

Evaluation of the Municipal and Domestic Supply Beneficial Use (MUN) in Agriculturally Dominated Water Bodies

Public Workshop and CEQA Scoping Meeting

INFORMATION DOCUMENT

INTRODUCTION: In order to ensure appropriate beneficial use protection, the Central Valley Water Quality Control Board (Central Valley Water Board) is proposing an amendment to the Water Quality Control Plans for the Sacramento River and San Joaquin River and the Tulare Lake Basin Plans (Basin Plans) to incorporate a framework for evaluating the beneficial uses and water quality objectives in, as well as implementation requirements for agriculturally (Ag) dominated water bodies. Staff from the Central Valley Water Board will hold three public workshops and California Environmental Quality Act (CEQA) scoping meetings to discuss and solicit comments and suggestions from the public regarding a proposal to:

- Evaluate appropriate designation of the Municipal and Domestic Supply (MUN) beneficial use and application of the State Water Board Sources of Drinking Water Policy (Resolution 88-63) in receiving waters of four Publically Owned Treatment Works (POTWs) in the Sacramento River Basin
- Amend the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin (Basin Plans) to incorporate a framework for evaluating the appropriate MUN beneficial use designation as well as water quality objectives and implementation requirements to protect the use in agriculturally (Ag) dominated water bodies.

This MUN beneficial use project is the initial phase of a larger effort to evaluate appropriate protection of all applicable beneficial uses in Ag dominated water bodies.

The proposed Basin Plan amendment may include: 1) a methodology for characterizing or defining Ag dominated water bodies categories; 2) identification of water bodies that meet the exceptions identified in the State Drinking Water Policy (88-63); 3) proposed refinements (such as subcategories) of the MUN beneficial use in different categories of Ag dominated water bodies; 4) site-specific or category specific water quality objectives that are protective of the identified MUN beneficial use; 5) a program of implementation for achieving water quality objectives; and/or 6) a monitoring program to evaluate protection of the applicable beneficial use and effectiveness of the implementation efforts.

The Central Valley Water Board is required by the California Environmental Quality Act (CEQA) to conduct an environmental analysis of the proposed amendment (Pub. Resources § 21000 et seq). The purpose of the public workshop and CEQA scoping meeting is to solicit public input regarding the scope of the proposed amendment along with its potential significant environmental impacts, mitigation measures and possible alternatives. Public comments will help the Central Valley Water Board refine the scope of its environmental analysis. The Central

Valley Water Board will not amend the Basin Plans without first circulating its environmental analysis for further public comment.

BACKGROUND: Through State Water Board Resolution No. 88-63, the “Sources of Drinking Water Policy” (88-63) as incorporated into both the Sacramento River/San Joaquin River and the Tulare Lake Bed Central Valley Regional Water Quality Control Board Basin Plans, the MUN beneficial use applies to all water bodies unless they are specifically listed as water bodies that are not designated with MUN. Most recently, after many years of litigation challenging these provisions, the Court of Appeal affirmed this approach and found that the State Board reasonably treated these surface water bodies as being assigned MUN uses and required rulemaking procedures before changing beneficial uses.

The Basin Plans also state that waters designated for MUN must not exceed Maximum Contaminant Levels (MCLs) of Title 22 of the California Code of Regulations (CCR) for chemical constituents, pesticides, and radionuclides. While Resolution 88-63 does contain exceptions for the MUN designation, to utilize the exception, the Basin Plans require “. . . a formal Basin Plan amendment and public hearing, followed by approval of such an amendment by the State Water Board and the Office of Administrative Law”, as noted in each plan’s implementation chapter under the discussion of 88-63.

In 1991, the Inland Surface Water Plan (ISWP), a statewide plan to establish water quality objectives for all surface water bodies, was adopted in California to fulfill the requirements of the Clean Water Act Section 303(c)(2)(B). This plan established a program of implementation for agriculture and compliance time-table to meet water quality objectives based on water body type, specifically effluent as well as agriculturally dominated natural and constructed water bodies. As part of the ISWP implementation, the Central Valley Water Board adopted a report in 1993, which identified and prioritized over 6,500 Ag dominated water bodies throughout the region. This report was sent to the California State Water Resources Control Board (State Water Board) for approval but was set aside when litigation resulted in the California State Superior Court overturning the ISWP in 1994. To address issues identified in the 1991 ISWP, the State Water Resources Control Board created Public Advisory Task Forces in 1994, including the Agricultural Waters Task Force (AgWTF), specifically addressing agricultural issues. A wide variety of stakeholders were involved with the AgWTF and a final report was generated in 1995 which included options for water body categorization, beneficial use designations, water quality objectives and implementation strategies for Ag dominated water bodies. However, a revised statewide ISWP was never developed due to United States Environmental Protection Agency’s (US EPA) promulgated California Toxics Rule (CTR) in May 2000 which included the numeric water quality criteria for priority toxic pollutants necessary to fulfill the Clean Water Act requirements. The CTR does not recognize separate categories of water bodies, thus issues surrounding Ag dominated waters have continued today.

