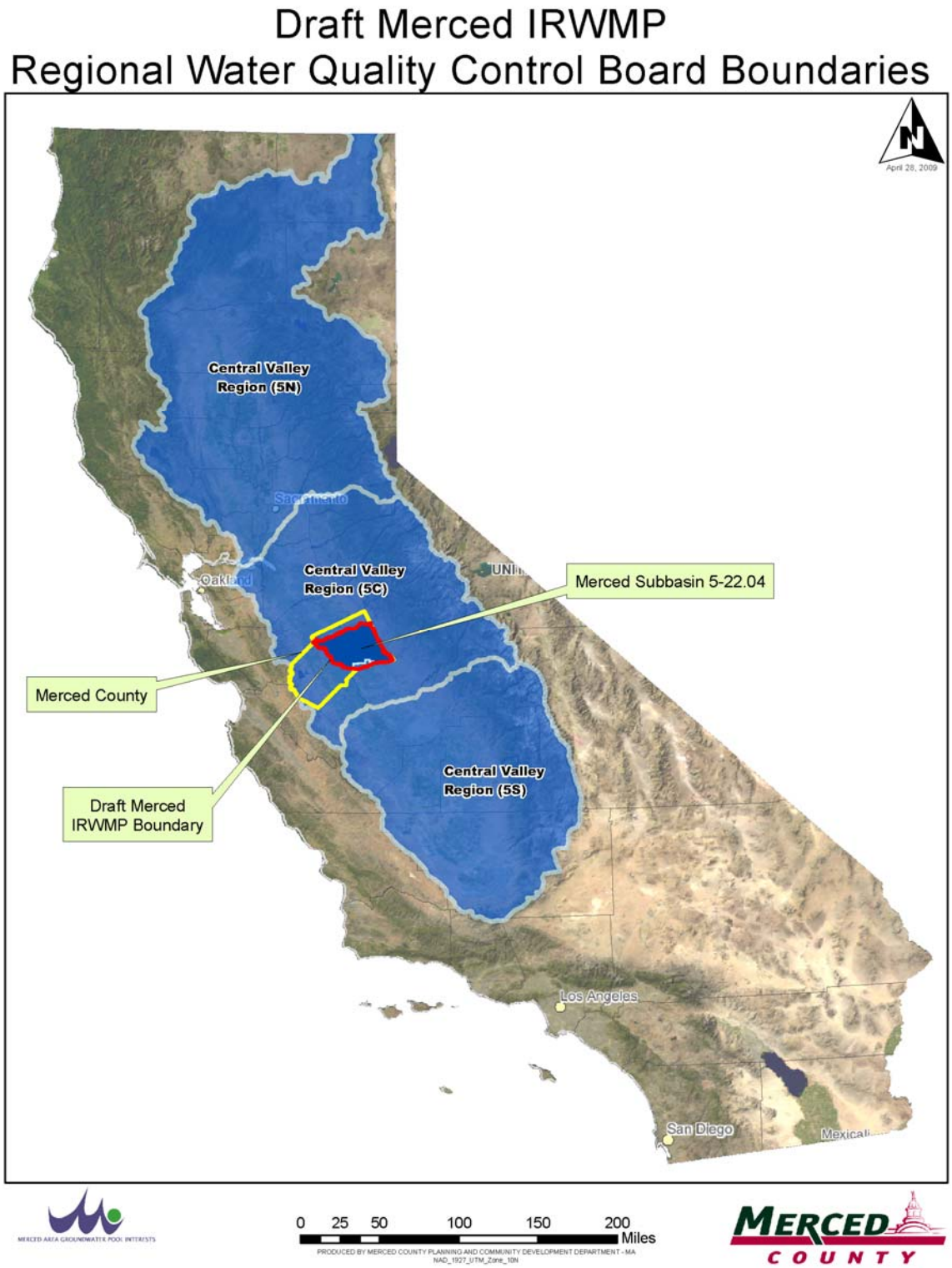
Maps (cont.)