In recent years, during permit adoptions for the National Pollutant Discharge Elimination System (NPDES) program, there have been challenges to requirements based on protecting the MUN beneficial use designation in agricultural drains due to the stated exception 2(b) in 88-63 for surface waters where the “*water is in systems designed or modified for the primary purpose of*

conveying or holding agricultural drainage waters, provided that the discharge from such systems is monitored to assure compliance with all relevant water quality objectives as required by the Regional Boards." The cost for Publically Owned Treatment Works (POTWs) to comply with protecting the MUN beneficial use has been estimated at \$3 - \$7 million (City of Willows, case example) primarily due to the need to ensure a disinfection process and denitrification in order to meet primary and secondary MCLs for selected constituents. In the Sacramento River Basin, the cities of Willows, Colusa, Biggs and Live Oak are facing this specific concern and have challenged the MUN designation during NPDES permit renewals. These POTWs have been provided the option of pursuing a basin plan amendment as part of their permit compliance.

The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has also identified the need to evaluate the level of appropriate protection of MUN beneficial uses in agriculturally dominated water bodies. CV-SALTS identified the receiving waters of the above four POTWs as potential case studies or archetypes for evaluating the appropriateness of a MUN designation and use of one or more exceptions identified in the 88-63.

The Central Valley Water Board recognized the need for evaluating appropriate MUN and other beneficial uses in Ag dominated water bodies during its October 2011 Sacramento/San Joaquin River Basin Plan Triennial Review.¹ The approved triennial review work plan included nominal staff resources to initiate the evaluation. Staff are working in conjunction with the CV-SALTS initiative on this evaluation in order to combine and leverage resources. The four POTWs are active participants in this project and will serve as case studies for the development of a framework for evaluating the appropriate beneficial use protection, water quality objectives, as well as implementation and monitoring requirements for the MUN beneficial use in Ag dominated water bodies. The evaluation of the MUN beneficial use will be the first phase of a larger effort to evaluate all beneficial uses in agricultural dominated water bodies.

REGULATORY CONTEXT: The State Water Resources Control Board and the nine Regional Water Quality Control Boards (Regional Water Boards) are the state agencies with primary responsibility for coordination and control of water quality (California Water Code (CWC) §13000). Each Regional Water Board is required to adopt a water quality control plan, or basin plan, which provides the basis for regulatory actions to protect water quality. (CWC §13240 et seq.). Basin plans designate beneficial uses of water, water quality objectives to protect the uses, a program of implementation to achieve the objectives and a monitoring program to ensure the goals of the program are met. (CWC §13050(j)). Basin plans, once adopted, must be periodically reviewed and may be revised. (CWC §13240).

State Policies that directly apply to this effort include:

- State Water Board Sources of Drinking Water Policy (Resolution 88-63) -State Water Board Resolution No. 88-63, commonly known as the Sources of Drinking Water Policy,

¹ Section 13240 of the Porter-Cologne Water Quality Control Act and Section 303 (c)(1) of the federal Clean Water Act require a review of basin plans at least once each three-year period to keep pace with changes in regulation, new technologies, policies, and physical changes within the region.

establishes state policy that all waters are considered suitable or potentially suitable to support the MUN beneficial use, with certain exceptions. This policy was implemented in Central Valley Water Board Basin Plans with language assigning MUN to waters not identified in the Basin Plan's beneficial use tables.