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Maps (cont.)

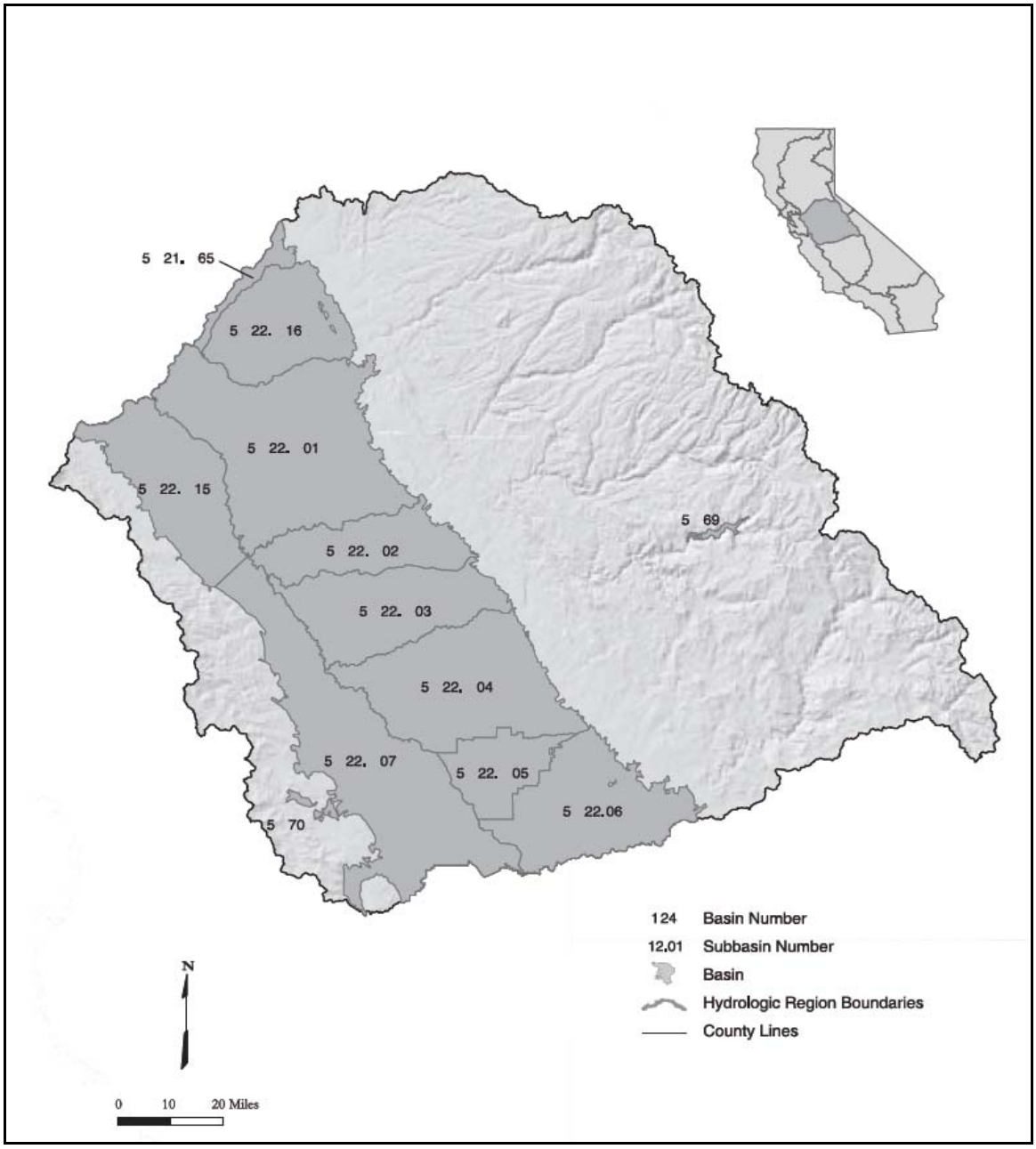

Figure 1: San Joaquin River Hydrologic Region and Subbasins (DWR Bulletin 118)

Exhibit "D"

Maps (cont.)