The Basin Plan implements State Water Board Resolution 88-63 ("Sources of Drinking Water Policy") by assigning MUN to all water bodies not listed in Table II-1, Surface Water Bodies and Beneficial Uses. Exceptions to the MUN designation are allowed for surface and ground waters: 1) with total dissolved solids exceeding 3,000 mg/L (5,000 µS/cm EC) and it is not reasonably expected by Regional Boards to supply a public water system; 2) with contamination, either by natural processes or by human activity, that cannot reasonably be treated for domestic use; 3) where there is not sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day; 4) in systems designed for wastewater collection or conveying or holding agricultural drainage, provided that the discharge from such systems is monitored to assure compliance with all relevant water quality objectives; or 5) regulated as a geothermal energy producing source. Resolution 88-63 addresses only designation of water as drinking water sources; it does not establish objectives for constituents that threaten source waters designated MUN.

- State Water Board Statement of Policy with Respect to Maintaining High Quality Waters in California (Resolution 68-16) – Also known as the California Antidegradation Policy, Resolution 68-16 applies to both surface and groundwater and requires that existing high quality be maintained to the maximum extent possible. The policy allows lowering of water quality only if the change is: 1) consistent with the maximum benefit to people of the state and will not unreasonably affect present and potential beneficial uses and will not result in water lower than applicable standards; and 2) waste discharge requirements for proposed discharge will result in the best practicable treatment or control of the discharge necessary to assure that there is no pollution or nuisance and the highest water quality consistent with maximum benefit to people of the State.

When adopting new water beneficial uses and new water quality objectives, the Central Valley Water Board is required to consider all of the following: 1) past, present, and probable future beneficial uses of water; 2) environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto; 3) water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area; 4) economic considerations; 5) the need for developing housing within the region; and 6) the need to develop and use recycled water (CWC §13241)

Federal laws that may apply to some of the Ag dominated water bodies:

The federal Clean Water Act (CWA), 33 USC §1251 et seq. Under the CWA, the states are required to adopt water quality standards for surface waters. (CWA §303(c)). Water quality standards consist of: 1) designated uses; 2) water quality criteria necessary to protect designated uses; and 3) Federal antidegradation policy (CWA 303(c)(2)(A) and (d)(4)(B)); 40

CFR 131.6). In California, water quality standards are found in the basin plans, statewide water quality control plans adopted by the State Water Board, and the federal National Toxics Rule (NTR) and California Toxics Rule (CTR). Under the CWA, the states must review water quality standards at least every three years (California's Triennial Review process).

Should an Ag dominated water body in this project fall under federal jurisdiction, US EPA's water quality standards allow a State to remove a use that is not existing or subcategorize a use if the State demonstrates that attaining the use is not feasible for any one of the following reasons: 1) naturally occurring pollutant concentrations prevent the attainment of the use; or 2) natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or 3) human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or 4) dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like unrelated to water quality preclude attainment of aquatic life protection uses; or 6) controls more stringent than those required by Sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact (40 CFR 131.10(g)).

WATERSHED DESCRIPTION: The case study used to develop a possible template for all Central Valley agriculturally dominated surface water bodies is currently centered on the receiving waters of four POTWs located in the Sacramento River Basin. Overall, the case study spans approximately 400 square miles and contains a mixture of constructed, modified and natural water body types. Field surveys and water rights research indicate that the receiving waters have not, are not and will not be used for domestic or municipal water supply. Brief descriptions of each watershed area are provided below and map figures are provided in Appendix A.

Biggs Subarea - The City of Biggs Wastewater Treatment Plant is located on the southwest side of the City of Biggs in Butte County. The treatment plant's effluent is released into Lateral K , a water body identified as holding agricultural drainage, which flows downstream to the Main Canal, the Cherokee Canal and then eventually to Butte Creek. Water from the receiving water bodies downstream of the Biggs Wastewater Treatment Plant may be distributed throughout Reclamation District 833 and portions of Reclamation District 1004 where water from the Cherokee Canal goes to various Duck Clubs east of Butte Creek. As indicated in the Basin Plan, Butte Creek through this portion of the Sacramento River Basin is not designated for the MUN beneficial use. Figure 2 in the Appendix shows a map of the Biggs subarea.

Colusa Subarea - The Colusa Wastewater Treatment Plant is located southwest of the City of Colusa in Colusa County. Colusa's effluent is released into the Unnamed Tributary, a water body identified as holding agricultural drainage, prior to its confluence with Powell Slough.

Powell Slough is bordered primarily by agricultural land and is predominantly utilized for irrigation and drainage. Powell Slough flows into the Colusa Basin Drain after its confluence with the Unnamed Tributary. The Colusa Basin Drain is *not* designated for the MUN beneficial use in the Basin Plan. Figure 3 in the Appendix shows a map of the Colusa subarea.

Live Oak Study Subarea - The City of Live Oak's Wastewater Treatment Plant is located on the southwest side of the City of Live Oak in Sutter County. The treatment plant's effluent is released into Lateral 2 which flows downstream to Lateral 1, East Interceptor Canal, Wadsworth Canal and then to the Sutter Bypass. All of these receiving waters upstream of the Sutter Bypass are constructed water bodies identified as holding agricultural drainage and irrigation supply. Water from these channels may be distributed throughout Reclamation District 777 and portions of Reclamation District 2056 via adjacent canals, laterals and drains. The Sutter Bypass is *not* designated for the MUN beneficial use in the Basin Plan. Figure 4 in the Appendix shows a map of the Live Oak subarea.

Willows Study Subarea - The City of Willows Wastewater Treatment Plant is located southwest of the City of Willows in Glenn County. The treatment plant's effluent is currently only released into Ag Drain C, a constructed extension of North Fork Logan Creek. Ag Drain C travels south through surrounding rice fields and the Sacramento River Wildlife Refuge where it meets up with Logan Creek. Water from Ag Drain C may be dispersed throughout the parcels in the Glenn-Colusa Irrigation District via a number of adjacent canals, laterals and drains. After leaving the refuge, the receiving water, now called Logan Creek, is a constructed channel used for agricultural purposes and its water may be diverted south to Hunter Creek or flow downstream to the Colusa Basin Drain. The Colusa Basin Drain is *not* designated for the MUN beneficial use in the Basin Plan. Figure 5 in the Appendix shows a map of the Willows subarea.

The broader Central Valley Region is comprised of three major basins; the Sacramento River, San Joaquin River and Tulare Lake Basins as well as the Sacramento-San Joaquin Delta. Two Basin Plans cover the area; the Sacramento/San Joaquin River Basin Plan and Tulare Lake Basin Plan. In its entirety, the Central Valley Region covers 60,000 square miles, or 40 percent of the state, and includes nearly 80 percent (over 7 million acres of the state's irrigated agricultural land.) The Central Valley is one of the world's most productive agricultural regions and produces 8 percent of the nation's agricultural output by value and is home to the nation's top five counties in agricultural sales. As part of work conducted for the ISWP in 1993, the Central Valley Water Board approved a report that provided a methodology for listing and summarizing agriculturally dominated natural, constructed, and reconstructed (modified) natural water bodies. The report identified: 160 (1510-miles) of Ag dominated natural water bodies; 6,220 (19,100-miles) of facilities constructed to support Ag operations; and 101 (753-miles) of natural water bodies that had been reconstructed (modified) to support agricultural operations. Although dated, this 1992 report along with the 1995 report for the statewide Ag Water Task Force are serving as starting bases for this project.

POTENTIAL ALTERNATIVES: In preparation for the CEQA scoping meeting, 5 potential alternatives have been identified to address the MUN beneficial use in Ag dominated water

bodies. These alternatives will be presented as a starting point for discussion at the public CEQA scoping meetings.

1. No action – In this alternative, no changes would be made to the Central Valley Regional Basin Plans and all water bodies would continue to be designated for the full protection of the MUN beneficial use unless otherwise specified in the Basin Plans. Dischargers who fail to comply with current water quality objectives due to requirements to protect MUN may upgrade their facilities to meet compliance or pursue individual Basin Plan amendments for MUN beneficial use de-designation or site specific objectives.
2. Develop site-specific objectives for constituents of concern by water body or region – With this option, current water quality objectives for MUN (primary and secondary MCLs) may not apply for certain constituents of concern and site-specific water quality objectives (SSOs) would be developed. SSOs may be based on:
 - a. Protection of the designated uses
 - b. A higher carcinogenicity risk factor
 - c. Lesser consumption of water
 - d. Lesser period of exposure
 - e. Use of the California Department of Health Services in lieu of US EPA criteria
 - f. Use of other scientifically sound criteria
 - g. Any combination of the above
3. Adopt a framework for categorically evaluating the MUN beneficial use, water quality objectives and implementation program for Ag dominated water bodies – In this alternative, categories of Ag dominated water bodies would be identified and characterized. A decision tree process, taking into consideration the applicable regulatory policies and 88-63 exceptions, would be used for each water body category to determine the appropriate MUN beneficial use protection and associated water quality objectives and implementation and monitoring requirements. This option may include de-designation and/or refinement of the MUN beneficial use as well as identification of appropriate water quality objectives to protect designated MUN use dependent on the characteristics of the water body type. Possible implementation and monitoring alternatives would also be evaluated.
4. Application of the Tributary Rule for MUN designation – The Central Valley Water Board Basin Plans state that the beneficial uses of a specifically identified water body *generally* apply to its tributary streams (Basin Plan at II-2.00). Under this alternative, the use of the “tributary rule” would be applied for designating the MUN beneficial use in Ag dominated water bodies.
5. De-designate the MUN beneficial use in all Ag dominated water bodies – Under this alternative, all water bodies identified as Ag dominated would have the MUN beneficial use de-designated.