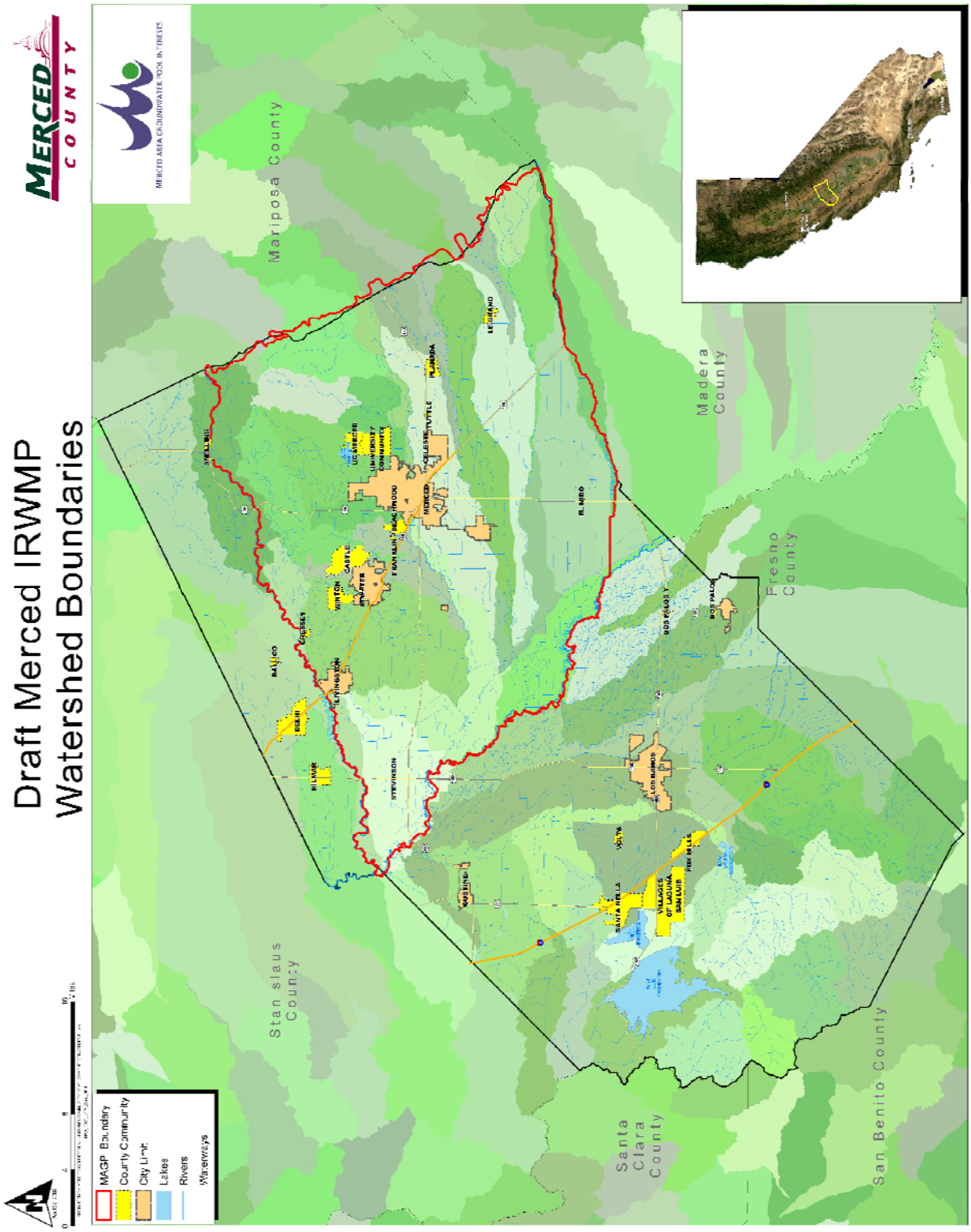

Exhibit "D"

Maps (cont.)

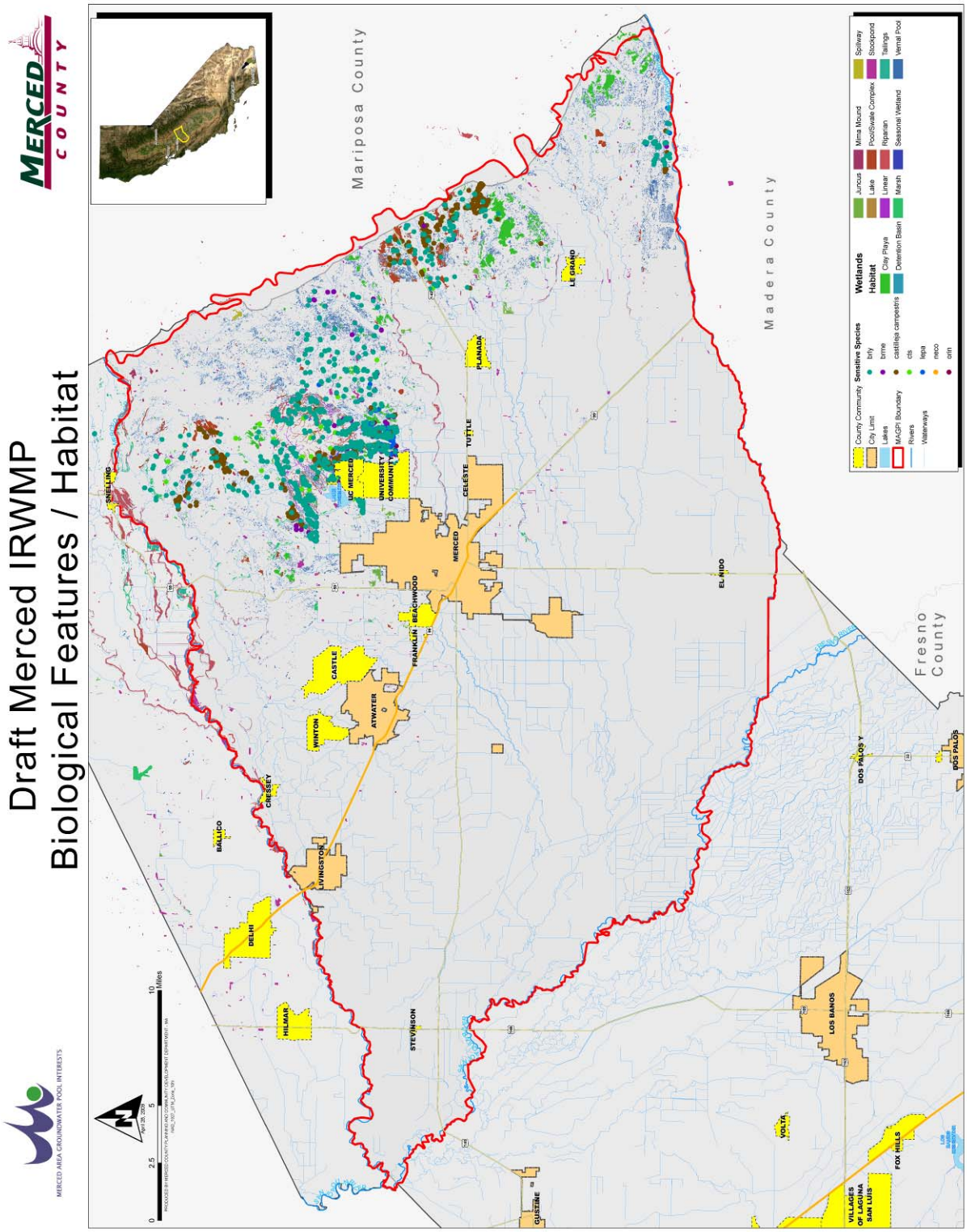

Exhibit "D"

Maps (cont.)