The Central Valley Water Board is seeking input regarding these and any other alternatives and potential significant impacts and mitigation measures that should be analyzed as part of the project. These alternatives, others identified during scoping sessions and/or a combination will form the basis for the final alternatives evaluated during the Basin Amendment Process.

Appendix A – Study Areas in the Sacramento River Basin

Figure 1: Study areas for the Sacramento River Basin case studies

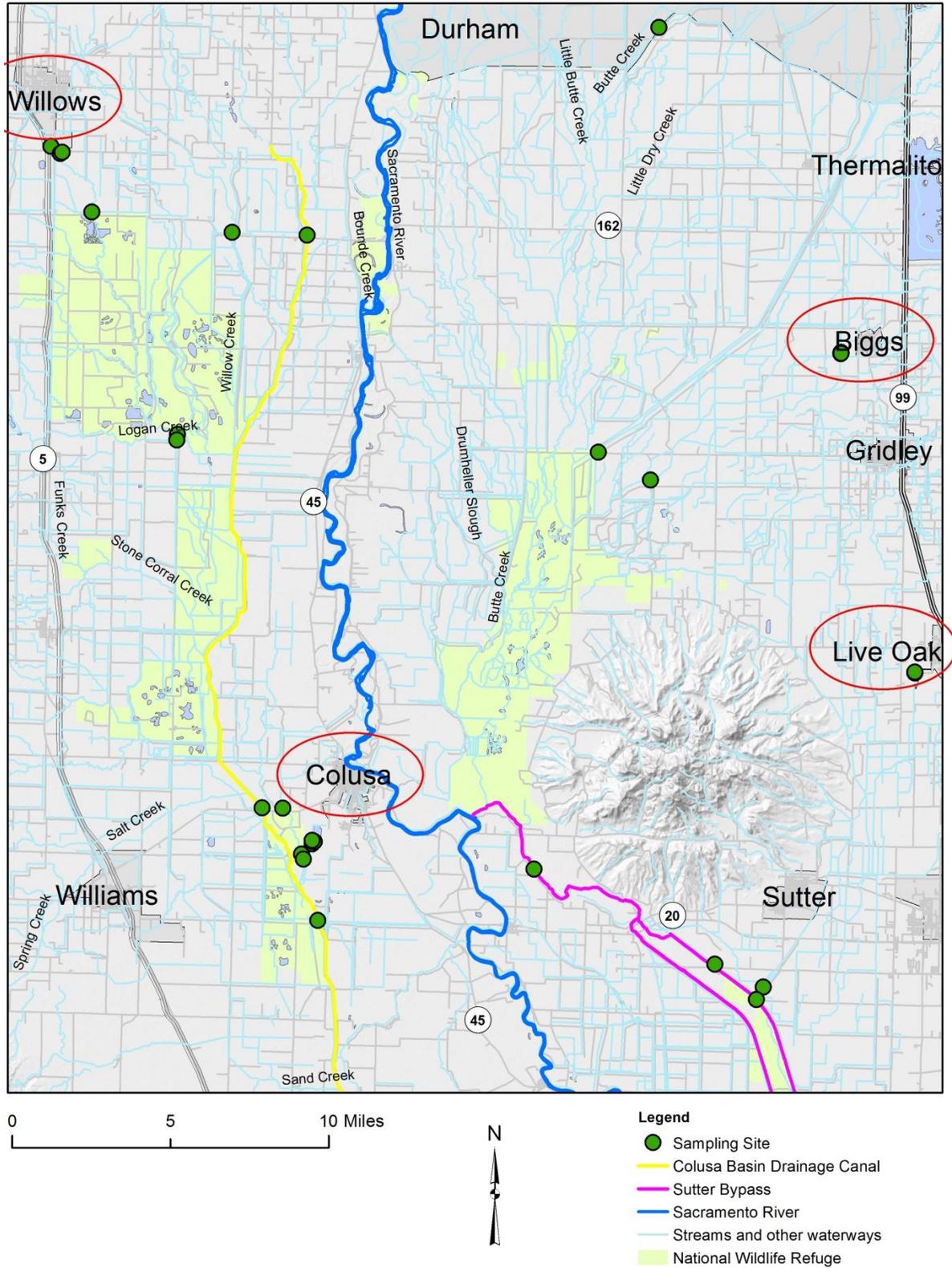


Figure 2: Biggs Study Area

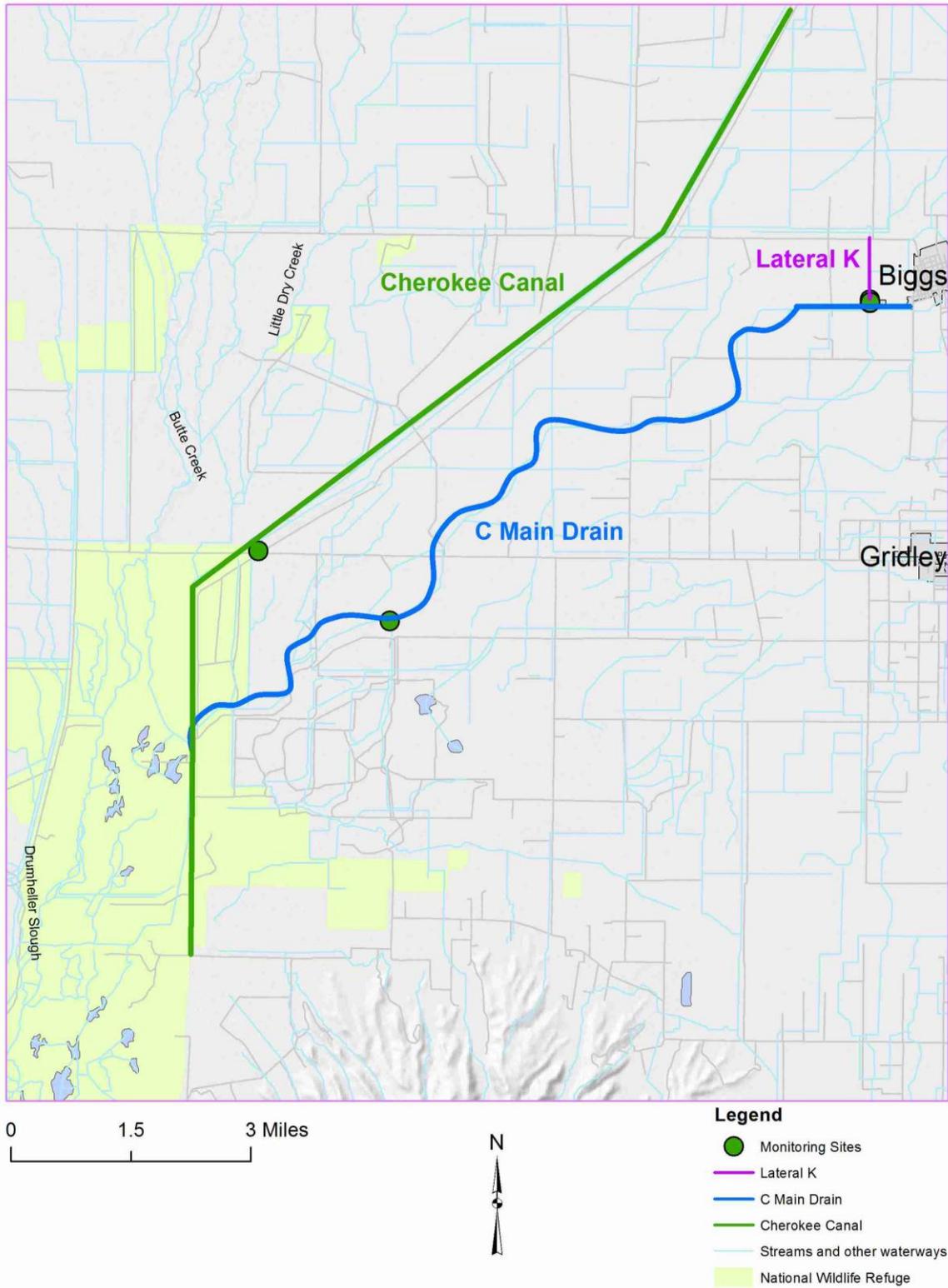


Figure 3: Colusa Study Area

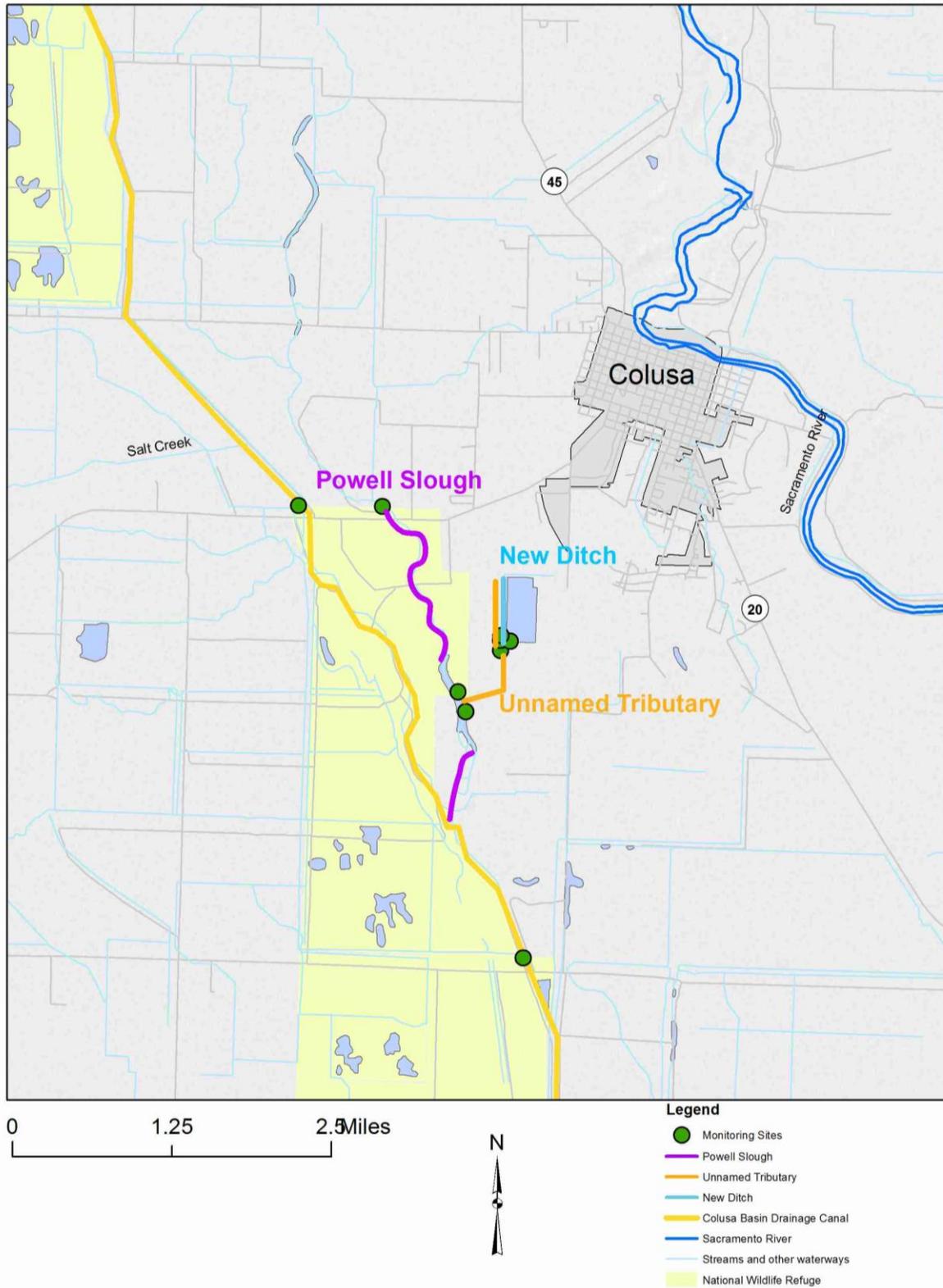
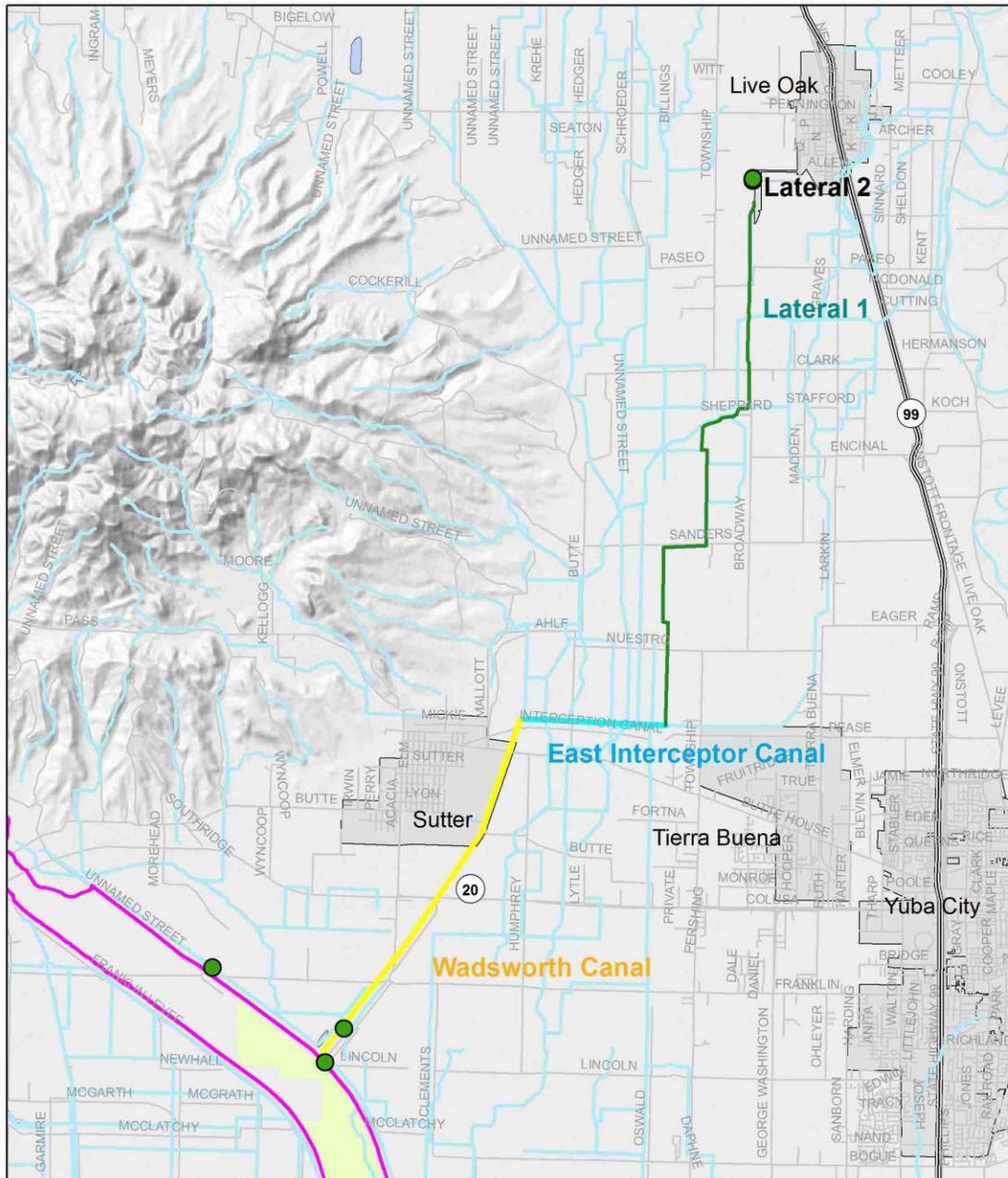


Figure 4: Live Oak Study Area



Legend

- Monitoring Sites
- Sutter Bypass
- Lateral Drain #2
- Lateral Drain #1
- East Interceptor Canal
- Wadsworth Canal
- Streams and other waterways
- National Wildlife Refuge

Figure 5: Willows Study Area