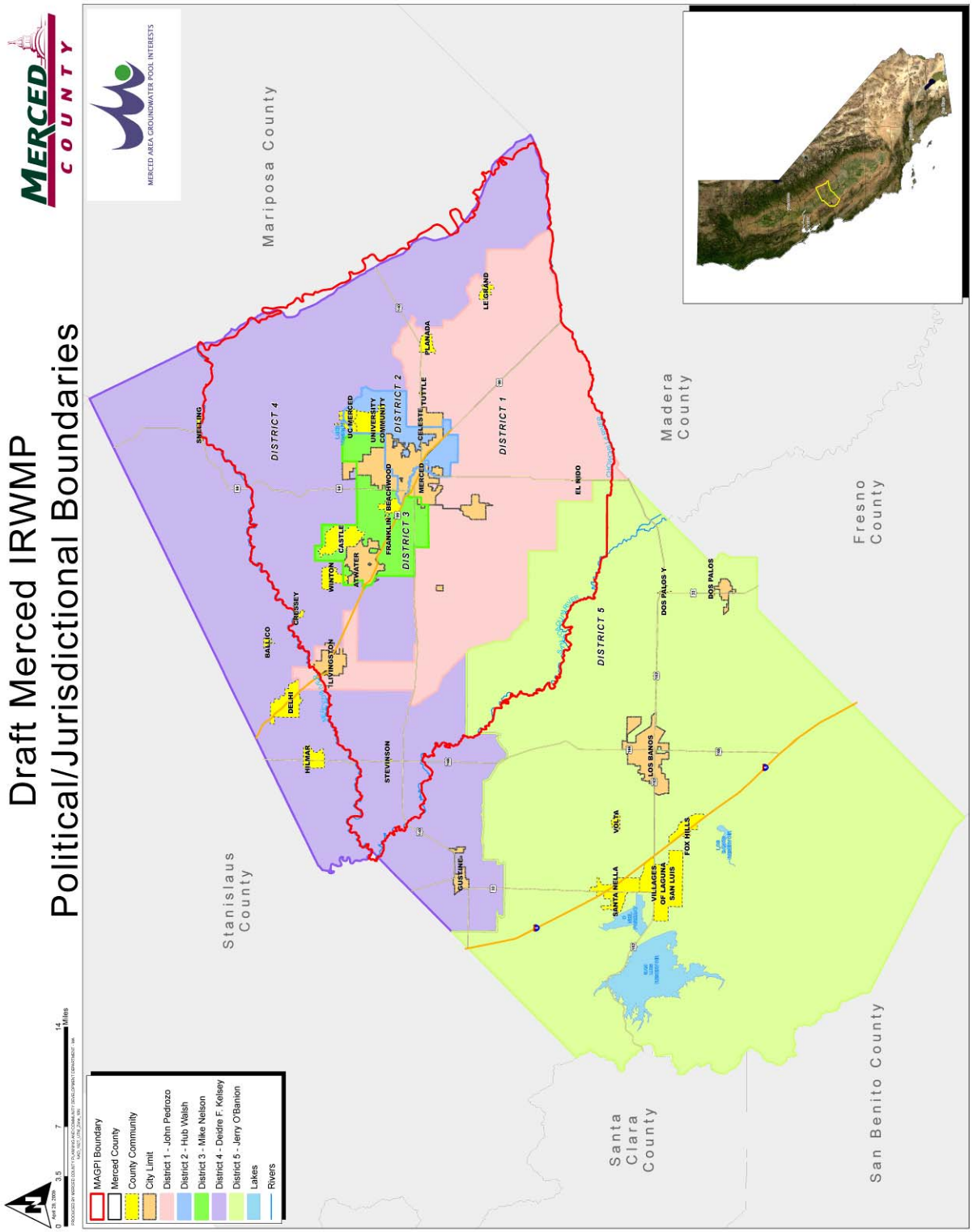

Exhibit "D"

Maps (cont.)

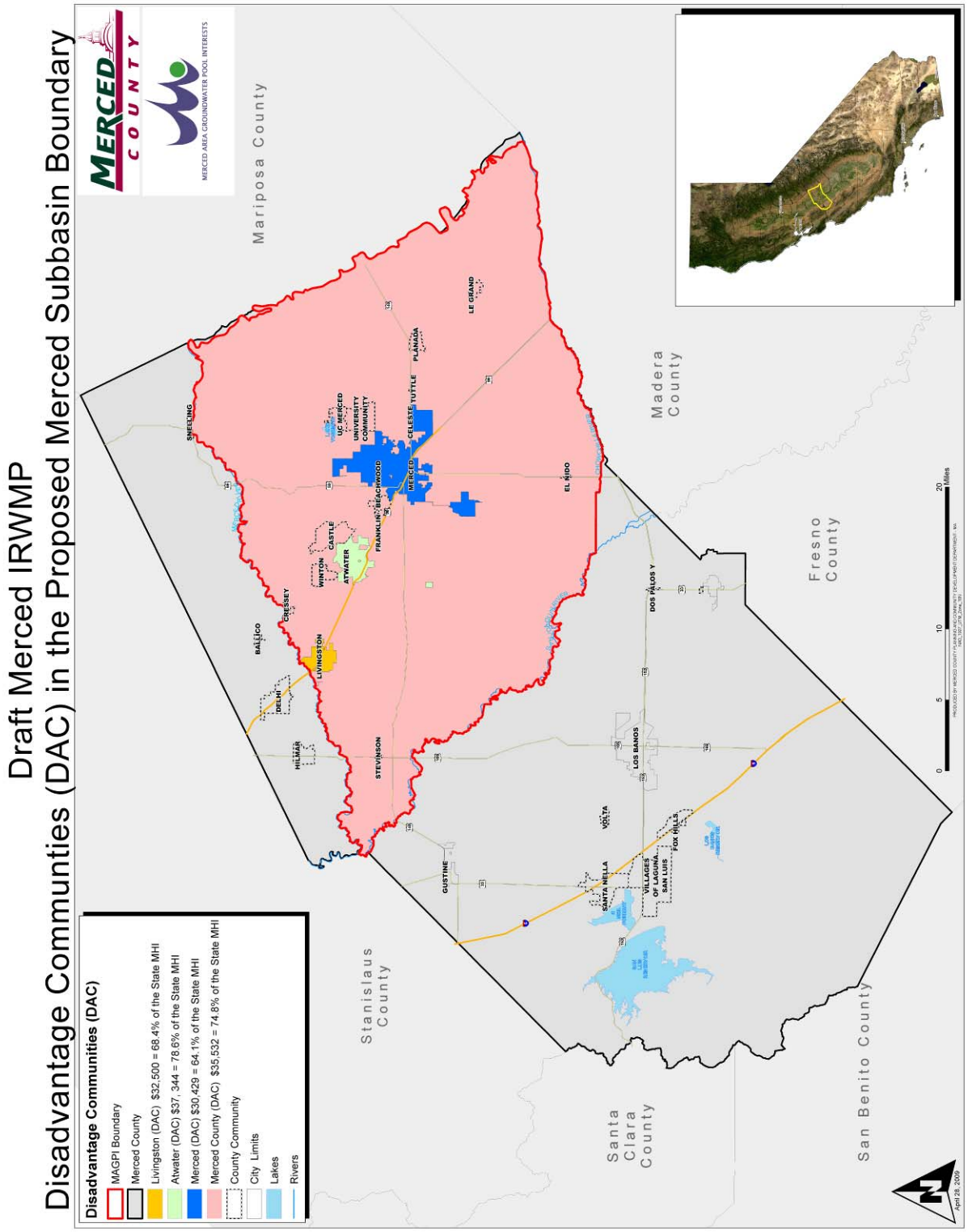

Exhibit "D"

Maps (cont.)

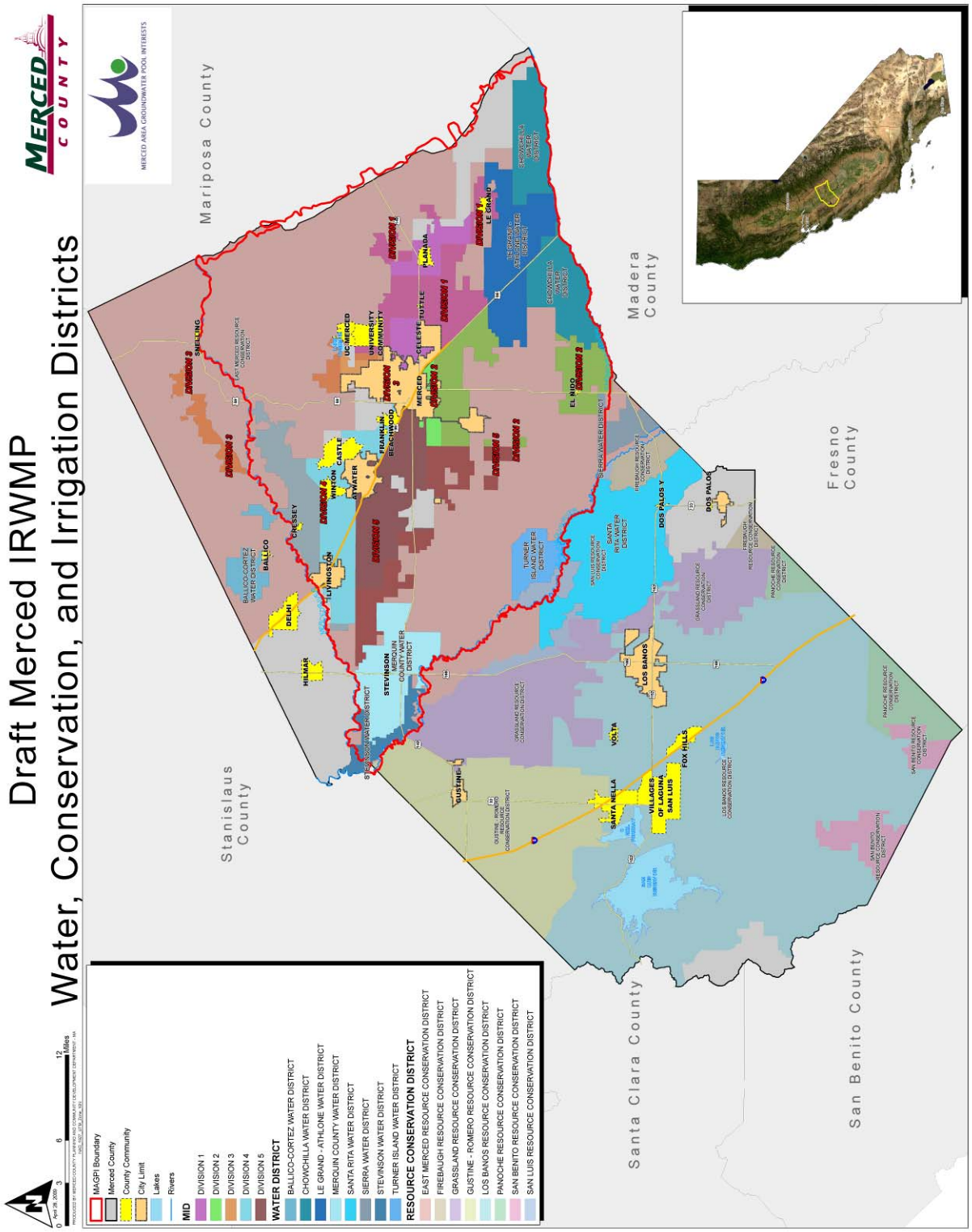

Exhibit "E"

Table of Impaired Water Bodies in Merced County

Impaired Water Bodies in Merced County (Bold font - draft potential additions)
Source, CVRWQCB 4/8/09

Water Body	Pollutant/Stressor	Potential Sources	Expected TMDL Completion Date
Agatha Canal (Merced County)	**pH**	**Source Unknown**	**2021**
Deadman Creek (Merced County)	**Chlorpyrifos**	**Agriculture**	**2021**
	Escherichia coli (E. Coli)	**Source Unknown**	**2021**
Deep Slough (Merced County)	**pH**	**Source Unknown**	**2021**
Duck Slough (Merced County)	**Chlorpyrifos**	**Agriculture**	**2021**
	Copper	**Source Unknown**	**2021**
	Escherichia coli (E. Coli)	**Source Unknown**	**2021**
	Lead	**Source Unknown**	**2021**
	Sediment Toxicity	**Source Unknown**	**2021**
	Unknown Toxicity	**Source Unknown**	**2021**
Grasslands Marshes	Electrical Conductivity	Agriculture	2019
	Selenium	Source Unknown	TMDL Completed
Ingalsbe Slough (tributary to Merced River, Merced County)	**Unknown Toxicity**	**Source Unknown**	**2021**
Jones Drain (tributary to Merced River, Merced County)	**Copper**	**Source Unknown**	**2021**
	Lead	**Source Unknown**	**2021**
	Oxygen, Dissolved	**Source Unknown**	**2021**
Los Banos Creek (below Los Banos Reservoir, Merced County)	**Boron**	**Source Unknown**	**2021**
	Escherichia coli (E. Coli)	**Source Unknown**	**2021**
	Oxygen, Dissolved	**Source Unknown**	**2021**

Exhibit "E"

Table of Impaired Water Bodies in Merced County (cont.)

Miles Creek (Merced County)	**Diuron**	**Agriculture**	**2021**
Mud Slough	Pesticides	Agriculture	2019
Mud Slough, North (downstream of San Luis Drain)	Boron	Agriculture	2019
	Electrical Conductivity	Agriculture	2019
	Pesticides	Agriculture	2019
	Selenium	Agriculture	TMDL Completed
	Unknown Toxicity	**Agriculture**	**2019**
Mud Slough, North (upstream of San Luis Drain)	Boron	Source Unknown	2019
	Electrical Conductivity	Source Unknown	2019
	Pesticides	Agriculture	2019
	Unknown Toxicity	**Source Unknown**	**2021**
Mustang Creek (Merced County)	**Chlorpyrifos**	**Agriculture**	**2021**
	Cis-permethrin	**Agriculture**	**2021**
	Diazinon	**Agriculture**	**2021**
	Simazine	**Agriculture**	**2021**
Salt Slough (upstream from confluence with San Joaquin River)	Boron	Agriculture	2019
	Chlorpyrifos	Agriculture	TMDL Completed
	~~Diazinon~~		
	Electrical Conductivity	Agriculture	2019
	Escherichia coli (E. Coli)	**Source Unknown**	**2021**
	Mercury	**Source Unknown**	**2021**
	Prometryn	**Agriculture**	**2021**
	~~Selenium~~		
	Unknown Toxicity	Agriculture	2019
San Joaquin River (Bear Creek to Mud Slough)	**Arsenic**	**Source Unknown**	**2021**
	Boron	Agriculture	2019
	Chlorpyrifos	Agriculture	TMDL Completed
	Dacthal	**Agriculture**	**2021**
	DDT	Agriculture	2011
	~~Diazinon~~		
	Electrical Conductivity	Agriculture	2019
	Group A Pesticides	Agriculture	2011
	Mercury	Resource Extraction	2012
	Unknown Toxicity	Source Unknown	2019
Turner Slough (Merced County)	**Escherichia coli (E. Coli)**	**Agriculture**	**2021**